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BUSINESS OVERVIEW

UBTech is an established robotic company based in the PRC, dedicated to the design, production, commercialization, sales and marketing and research and development (R&D) of smart service robotic products and services (*Note*). Our offerings, ranging from consumer-level robots and appliances, enterprise-level smart service robotic products and services tailored for education, logistics and other sectors, are equipped to different extent with smart features that sense, interact, analyze and process human instructions and external environment such as mapping, temperature measurement and facial recognition. According to Frost & Sullivan, we are the No. 3 in the smart service robotic products and services industry in China (in terms of revenue) in 2022 with a market share of 2.8%, and China’s No. 1 provider of education smart robotic products and services (in terms of revenue) in 2022 with a market share of 22.5%.

During the Track Record Period, we generated revenue of RMB740.2 million, RMB817.2 million, RMB1,008.3 million, RMB283.5 million and RMB261.1 million in FY2020, FY2021, FY2022, 6M2022, and 6M2023, respectively, primarily from the sales of the following smart service robotic products and services:

- (i) ***Education smart robotic products and services:*** During the Track Record Period, our education smart robotic products and services accounted for 82.7%, 56.5%, 51.2% and 29.0% of our total revenue in FY2020, FY2021, FY2022 and 6M2023, respectively. Our education smart robotic products and services are sold to government educational bureaus. They are used as teaching tools to assist students in STEAM curricula learning such as AI and programming learning, rather than just common hardware including computers and projectors, in the teaching process. For example, students can learn AI knowledge and apply programming skills learned from our AI education curriculum and command and control our smart robotic products such as uKit through our AI education software such as uCode and uPython to give them instructions to perform specific tasks. Our education smart robotic products and services mainly include (a) smart robotic products including humanoid Yanshee, Alpha Mini (education) and uKit and Jimu series (education), which are devices that can interact with students to perform certain functions on default or enhanced functions such as dancing based on the codes or commands written or designed by the students or end-users during their learning process; (b) software such as AI smart education platform for coding and programming learning; and (c) ancillary services such as providing support for teacher training and operation and utilization of our products and services;
- (ii) ***Logistics smart robotic products and services:*** During the Track Record Period, our logistics smart robotic products and services accounted for 1.7%, 23.3%, 26.1% and 29.4% of our total revenue in FY2020, FY2021, FY2022 and 6M2023, respectively. Our logistics smart robotic products and services are designed for enterprises with large factories and warehouses, such as new energy vehicle manufacturers. Our major products include automated guided vehicles (AGVs) and automated mobile robots (AMRs) under our Wali (瓦力) Series which can deliver components, semi-finished products and finished products to designated places within the production facilities or warehouses. We also provide software and ancillary services to our customers, including WMS (Warehouse Management System) and MES (Manufacturing Execution System), which can also be connected to our customers’ in-house system platforms to achieve more comprehensive products and services offerings;

Note: A smart service robot refers to a robotic system that is designed to perform various tasks and provide services to human autonomously, excluding industrial robots. These robots are equipped with technologies such as computer vision, voice interaction and SLAM (i.e., a technology which allows a robot to build a map of an unknown environment and localize itself in that map at the same time) and automation, allowing them to perceive and interact with external environment. Smart service robotic service is a service which integrates smart service robot with the necessary peripheral hardware and software products and services to perform intended tasks.

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- (iii) ***Other sector-tailored smart robotic products and services:*** During the Track Record Period, our other sector-tailored smart robotic products and services accounted for 5.2%, 11.0%, 8.2% and 8.5% of our total revenue in FY2020, FY2021, FY2022 and 6M2023, respectively. This segment comprises of smart robotic products and services covering various use scenarios including schools (e.g. for greeting and sanitisation purpose), hospitals, airports, train stations, shopping malls, banks and electrical substations to provide services such as guiding assistance, reception, sanitation, security patrol, safety inspection and monitoring of environmental conditions. Our major products offered mainly include Cruzr series, Walker series, and ADIBOT series; and
- (iv) ***Consumer-level robots and other hardware devices:*** During the Track Record Period, our consumer-level robots and other hardware devices accounted for 8.4%, 8.3%, 13.1% and 32.6% of our total revenue in FY2020, FY2021, FY2022 and 6M2023, respectively. This segment refers to the sales of robotic products with AI-functions that are consumer grade and mass market level such as computer vision and voice interaction to consumers for household use. Our major products offered include AiRROBO vacuum cleaner, AiRROBO cat litter box and Alpha Mini (non-education) series.

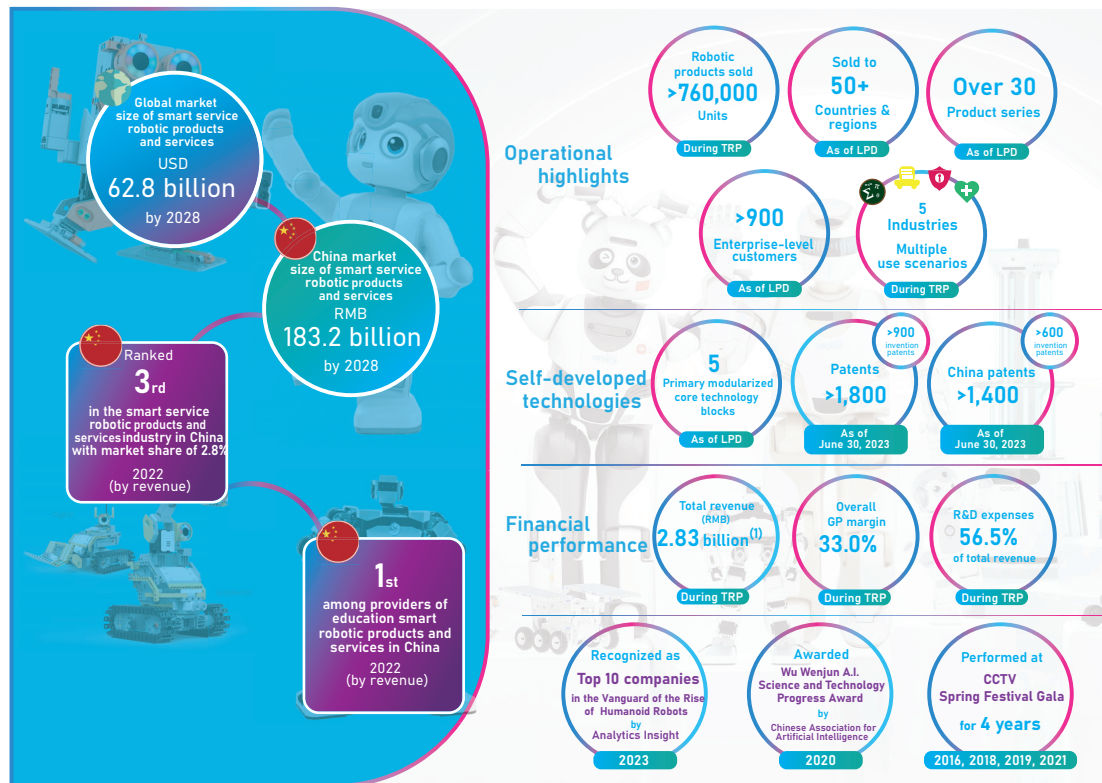
For FY2020, FY2021, FY2022, 6M2022 and 6M2023, we incurred net losses of RMB707.0 million, RMB917.5 million, RMB987.4 million, RMB515.2 million and RMB547.9 million, respectively.

We are committed to R&D and delivery of smart service robotic products and services and we self-developed a full stack of (i) robotic, (ii) AI that are consumer grade and mass market level and (iii) integrated robotic and AI technologies for application in a range of enterprise-level and consumer-level use scenarios across various sectors.

Meanwhile, leveraging the technical knowledge gained in our R&D process, we are able to and have expanded our offerings to a diversity of other smart service robotic products, devices and services to end-users for use scenarios in different sectors in response to market conditions. For example, in 2017, driven by favorable government policy, we started offering education smart robotic products and services by providing interactive, programmable and/or codable smart robotic products in default scenarios, and further developed to offer comprehensive products and services offerings comprising AI education software (such as uCode — a graphical block-based visual programming tool for students aged 7 to 14 years old; and uPython — a programming tool for Python robot beginners) and teaching materials, curriculum design and other ancillary services. Since 2020, we further offered logistics smart robotic products and services, such as logistics smart robots capable of accurate goods transportation and automated storage and retrieval system, since 2020 in light of, among other factors, rising demand for new energy vehicles, the transformation of manufacturing industry in China and increasing labor costs and the fact that we managed to form a joint venture with a supplier of smart robotics products with a large customer base of automobile manufacturers, which allowed us to apply our technologies for warehousing logistics and delivery purposes.

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The chart below showcases our operational achievements to-date:—



Note:

- (1) Approximately 73% to 92% of the Group’s total revenue during the Track Record Period were originated from the PRC.

Market opportunities and growth. According to Frost & Sullivan, although the penetration rate of smart service robotic products and services in the smart service robotic products and services industry in the PRC remained low in recent years, the market size of the global and PRC smart service robotic products and services market is estimated to grow from US\$23.5 billion to US\$62.8 billion at a CAGR of 17.8% between 2022 and 2028 and from RMB51.6 billion to RMB183.2 billion at a CAGR of 23.5% between 2022 and 2028, respectively.

We believe that our technological capabilities can be applied to various use scenarios while driven by market conditions and government policy support.

Education smart robotic products and services. Earlier in our business development history, we focused our R&D efforts and successfully applied and achieved commercialization of our robotic and AI technologies to the education sector in 2017, the demand of which has been driven by favorable government policy beginning with the New Generation of Artificial Intelligence Development Plan (《新一代人工智能發展規劃》) issued in 2017 which requires primary and secondary schools to gradually promote AI programming education and encourages the community to participate in developing and promoting educational and entertaining AI programming teaching software.

Further policies in support of robotics, AI and programming education have since been published during the Track Record Period, including but not limited to:

- i. The 14th Five Year Plan for National Informatization (十四五國家信息化計劃) issued in 2021 which proposed to develop education and training related to digital skills by providing diversified digital skills training programs for the public and promoting and popularize digital skills education for all);

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- ii. Guidance on Accelerating Scene Innovation to Promote High-level Application of Artificial Intelligence for High-quality Economic Development (關於加快場景創新以人工智能高水平應用促進經濟高質量發展的指導意見) issued in 2022 which puts forward specific measures to improve innovation capabilities and strengthening the supply of innovation elements for AI scenarios in the field of education;
- iii. Implementation Plan for “Robotics+” Application Action (“機器人+”應用行動實施方案) issued in 2023 which seeks to cultivate and introduce high end R&D talents and standardized talents for robot application, strengthen international exchange of talents, and build leading talents and innovation teams; and
- iv. Opinions on Strengthening Scientific Education in Primary and Secondary Schools in the New Era (關於加強新時代中小學科學教育工作的意見) issued in 2023 which requires the improvement of school teaching and services through the opening of more science classes in accordance with the curriculum program and the revision and improvement of the curriculum standards and teaching materials, while incorporating teaching materials into the regulatory system.

Logistics smart robotic products and services. Our expansion into logistics smart robotic products and services in late 2020 was likewise driven by favorable market trend, which we believe was attributable to our robotic and AI technologies and reputation from the development of our humanoid robots. According to Frost & Sullivan, due to the need for manufacturers and logistic companies to automate their production and/or storage facilities to maximize their operational efficiency and the shortage of workers in and the rising labor cost of China’s manufacturing industry, the demand for logistics and mobile smart robotic products and services will grow at a high speed with an expected market size of RMB58.9 billion by 2028 at a CAGR of 30.4% from 2022 to 2028. Against this backdrop, we expanded into logistics smart robotic products and services and began to supply logistics smart robots to our customers which are capable of accurate goods transportation, supplemented by our automated storage and retrieval system which can achieve automation and intellectualization of the sorting movement and/or storage functions of components, semi-finished products and finished products.

Other sector-tailored smart robotic products and services. During the Track Record Period, we developed and launched our wellness and elderly care smart robotic products and services in the second half of 2022, and quickly responded to the COVID-19 pandemic by rolling out sanitization and disinfection robots which have been purchased and/or used by SOEs, educational institutions, hospitals and business enterprises based in China and abroad.

As AI-empowered robotic products and services began to gain prominence in the smart service robotic products and services industry, we developed our first generation of Walker for general service purpose in 2018. Our Walkers can perform tasks and functions such as walking, voice interaction, guiding, greetings, and receptionist services or other repetitive tasks. With the advancement of technologies in the future, Walker has the potential to perform multi-tasks in various scenarios in particular in the fields of (i) general commercial (such as receptionist services in offices or exhibitions); (ii) industrial manufacturing; and in the long term, (iii) household (such as entertainment and companionship). According to Frost & Sullivan, with technological advancement in robotics and AI, the use of smart service robots is growing from repetitive task execution (such as logistics, packaging, assembly and sanitization) to tasks which require more interactive functions (such as education, logistics and wellness and elderly care). We believe that the transformation of robots from automation to autonomous intelligence offers us significant opportunities to expand into these more sophisticated segments based on our full-stack capabilities.

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Our smart service robotic products and services

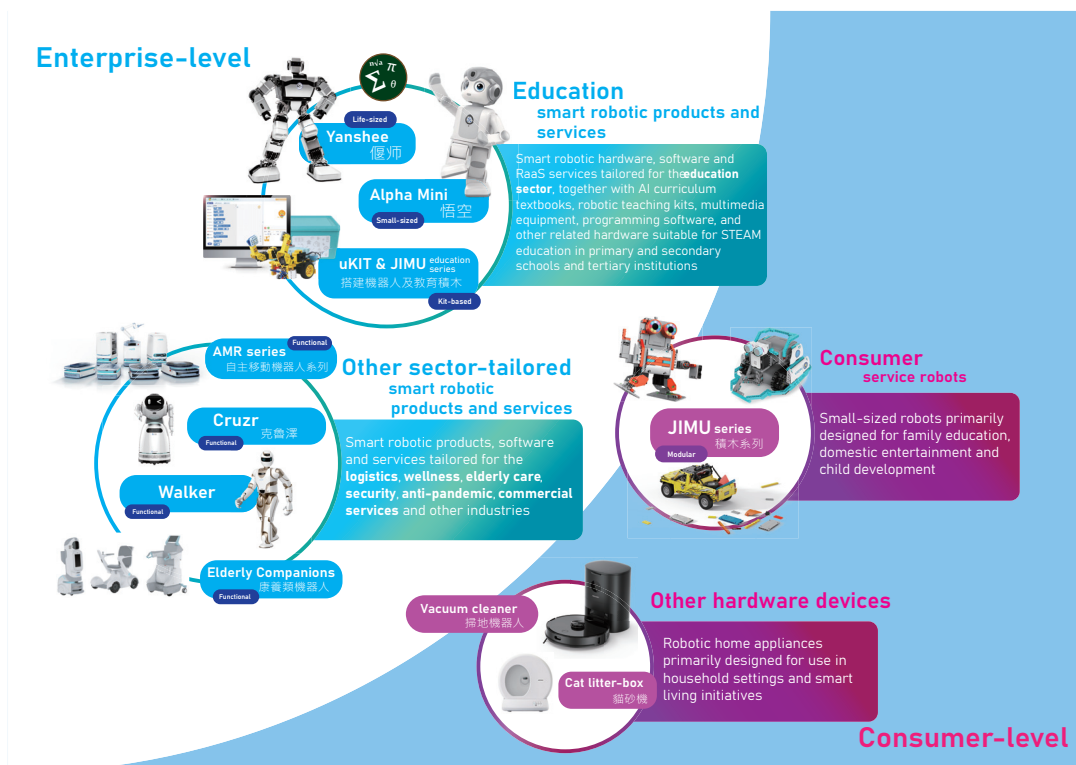
We have commercialized and rolled out a wide range of smart service robotic products and services in a range of enterprise-level and consumer-level use scenarios across various sectors in response to market trend throughout the years. The table below sets forth the key milestone of our products and services:

Year	Key milestone
2016	We launched our consumer-level robots and other hardware devices.
2017	We launched our (i) education smart robotic and (ii) general service smart robotic products and services.
Late 2020	We launched our logistics smart robotic products and services.
Second half of 2022 ...	We launched our wellness and elderly care smart robotic products and services.

Our smart service robotic products and services form a broad range of offerings and offer to enterprise-level and consumer-level customers.

For our enterprise-level smart service robotic products and services, we focus on offering technology-driven and industry-tailored offerings that perform complex tasks for our end-users. For our consumer-level robots and other hardware devices, we focus on consumer trends, customer preference and value-for-money.

We segment our products and services by their targeted use scenarios. The chart below highlights some of our core robotic products and services that we offered during the Track Record Period:—



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During the Track Record Period, we served a broad customer base primarily in China and also over 50 other countries in the world, which covered over 900 enterprise-level group customers, including government educational bureaus and various business enterprises. We market and sell smart service robotic products and services primarily through our own direct sales force dedicated to optimizing the user experience of our customers and end-users of our smart service robotic products and services. Our direct sales force has attracted and retained large, national government educational bureaus and business enterprises in China and marketing our smart service robotic products and services overseas during the Track Record Period. Leveraging our strong reputation, we also cooperate with an extensive network of online and offline sales channels to penetrate into the consumer-level market and overseas customers.

Earlier in our business development history, we focused our R&D efforts and successfully applied and achieved commercialization of our robotic and AI technologies to the education sector in 2017, the demand of which has been driven by favorable government policies. As AI-empowered smart service robots become more prevalent in other sectors, we began to deploy our modularized technologies and successfully commercialized our product and service offerings for usage of scenarios across different industries. For instance, our general service smart robotic products and services, which cover a wide array of smart service robotic products and services such as inspection smart robots, can be deployed in transportation hubs, commercial and outdoor environment to perform various functions, including guiding assistance, security patrol and inspection, shelf inventory counting and malfunction detection. During the Track Record Period, we developed and launched our logistics smart robotic products and services in late FY2020 and wellness and elderly care purposes in the second half of 2022, and quickly responded to the COVID-19 pandemic by rolling out sanitization and disinfection smart robots which have been purchased and/or used by SOEs, government educational bureaus in China, hospitals and business enterprises based in China and abroad. Aside from enterprise-level smart service robotic products and services, which accounted for a majority of our revenue during the Track Record Period, we have also set foot in the consumer-level robots and other hardware devices segment in response to the growing popularity of smart service self-learning and smart home initiatives.

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The chart below shows our revenue and sales volume during the Track Record Period by robotic products and services:—

	FY2020			FY2021			FY2022			6M2023					
	Revenue	Sales volume ⁽¹⁾	%	Revenue	Sales volume ⁽¹⁾	%	Revenue (unaudited)	Sales volume ⁽¹⁾	%	Revenue	Sales volume ⁽¹⁾	%			
	(RMB'000)	(Unit'000)		(RMB'000)	(Unit'000)		(RMB'000)	(Unit'000)		(RMB'000)	(Unit'000)				
Enterprise-level smart service robotic products and services	663,537	N/A	89.6	742,874	N/A	90.9	862,543	N/A	85.5	228,392	N/A	80.6	174,715	N/A	66.9
Education smart robotic products and services	612,249	N/A	82.7	461,843	N/A	56.5	516,688	N/A	51.2	177,984	N/A	62.8	75,668	N/A	29.0
• Education hardware products and services, and software	403,702	128	54.5	254,654	68	31.2	279,874	60	27.8	100,601	22	35.5	16,504	6.3	13
• Others ⁽²⁾	103,583	N/A	14.0	95,752	N/A	11.7	139,320	N/A	13.8	26,308	N/A	9.3	22,895	N/A	8.8
• Ancillary services ⁽³⁾	104,964	N/A	14.2	111,437	N/A	13.6	97,494	N/A	9.7	51,076	N/A	18.0	36,269	N/A	13.9
Logistics smart robotic products and services	12,690	N/A	1.7	190,786	N/A	23.3	263,437	N/A	26.1	41,129	N/A	14.5	76,801	N/A	29.4
Other sector-tailored smart robotic products and services	38,598	N/A	5.2	90,245	N/A	11.0	82,418	N/A	8.2	9,279	N/A	3.3	22,246	N/A	8.5
• General service smart robotic products and services ⁽⁵⁾	36,297	0.4	4.9	77,440	0.6	9.5	30,569	1	3.0	9,021	0.1	3.2	15,003	0.2	5.7
• Walker series and others ⁽⁶⁾	2,301	N/A	0.3	12,805	N/A	1.6	51,849	N/A	5.1	258	N/A	0.1	7,243	N/A	2.8
Consumer-level robots and other hardware devices	62,016	N/A	8.4	67,795	N/A	8.3	132,448	N/A	13.1	46,765	N/A	16.5	85,028	N/A	32.6
• Consumer-level robots and other hardware devices	59,372	63	8.0	65,575	99	8.0	131,900	206	13.1	45,847	72	16.2	83,185	126	31.9
• Others ⁽⁷⁾	2,644	N/A	0.4	2,220	N/A	0.3	548	N/A	0.1	918	N/A	0.3	1,843	N/A	0.7
Others⁽⁸⁾	14,673	N/A	2.0	6,561	N/A	0.8	13,281	N/A	1.3	8,366	N/A	3.0	1,396	N/A	0.5
TOTAL	740,226	100.0	100.0	817,230	100.0	100.0	1,008,272	267	100.0	283,523	94	100.0	261,139	100.0	139

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Notes:

- (1) The sales volume by products and services segments constitute the sales volume of the core robotic products for each of our respective segments and disregards the sales volume of other accessories and ancillary products and/or services. See “Financial Information — Description of Selected Items in Consolidated Income Statements — Revenue” for details on our sales volume by products and services segments during the Track Record Period.
- (2) “Others” under our education smart robotic products and services segment mainly represented the sales of other accessories and purchased items, including but not limited to (i) teaching and learning resources such as textbooks, teachers’ manuals and training modules; (ii) add-on components to our education smart robotic products to enhance their functionalities and performance; (iii) expansion packs containing extra content and scenarios which improve user experience; and (iv) ancillary hardware such as customized programming notebooks and compliers. These products are intended to enrich and diversify the use scenarios of our education smart robotic products. We generally sell them in conjunction with our education hardware products, services and software to schools and educational institutions which wish to provide a more comprehensive curriculum and teaching environment for their teachers and students. Please refer to the section headed “Business — Our Products and Services — At Enterprise level — Education Smart Robotic Products and Services” of this document for further details of the products. Average selling price is not meaningful as product types and specification vary significantly within this category. In FY2022, it included sales of a tailor-made products and services for simulating production line for vocational education purpose, of RMB27.0 million, to Customer F.
- (3) “Ancillary services” of our education smart robotic products and services segment mainly included (i) providing professional team support for teacher training and operation and utilization of our products and services; and (ii) designing project services, themed activities and competitions. We generally sell them in conjunction with our education hardware products, services and software to schools and educational institutions which wish to further customize our products and services to suit their educational objectives and/or provide training for teachers on how to use our products and services as well as to help develop their proficiency in A.I. education. Please refer to the section headed “Business — Our Products and Services — At Enterprise level — Education Smart Robotic Products and Services” of this document for further details of such ancillary services.
- (4) Revenue derived from logistics smart robotic products and services are presented in terms of number of projects and average revenue per project and therefore there is no corresponding sales volume and average selling price. See “Financial Information — Description of Selected Items in Consolidated Income Statements — Revenue — By products and services — (ii) Logistics smart robotic products and services” for details.
- (5) The average selling price of general service smart robotic products and services increased from RMB86,420 per unit in FY2020 to RMB135,390 per unit in FY2021 primarily due to the introduction of ADIBOT, anti-pandemic model of AIMBOT and anti-pandemic model of Cruzr with additional functionalities, including body temperature measurement and QR code scanning and disinfection, which entailed a relatively higher selling price. The aggregate sales volume of these products accounted for 52.3% of our total sales volume of general service smart robotic products and services in FY2021.

The average selling price of general service smart robotic products and services then decreased to RMB29,220 per unit in FY2022 due to the change of revenue mix where more than 70% of our sales volume of general service smart robotic products and services in FY2022 was contributed by sales of first edition of Cruzr robots (compared to less than 10% of our sales volume of general service smart robotic products and services in FY2021), which entailed a relatively lower average selling price of RMB8,060 per unit in FY2022 as our Group adjusted the selling price of these products downward to boost their sales in order to deal with the slow-moving inventory.

The average selling price of general service smart robotic products and services decreased from RMB114,190 per unit in 6M2022 to RMB60,500 per unit in 6M2023, primarily due to the decrease in average selling price of ADIBOT from RMB97,040 per unit in 6M2022 to RMB27,850 per unit in 6M2023 because we implemented price reductions on these products to clear out our existing inventories in our U.S. subsidiary to facilitate the transition of our overseas sales channel to direct distributors and the increase in sales volume of our ADIBOT as a percentage to our total sales volume of general service smart robotic products and services from 41.8% in 6M2022 to 77.8% in 6M2023. See “Financial Information — Description of Selected Items in Consolidated Income Statements — Revenue — By products and services — (iii) Other sector-tailored smart robotic products and services” for details on the reasons for the price reductions on the ADIBOT series in relation to our U.S. subsidiary. The decrease in average selling price was partially offset by the sales of seven units of our new wellness and elderly care smart robotic products and services, such as walking assistance smart robot, wheelchair smart robot and companion smart robot which were of higher average selling price. Their aggregate revenue accounted for 44.0% of the total revenue of general service smart robotic products and services in 6M2023.

- (6) Walker series and others mainly represented the sales of Walker series and accessories. Average selling price is not meaningful as product types and specification vary significantly within this category. The pricing of the Walker series and others was mainly susceptible to the request from our customers, complexity of the products, duration of production, etc. as they are not standardized products.
- (7) “Others” under our consumer-level robots and other hardware devices segment mainly represented the sales of accessories and purchased parts. Average selling price is not meaningful as product types and specification vary significantly within this category.
- (8) “Others” primarily included sales of raw materials and spare parts during the Track Record Period and sales of certain customized products (mainly being customized notebook and other accessories) in FY2020.

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During the Track Record Period, education remained as our sector focus and accounted for more than 59% of our total revenue throughout Track Record Period. Leveraging on the successful commercialization of our education smart robotic products and services, we expanded our presence in the smart service robotic products and services market into various use scenarios in different sectors, such as the logistics smart robotic products and services industry in late FY2020 and the wellness and elderly care smart robotic products and services industry in the second half of 2022.

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The following sets forth the breakdown of revenue, gross profit, gross profit margin and sales volume of the Group by customer industries during the Track Record Period:

	FY2020			FY2021			FY2022			6M2023										
	Revenue	Gross profit/(loss) margin	Sales volume ⁽⁴⁾	Revenue	Gross profit/(loss) margin	Sales volume ⁽⁴⁾	Revenue	Gross profit/(loss) margin	Sales volume ⁽⁴⁾	Revenue	Gross profit/(loss) margin	Sales volume ⁽⁴⁾								
	RMB'000	% ⁽¹⁾	Unit'000	RMB'000	% ⁽¹⁾	Unit'000	RMB'000	% ⁽¹⁾	Unit'000	RMB'000	% ⁽¹⁾	Unit'000								
Education	580,163	78.4	304,615	52.5	111	473,458	58.6	231,904	49.0	63	565,073	56.2	357,934	63.3	55	54,072	20.7	26,687	49.4	1
Automobile and auto-parts	12,691	1.7	2,118	16.7	- ⁽²⁾	185,797	22.7	26,863	14.5	- ⁽²⁾	263,415	26.1	20,821	7.9	- ⁽²⁾	76,231	29.2	9,681	12.7	- ⁽²⁾
Others ⁽³⁾	56,934	7.8	8,011	14.1	12	38,048	4.6	(25,723)	(67.6)	17	37,762	3.9	(12,901)	(34.2)	11	33,905	13.0	14,878	43.9	7.7

Notes:

- (1) The percentage figures in this column represent the share of revenue generated from the respective customer industry to the total revenue of the Group in the relevant year/period.
- (2) Sales to the automobile industry are on a project-by-project basis and therefore there is no corresponding sales volume data.
- (3) “Others” include, among others, information technology, logistics and electronics industries.
- (4) The sales volume figures in this table constitute the sales volume of the core smart service robotic products for each of the respective customer industry and disregards the sales volume of Walker series, other accessories and ancillary products and/or services.
- (5) This table does not include sales data generated from our non-direct sales channels because the customer industries of the end-customers are unknown to our Group.

We market and sell smart service robotic products and services primarily through our own direct sales force comprising more than 450 employees dedicated to optimizing the user experience of our customers and end-users of our smart service robotic products and services. Our direct sales force has attracted and retained large, national government educational bureaus and business enterprises in China and marketing our products and services overseas during the Track Record Period. Leveraging our strong reputation, we also cooperate with an extensive network of online and offline sales channels to penetrate into the consumer-level market and overseas customers. The following set forth the breakdown of revenue, gross profit, gross profit margin and sales volume by sales channel during the Track Record Period.

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	FY2020				FY2021				FY2022				6M2022				6M2023									
	Revenue	Gross profit/ (loss)	Sales volume ⁽⁴⁾	%	Revenue	Gross profit/ (loss)	Sales volume ⁽⁴⁾	%	Revenue	Gross profit/ (loss)	Sales volume ⁽⁴⁾	%	Revenue	Gross profit/ (loss)	Sales volume ⁽⁴⁾	%	Revenue	Gross profit/ (loss)	Sales volume ⁽⁴⁾	%						
Direct sales	RMB'000	%	RMB'000	%	RMB'000	%	Unit'000	%	RMB'000	%	Unit'000	%	RMB'000	%	Unit'000	%	RMB'000	%	Unit'000	%						
	649,792	87.8	314,744	48.4	123	697,314	85.3	233,143	33.4	80	866,251	85.9	365,653	42.2	66	234,720	82.9	93,130	39.7	26.9	164,209	62.9	51,246	31.2	8.7	
Distributors																										
- Traditional distributors ⁽¹⁾	87,048	11.8	27,665	31.8	68	97,638	12.0	18,705	19.1	58	55,653	5.5	(18,735)	(33.7) ⁽⁵⁾	66	29,293	10.3	(21,144)	(114.1)	44.4	25,947	9.9	(9,529)	(27.2) ⁽⁷⁾	35.8	
- Online/Offline hybrid distributors ⁽²⁾	698	0.1	(165)	(23.7)	(25) ⁽³⁾	6,957	0.9	569	8.1	11	6,705	0.7	(2,464)	(36.7) ⁽⁶⁾	25	1,238	0.4	(307)	(24.8)	2.2	11,720	4.5	(213)	(1.8) ⁽⁸⁾	19.5	
Sales through our self-operated online stores	2,688	0.4	1,073	39.9	25	15,011	1.7	4,946	32.3	18	79,663	7.9	20,026	25.1	110	18,271	6.4	6,008	32.9	20.0	59,265	22.7	13,132	22.2	75.2	
Total	740,226	100.0	343,318	46.4	191	817,230	100.0	257,156	31.5	167	1,008,272	100.0	364,662	36.2	267	283,522	100.0	77,687	27.4	93.5	261,139	100.0	54,637	20.9	139.2	

Notes:

- (1) Revenue generated from traditional distributors also include an insignificant sales from consignees and retailers which accounted for not more than 2.0% of our total revenue each year/period during the Track Record Period.
- (2) Online/offline hybrid distributors mainly include sales through online e-commerce platforms and third party online stores (who may also sell our products through their offline stores).
- (3) The sales volume was negative as the volume of product return exceeded the volume of sales.
- (4) The sales volume figures in this table constitute the sales volume of the core robotic products for each of the respective sales channel and disregards the sales volume of Walker series, other accessories and ancillary products and/or services.
- (5) We recorded gross loss from traditional distributors in FY2022 primarily due to the gross loss incurred from the sale of Alpha Mini (non-education) because we adjusted the selling price of our humanoid Alpha Mini (non-education) products downward to boost its sales in order to deal with the slow-moving inventory.
- (6) We recorded gross loss from online/offline hybrid distributors in FY2022 primarily due to the gross loss incurred from the sale of dictionary pens, because we adjusted the selling price downward in order to deal with the slow-moving inventory.
- (7) We recorded gross loss from traditional distributors in 6M2023 primarily due to the gross loss incurred from the sales of uKit and Jimu (education) Series and ADIBOT Series robots because we implemented price reductions on these products to clear out our existing inventories in our U.S. subsidiary to facilitate the transition of our overseas sales channel to direct distributors.
- (8) We recorded gross loss from online/offline hybrid distributors in 6M2023 primarily due to the gross loss incurred from the sales of AiRROBO cat litter box in order to develop the sales channels of such products through online/offline hybrid distributors.

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The following table sets forth the breakdown of our revenue by geographical locations of our customers during the Track Record Period:

Countries of sales	FY2020		FY2021		FY2022		6M2022		6M2023	
	RMB'000	%	RMB'000	%	RMB'000	%	RMB'000 (Unaudited)	%	RMB'000	%
Mainland China	682,825	92.2	753,853	92.2	877,267	87.0	235,081	82.9	191,365	73.3
Overseas										
United States	30,825	4.2	33,540	4.1	51,273	5.1	17,145	6.0	20,991	8.0
Japan	2,022	0.3	5,006	0.6	13,915	1.4	5,486	1.9	6,673	2.6
Belgium	4,771	0.6	4,114	0.5	205	0.02	104	0.04	–	0.0
Thailand	3,766	0.5	3,378	0.4	10,989	1.1	10,980	3.9	685	0.3
Others ⁽¹⁾	16,017	2.2	17,339	2.1	54,623	5.4	14,727	5.2	41,424	15.9
Subtotal	57,401⁽²⁾	7.8	63,377⁽³⁾	7.8	131,005⁽⁴⁾	13.0	48,442⁽⁴⁾	17.1	69,774⁽⁴⁾	26.7
Total	740,226	100.0	817,230	100.0	1,008,272	100.0	283,523	100.0	261,139	100.0

Notes:

- (1) Others include over 50 countries, each contributes insignificant revenue to our Group during the Track Record Period.
- (2) In FY2020, our products sold overseas mainly included Jimu Series robots (both education and non-education versions), and Cruzr Series robots.
- (3) In FY2021, our products sold overseas mainly included Jimu Series robots (both education and non-education versions), ADIBOT Series robots and AiRROBO vacuum cleaner.
- (4) In FY2022, 6M2022 and 6M2023, our products sold overseas mainly included AiRROBO vacuum cleaner.

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Our financial performance

We experienced a growth in revenue during the Track Record Period, and we recorded a revenue of RMB740.2 million, RMB817.2 million, RMB1,008.3 million, RMB283.5 million and RMB261.1 million in FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively. Our revenue grew by 10.4% between FY2020 and FY2021, by 23.4% between FY2021 and FY2022. Our revenue decreased by 7.9% between 6M2022 and 6M2023. For FY2020, FY2021 and FY2022, 6M2022 and 6M2023, our gross profit was RMB330.7 million, RMB256.0 million, RMB294.0 million, RMB38.8 million and RMB52.6 million, respectively. Our gross profit decreased by 22.6% between FY2020 and FY2021, increased by 14.8% between FY2021 and FY2022 and increased by 35.6% between 6M2022 and 6M2023.

Despite our revenue growth, we recorded net loss during the Track Record Period. See “Business Sustainability and Measures to Achieve Profitability” in this section below for a detailed discussion.

Our R&D focuses on core technologies for humanoid robots. We have been focusing our R&D efforts on advancing core technologies utilized in humanoid robots. Our goal is to not only improve the performance of our humanoid robots but also to induce a spill-over effect of R&D in relation to technologies utilized in smart service robotic products and services for use scenarios in different sectors as the development of biped life-sized humanoid robots involves the integration and combination of various core technologies such as computer vision, voice interaction, servo actuators, motion planning and control, and positioning navigation. It has always been our strategies to dedicate resources to concurrently conduct R&D projects across various robotic and AI technologies while primarily focusing R&D efforts on core technologies utilized in humanoid robots, which may inevitably increase our R&D expenses.

By striking a balance between continuous investments in core technologies utilized in humanoid robots and competing effectively in markets where customers prioritize other factors such as pricing and comparable functions, we believe we can deliver value to our customers and drive sustainable growth over the long term.

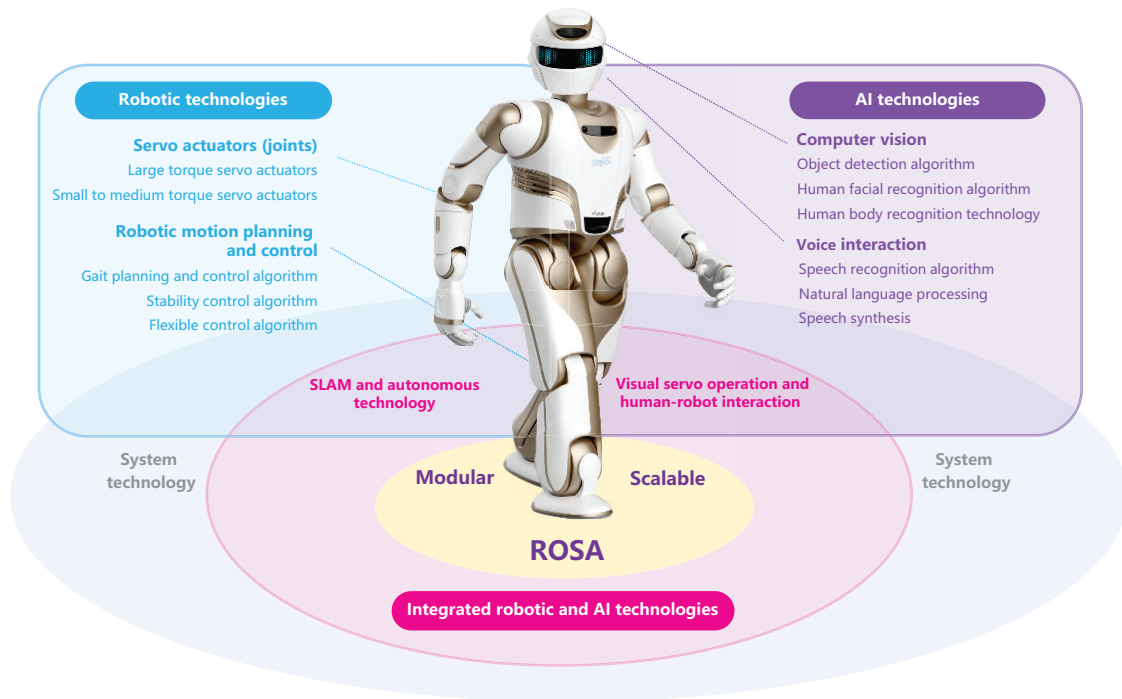
R&D technological capabilities

At the heart of our offering is our R&D capabilities and breakthroughs in relation to our core technologies and smart service robotic products and services. Our in-house R&D team, established since 2012 and comprising over 700 employees as of June 30, 2023, is headed by doctoral-degree holders with expertise in robotic and AI-related areas and supported by a number of in-house scientists, engineers and other employees who have obtained at least undergraduate robotic and/or AI-related degrees. Through close cooperation between our in-house R&D team and our other departments, we generate ideas, create new robotic concepts, develop new robotic products and services, and improve, redesign or reformulate existing robots and related software. Leveraging on our R&D efforts and capabilities during the Track Record Period, we have successfully developed new upgrades and/or functionalities, such as (i) servo actuators which function over a wider torque range, (ii) gait-planning and control, stability control and flexible control algorithms under our robotic motion planning and control technology, (iii) human face recognition/identification and body/hand tracking algorithms under our computer vision technology, (iv) automatic speech recognition and text-to-speech functions under our voice interaction technology, and (v) integrated light detection and ranging (LIDAR) and vision mapping and localization technologies under our SLAM and autonomous technology. Combined with our existing portfolio of core technologies, we were able to launch over 50 types of products during the Track Record Period for the fulfilment of various functions and tasks for application in different use scenarios. Such major products included, but are not limited to, (i) our upgraded Walker series life-sized humanoid robots (Walker 2 and Walker X models), (ii) upgraded versions of the uKit and Jimu series (education) and uCode and uPython programming tools under our education smart robotic products and services segment, (iii) our Automated Guided Vehicles (AGVs) and Automated Mobile Robots (AMRs) (Wali (瓦力) Series) under our logistics smart robotic products and services segment, and (iv) our AiRROBO cat litter box and AiRROBO vacuum cleaner under our consumer-level robots and other hardware devices segment.

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During the Track Record Period, we incurred R&D expenses of RMB428.8 million, RMB517.1 million and RMB428.3 million, RMB205.0 million and RMB224.3 million, which accounted for 57.9%, 63.3%, 42.5%, 72.3% and 85.9% of our total revenue for the corresponding year/period. We have self-developed a full stack of modularized robotic and AI technologies that are consumer grade and mass market level which serve as building blocks for adaptation and application in a range of enterprise-level and consumer-level scenarios. Set out below is a summary of our core technologies as applied on Walker, our biped life-sized humanoid robot:

OUR CORE TECHNOLOGIES



With our self-developed full-stack robotic and AI technologies, we have been able to develop and commercialize a wide range of smart service robotic products and services. During the Track Record Period, we were able to quickly adapt to customer needs and preferences with more than 50 types of products launched and sold over 760,000 units of robotic products.

Our full-stack technologies, backed by more than 1,800 registered robotic and AI-related patents as of June 30, 2023 of which more than 380 are overseas patents, is a combination of *robotic technologies* (robotic motion planning and control technology and servo actuators) and our *AI technologies* (computer vision and voice interaction technologies), which together power a number of *integrated robotic and AI technologies* (SLAM and autonomous technology, visual servo operation and human-robot interaction), rounded out with and controlled through Robot Operating System Application Framework (ROSA), our self-developed robotics application framework. We believe that our technological capabilities are in particular underpinned by our core strength of and dedication to robotic technologies. According to Frost & Sullivan, we were one of the few companies in the world to commercialize service robots integrated with multiple servo actuators as their joints in the consumer market, one of the few companies in the world to achieve the mass production and actual product application of multi-series servo actuators, and accomplished mass production of small torque to large torque servo actuators with a torque from 0.2Nm to 200Nm. During the Track Record Period, our self-developed technologies and patents have received two national-level awards and four provincial-level science & technology awards from the PRC government, and one international-level award.

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Bringing UBTECH service robots to every home and industry

Led by Mr. Zhou Jian (chairman of our Board, an Executive Director and our chief executive officer), and our experienced management team, we strive to integrate **UBTECH** service robots into every home and industry. Riding on our dedication to R&D and technological capabilities, we plan to achieve this by (i) continuously developing robotic and AI technologies based on the latest industry demands and technological developments, (ii) continuously diversifying and broadening our product and service offerings across different sectors and consumer-level use scenarios by utilizing our full-stack technologies, (iii) inventing, creating and commercializing new enterprise-level and consumer-level use scenarios, and (iv) integrating our existing software and ancillary service offering with a “Robot-as-a-Service” (RaaS) market leveraging on our solid foundation in AI-robotics and sector knowledge on the industries we serve that match with our customers’ needs and preferences.

OUR COMPETITIVE STRENGTHS

Established provider of smart service robotic products and services in the PRC

Since our inception in 2012, we have grown to become a major market participant in China’s smart service robotic products and services industry providing smart service robotic products and services to enterprise-level and consumer-level customers. We were one of the few companies in the world to commercialize service robots with multiple servo actuators as their joints in the consumer market according to Frost & Sullivan. In addition, according to Frost & Sullivan, we are (i) ranked 3rd in the smart service robotic products and services industry in China (in terms of revenue in 2022) with a market share of 2.8%; and (ii) China’s No. 1 provider of education smart robotic products and services (in terms of revenue in 2022) with a market share of 22.5%. As a testament to our capabilities, we generated a total revenue of approximately RMB2.83 billion and sold over 760,000 units of robotic products during the Track Record Period.

Our R&D efforts and technological breakthroughs have been evidenced by the following numerous national and global recognitions:

- In 2019, our Walker was named one of the Five Humanoid Robots to Watch in 2019 by the Robot Report and one of the most ground-breaking and innovative robotic inventions over the past century by 24/7 Tempo in 2021.
- We were selected by *Analytics Insight* as one of the top 10 companies in the vanguard of the rise of humanoid robots along with other robotics companies for offering a range of applications for humanoid robots which lead to the automation of tasks, cost-savings and productivity in January 2023 and were also the only PRC-based company to be selected as one of the “Top 10 Robotics Companies in the World that will Gain More Prominence in 2022” by *Analytics Insight* in November 2021 for our worldwide research in R&D, development and marketing capabilities to launch an entire portfolio of world-class robots.

Furthermore, we have received the following numerous awards as a result of our R&D efforts and technological breakthrough:

- In December 2020, the Chinese Association for Artificial Intelligence granted us the “Wu Wenjun Artificial Intelligence Science and Technology Progress Award (Enterprise Technology Innovation Engineering Project)” for our contribution to the technology innovation and application in the service robots field.
- In December 2020, the Leaderobot Expert Review Committee granted us the “Leaderobot 2020 China Robotics Science Leadership Award” for (i) our innovations in basic theories and academics in the discipline of robotics, (ii) our original innovations in R&D methods and approaches that have significant scientific value and (iii) our leading role in the latest technological advancements.
- We have also obtained the “First Prize of Science and Technology Progress of Guangdong Province in 2021” from the People’s Government of Guangdong Province, China for our “Key technologies and applications of fully autonomous service robots” project in March 2022.

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Self-developed full-stack technologies for smart robotics driven by our R&D efforts

We believe that our focus on the internal development of self-developed technologies for smart robotics through our R&D efforts has been a key contributing factor to our success in the smart service robotic products and services industry. Since our establishment in 2012, we have grown rapidly into a well established market player in the smart service robotic products and services industry and self-developed our own robotic and AI technologies that are consumer grade and mass market level, the highlights of which include (i) *servo actuators*: joints of robots that enable the performance of diverse, flexible and precise movements and perform safe, smooth, accurate and agile joint movements and carry out complex tasks; (ii) *robotic motion planning and control*: planning and control technologies to achieve movements on surfaces with different materials, adaptation to complex environments and quickly respond to changing environments. Our robotic motion planning and control which covers key technologies such as balance control algorithm which improves the overall robustness of the smart service robot and enables it to adjust its positioning in the event of impact by external forces and prevents falling over; (iii) *SLAM and autonomous technology*: our autonomous technology comprised of our SLAM and navigation technologies, which together enables our smart service robots to realize multi directional navigation and obstacle avoidance through real-time positioning and map generation; and (iv) *visual servo operation and human-robot interaction*: the software-hardware unified technological framework which integrates our smart robotic perception system with our robotic motion planning and control technologies, thus enabling our smart service robots to perceive the surrounding environment to adjust its operational functions accordingly, detect objects and obstacles to achieve motion planning and control, process the signals, capture and analyze various kinds of data and communicate and interact with people. Our *Walker X* life-sized humanoid robots, which is a culmination of our latest core robotic and AI technologies (including our aforementioned highlighted technologies), serves as a testament to our R&D capabilities and efforts. See “Our Core Technologies” below for details on our self-developed core technologies utilized in our smart robotics and smart service robotic products and services. According to Frost & Sullivan, we are one of the few companies in the world that simultaneously masters and fully integrates core technologies and algorithms such as robot servo drives, motion control, artificial intelligence perception, robot positioning and navigation.

According to Frost & Sullivan, the major entry barriers of China’s smart service robotic products and services industry include (i) difficulty in accumulating technical reserves to achieve mature AI technology; (ii) lack of industry know-how which may lead to misunderstanding of customer’s preference; and (iii) intensive and continuous R&D investment is required in order to provide an edge in the innovation of products and services. With our R&D process and experience in the commercialization of smart service robotic products and services, we believe that we are well-positioned to take advantage of the demand for customized and high-quality smart service robotic products and services in the market.

In order to align our core technologies with the latest technological advancements, we have expended significant resources on our R&D efforts during the Track Record Period. Our R&D philosophy strives to optimize the quality and functionality of our product and service offerings and typically involves (i) R&D on robotic and AI-related core technologies based on industry demands and technological developments, (ii) conceptualization of core technologies based on customer requirements and (iii) commercialization of our products and services. As at June 30, 2023, we employed a total of 717 R&D personnel, which include, but are not limited to, undergraduates, postgraduates and doctoral degrees holders. During the Track Record Period, we incurred R&D expenses of RMB428.8 million, RMB517.1 million, RMB428.3 million, RMB205.0 million and RMB224.3 million in FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively, accounted for approximately 57.9%, 63.3%, 42.5%, 72.3% and 85.9% of our total revenue during the respective years/periods.

During the Track Record Period, we have established a successful track record of commercialization of robotic technologies and have commercialized more than 20 types of self-developed robotic and AI technologies that are consumer grade and mass market level in our smart service robotic products and services. Moreover, major awards and recognitions we have received during the Track

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Record Period in relation to our self-developed technologies and R&D efforts include, but are not limited to: (i) The 9th Annual Capek Award for Brand Excellence (第九屆恰佩克獎年度卓越品牌獎) by the China Mechatronics Technology Application Association in May 2023 for the Group’s contribution to the promotion of the healthy and sustainable development of China’s robotics industry; (ii) Bronze Award in the MedTech category in the “2023 Edison Awards” in April 2023 for the excellence in new product and service development, marketing, human-centered design and innovation in relation to our wellness and elderly care smart robotic products and services for nursery homes; (iii) First Prize for our “Autonomous navigation and operation of robots based on natural interaction” project from the China Association of Inventions in October 2022; (iv) “First Prize of Science and Technology Progress of Guangdong Province in 2021” from the People’s Government of Guangdong Province, China for our “Key technologies and applications of fully autonomous service robots” project in March 2022; (v) “WAIC2021 — Pioneer Award” by the World Artificial Intelligence Conference in February 2022; (vi) “Outstanding Partner of World Robot Conference” by the Chinese Institute of Electronics in February 2022; (vii) “AI Tianma-Leadership” by the Shenzhen Artificial Intelligence Industry Association in December 2021; (viii) “Top 10 Robotics Companies in the World that will Gain More Prominence in 2022” according to Analytics Insight in November 2021; (ix) “Service Robotic Product Innovation Award” by the China Artificial Intelligence and Robotics Developers Conference (CAIRDC) in March 2021; (x) “Wu Wenjun Artificial Intelligence Science and Technology Progress Award (Enterprise Technology Innovation Engineering Project)” by the Chinese Association for Artificial Intelligence in December 2020; and (xi) the “Leaderobot 2020 China Robotics Science Leadership Award” by the Leaderobot Expert Review Committee in December 2020. As of June 30, 2023, our Group held more than 1,800 registered robotic and AI-related patents, of which more than 380 are overseas patents. During the Track Record Period, we have also participated in the formulation of national and international industry standards, including but not limited to General safety requirements for household and similar service robots (家用和類似用途服務機器人安全通用要求) (GB/T 41527-2022) and Service robot — Electrical safety requirements and test methods (服務機器人電氣安全要求及測試方法) (GB/T 40013-2021).

Although not all of our self-developed robotic and AI-related core technologies have been fully utilized in the commercialization of our products and services due to, according to the best information and knowledge of our Directors, the current standards of such core technologies exceeding the necessary requirements to satisfy current consumer preferences and demand in the smart service robotic products and services industry, we believe that we are well-positioned to leverage the scalability, adaptability and compatibility of our core technologies reserve in order to meet future changes in customer preferences and demand.

Successful commercialization of product and service offerings grounded in core technologies utilized in humanoid robots with multiple use scenarios

Our products and services portfolio consists of a wide range of smart service robotic products and services across various industries including education, logistics, general service such as guiding assistance and security patrol, and wellness and elderly care. Core products include Walker series, Alpha robot series, uKit series, humanoid Yanshee, Jimu series, Cruzr as well as AMRs. During the Track Record Period, we launched more than 50 types of products sold over 760,000 units of robotic products for different use scenarios in different sectors.

Education smart robotic products and services. We are an established provider in the smart service robotic products and services industry in the PRC which offer smart service robotic products and services in the education smart service robotic products and services industry where we have developed inspiring AI curriculum materials and smart robotic products throughout the K-12 education curriculum to encourage students to embrace robotic and AI technologies and equip them with comprehensive robotic and AI knowledge and programming skills since 2017. Our products and services aim to create an engaging learning environment for students and give them hands-on experience by providing well-structured course materials and a wide variety of smart robotic products combined with robot software. According to Frost & Sullivan, in 2022, we ranked first in China and accounted for approximately 22.5% of the education smart service robotic products and

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services industry by revenue. As of June 30, 2023, our product lines of education smart service robotic products and services industry consisted of more than 60 types of products and services (including humanoid products) and we had successfully built up business relationship with numerous government educational bureaus. See “Our Products and Services — Education Smart Robotic Products and Services” for further details.

Logistics smart robotic products and services. Since late FY2020, leveraging our R&D capabilities and commercialization capabilities in the education smart robotic products and services industry, we launched our smart robotic products and services for robotic warehouse automation such as (a) AGVs/AMRs and (b) automated storage and retrieval system (AS/RS). Such products and services are provided to customers in the logistics and manufacturing industries to streamline their operation flow and enable traditional logistics system to become more flexible and intelligent by helping enterprises automate and intellectualize the whole procedure of cargo movement and storage in the warehousing, manufacturing and distribution processes, thus reducing logistic costs and improving the quality and efficiency of logistics operations and create a safer working environment and more cost-effective productivity for businesses. See “Our Products and Services — Logistics Smart Robotic Products and Services” for further details. Since the launch in late FY2020, we recorded significant growth of revenue from the sales of our logistics smart robotic products and services from RMB12.7 million in FY2020 to RMB190.8 million in FY2021, representing an increase of 1,402.4%, from RMB190.8 million in FY2021 to RMB263.4 million in FY2022, representing an increase of 38.1%, and from RMB41.1 million in 6M2022 to RMB76.8 million in 6M2023, representing an increase of 86.7%.

General service smart robotic products and services. What differ us from our industry peers and competitors is our ability to bring our products to customers across a broad range of sectors and use scenarios. Thus, we offered general service smart robotic products and services which consisted a wide array of smart service robots, such as inspection smart robots, that can be deployed in transportation hubs, commercial buildings and outdoor environments to perform various functions, including guiding assistance, security patrol and inspection, shelf inventory counting and malfunction detection. See “Our Products and Services – General Service Smart Robotic Products and Services” for further details. In particular, our sale of general service smart robots increased from RMB36.3 million in FY2020 to RMB77.4 million in FY2021, representing an increase of 113.2%, primarily due to the increase in demand since 2020 resulting from our introduction of a new line of smart service robots, which are designed to assist our customers to implement anti-pandemic measures amidst the outbreak of COVID-19, such as, anti-pandemic model of Cruzr and anti-pandemic model of AIMBOT with additional functionalities, including body temperature measurement, QR code scanning and disinfection.

Wellness and elderly care smart robotic products and services. In order to further expand the use scenarios of our core technologies to other sectors and address the challenges faced by elderly care facilities, we debuted our wellness and elderly care smart robotic products and services in the second half of 2022, including (a) PathFynder, a wheelchair smart robot; (b) Welli, a companion smart robot; and (c) a wellness and elderly care smart cloud-based platform, a centralized system for overall management of operations and service provisions, to satisfy the needs of the elderly and improve the service quality in the institutional and community centres, including for mobility and traveling assistance, and elderly companion. See “Our Products and Services — Wellness and Elderly Care Smart Robotic Products and Services” for further details. As at the Latest Practicable Date, subsequent to the launch of our wellness and elderly care smart robotic products and services in the second half of 2022, we have received more than 40 enquires in relation to our products and services from potential customers.

Consumer-level robots and other hardware devices. We envisage to bring our smart service robotic products and services from education, logistics, general services, and wellness and elderly sectors to every home gradually. To this end we launched our consumer-level robots and other hardware devices, which include a range of user-friendly products that are suitable for household use, including user-friendly household devices such as humanoid Alpha Mini (non-education),

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AiRROBO cat litter box and AiRROBO vacuum cleaner that aim at bringing convenience to household users by saving their time and increasing efficiency when doing household chores. See “Our Products and Services – Consumer-level Robots and Other Hardware Devices” for further details.

China-based with overseas market presence and partnerships

We are a China-based robotics company with overseas footprint. Over the years, we have forged relationships with international companies across different industries.

We value compatibility and the impact brought by our partnerships to the world, especially against the global phenomenon of IoT. To this end, we constantly analyze the dynamics of our customers and trends in key sectors to determine where opportunities exist and look for strategic collaboration across industries such that we can enlarge our use scenarios and customer base. Over the years we have cooperated with various global industry leaders such as (i) one of the world’s largest U.S.-based smartphone, tablets and computer manufacturer in terms of revenue, where we were its Chinese provider of certain robotic products in 2016; (ii) one of the largest e-commerce-retailers in the world based in the U.S., which sell wide-ranged products including books, software, video games, electronics and toys, the shares of its parent company are listed on the NASDAQ, where we cooperated and launched a smart robot with its voice recognition system; (iii) a U.S.-based multinational mass media and entertainment conglomerate who operates theme parks across the world, where we launched movies licensed robots in 2017; and (iv) a PRC multinational technology and entertainment conglomerate headquartered in Shenzhen where we utilized its intelligent voice assistant technology to develop humanoid robots. We value the importance of these cooperations not only because of its revenue source, but because we believe it can bring marketing and brand recognition. Most importantly, it is one of the major ways for us to better understand (i) the criteria and requirements of international recognized companies; and/or (ii) the latest international technologies such as voice recognition within the industry, which in turn contributed to our ongoing development and improvement of our products and services. Such strategic partnerships enable us to leverage our partners’ brand and reputation and serves as a successful model for partnerships with other market leaders moving forward.

We also aspire to create synergy within the industry through participating in various major national events and industry events which allows us to benefit from word-of-mouth marketing and minimizes our sales and marketing costs. For instance, we were invited to participate four times on China’s CCTV Spring Festival Gala in 2016, 2018, 2019 and 2021 which allowed us to reach a wide group of audience among the Chinese community. We believe this is an important step to increase our brand awareness as an established provider within China’s smart service robotic products and services industry. As a reflection of our brand image, we were also (i) selected as the sole official intelligent robot partner of the Floriade China Pavilion at the World Horticultural Expo 2022 in the Netherlands in 2022 where our Cruzr was appointed as the Cultural Communication Ambassador of the China Pavilion to provide guided tours; (ii) invited to deploy nine of our humanoid Alpha Mini robots to participate in one of the opening ceremony performances of the Beijing Winter Olympic Games in 2022; and (iii) appointed as the sole official AI-robotics partner in the China Pavilion of Dubai World Expo in 2021 to 2022 where we demonstrated the functions of our latest biped life-sized humanoid robots, *Walker X*, to the public. Owing to our brand image, we believe we are well-poised to reach the rest of the world.

Experienced management team supported by dedicated industry professionals

We are led by an experienced management team with members who come from diverse backgrounds ranging from AI technology, electronics, mechanical engineering, to management consultancy and accountancy. Our founder, Mr. Zhou, who has more than 10 years of relevant experience and received numerous awards and titles from various government authorities, industry organizations and the media in the PRC, including being recognized as one of the Top 20 Leaders in AI Technology in 2021 by *Qubit*, a popular AI-focused online media in the PRC, as well as being chosen as one of the founding committee members of the Digital Economy Committee of APEC

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China Business Council in 2020. Committed to realizing his vision of re-defining robots as our everyday companion, Mr. Zhou has led several key product launches of our Group, including the debut of the Alpha robot series in 2015, the humanoid Alpha Mini series jointly developed with Tencent in 2018, and most recently the Walker X series in 2021, all of which have helped popularized our brand both in the PRC and overseas.

Complementing Mr. Zhou’s vision and entrepreneurial experience, our management team also consists of dedicated academics and professionals who are highly specialized in different technical areas of robotic and AI development. Dr. Xiong Youjun (PhD degree in Mechanical Design and Theory, with around 18 years of R&D experience mainly in robotic engineering for the design, operation and performance of robotic mechanism components or systems), who is our Director, vice general manager and chief technology officer, leads our future core technology research strategy. Under his leadership, he assembled and structured a knowledge-rich R&D workforce for our Group and also established the UBTECH Robotics Research Institute (our in-house R&D team) in 2015 to facilitate the R&D and commercialization of robotic and AI technologies for our future sustainable development. He (i) was also granted the status of “High-Level Professional in Shenzhen” for his continual dedication and contribution to the smart service robotic products and services industry in the PRC by the Shenzhen City government in 2018; (ii) presided over (a) the preparation of AI-related curriculum “AI on the Future Smart Mover” for primary and secondary schools as first editor-in-chief in 2018 and (b) the major project of AI innovation and development “Industrialization of High-end Intelligent Service Robotic Products” of the National Development and Reform Commission in 2018 as person-in-charge; and (iii) participated in the successful application of more than 700 robotic and AI-related patents with our Group. In 2021, our associate chief technology officer, Dr. Tan Huan was awarded with the Early Government or Industry Career Award in Robotics and Automation by the Institute of Electrical and Electronics Engineers Robotics & Automation Society (IEEE RAS) in 2021. Our in-house R&D team is also led by Dr. Xiong Youjun, Dr. Tan Huan (PhD degree in Electrical Engineering, with around 20 years of R&D experience mainly in AI technologies such as robotic cognition, learning and behaviour and core algorithms including visual servo, data dimensionality reduction and spatiotemporal data modeling), Dr. Pang Jianxin who holds a PhD degree in Signal and Information Processing, with around 15 years of R&D experience mainly in AI technologies such as computer vision and perception, integration of robots to Internet of Things (IoT), and human-computer interaction (our vice president and executive R&D director) and Dr. Huang Dongyan (PhD degree in Physics and Metrology, with around 26 years of R&D experience mainly in AI technologies such as signal and information processing, in particular in relation to effecting digital emotion and behaviour processing during human-computer interaction), all of which have expertise in robotic and AI-related areas such as method, equipment (including servo actuators), mediums and terminal settings for robotic motion planning and control as well as algorithm and devices for scene, facial, gestures, poses and obstacles detection and recognition and route planning. With an established track record in securing numerous patent registrations, delivering academic publications, and collaborating with governments in a variety of R&D projects, our specialists in the management team provide invaluable input to the development of our Group’s products and services and business strategies. We believe the diverse, experienced and synergetic composition of our management team is critical to the success of our Group’s products and services.

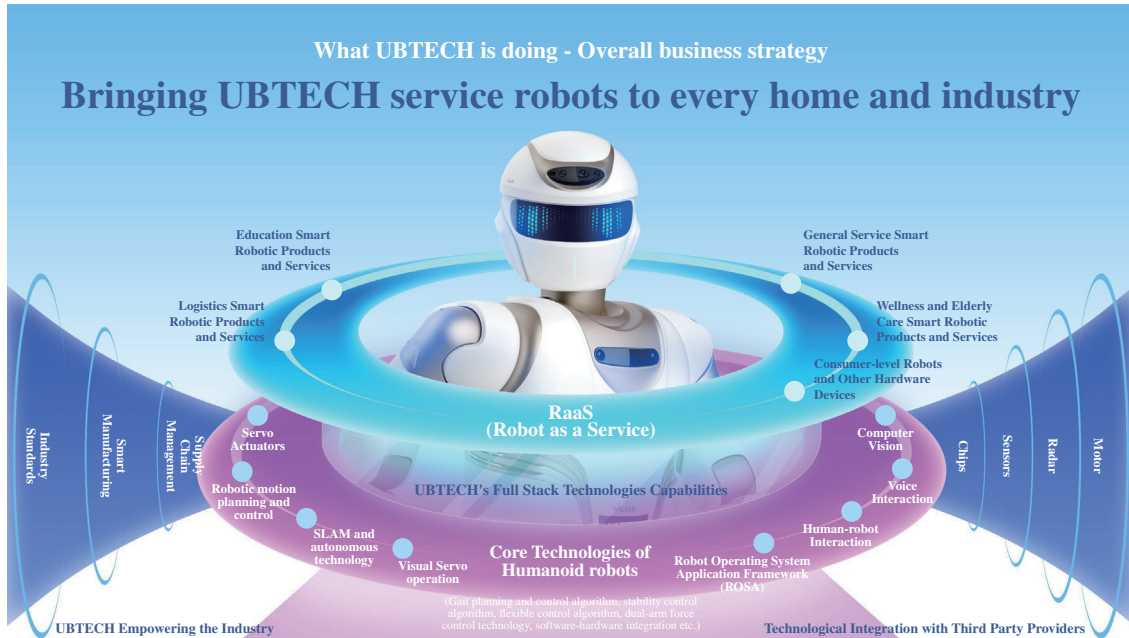
OUR BUSINESS STRATEGIES

To achieve bringing UBTECH service robots to every home and industry, we have, throughout our operational history, dedicated our efforts in:

- (i) our long-term goal of the R&D and commercialization of life-sized humanoid robots, headlined by our iconic Walker X, which is a product which comprises of most of our core technologies, and
- (ii) the gradual launching and sales of a range of enterprise-level and consumer-level robotic products and services for different use scenarios which utilize our core technologies, some of which were developed as a result of our continuous R&D commitment in relation to humanoid robots.

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The following diagram illustrates our overall business strategy to commercialize core technologies of humanoid robots for application in different use scenarios of different sectors:



Looking forward, the strategies on our future development will focus on:

- (i) the further advancement of our R&D capabilities to enhance our core technologies and products and services offerings,
- (ii) the enhancement of our R&D infrastructure to improve our R&D capabilities and efficiencies,
- (iii) the enhancement of our brand awareness and market penetration, and
- (iv) the optimization of our management and operational efficiency.

We believe that the future strategies below will allow us to maximize our shareholders' and customer values.

Further advance our R&D capabilities to enhance our core technologies and products and services offerings

We will continue to invest in our R&D capabilities, particularly with respect to our core technologies, in order to enhance our technologies utilized under our products and services and reinforce our established position in the industry.

(i) Core technologies utilized in our humanoid robots

According to Frost & Sullivan, the global humanoid robotic products and services industry is still at an early stage with a few market players and limited use scenarios and the full potential of the humanoid robotic market is yet to be realized. With the continuous R&D focusing on humanoid robot technologies and systems, humanoid robots will be able to perform versatile tasks in the real world and interact with humans, thus increasing the application of humanoid robots in various fields, such as education and entertainment, wellness and elderly care, disinfection, and logistics to accomplish complex and human-like tasks in the forthcoming periods. According to Frost & Sullivan, technologies in relation to humanoid service robots mainly constitute of the application of existing robotic and AI technologies with upgrades and much more complex integration. Although the high cost of humanoid robots is attributed to the more complex application requirements and the limitations of robotic and AI technologies, technological breakthroughs will progressively reduce such costs and promote the commercialization of humanoid robots in the near

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future. This in turn requires the successful development and application of various robotic and AI technologies (including the abovementioned core technologies) across multiple disciplines that could enable different products and services to provide the human-like functionalities and features demanded by customers.

We have been focusing our R&D efforts on advancing core technologies utilized in humanoid robots. Our goal is to not only improve the performance of our humanoid robots but also to induce a spill-over effect of R&D in relation to technologies utilized in smart service robotic products and services for use scenarios in different sectors as the development of biped life-sized humanoid robots involves the integration and combination of various core technologies such as computer vision, voice interaction, servo actuators, motion planning and control, and positioning navigation. It has always been our strategies to dedicate resources to concurrently conduct R&D projects across various robotic and AI technologies while primarily focusing R&D efforts on core technologies utilized in humanoid robots, which may inevitably increase our R&D expenses. In addition, apart from the aforementioned spill-over effect, investing in R&D in humanoid robots can help our Group to stay ahead of the competition and create new market opportunities for long term growth as according to Frost & Sullivan, the global humanoid robotic products and services industry is still at an early stage with a few market players and limited use scenarios and the full potential of the humanoid robotic market is yet to be realized. Thus, there remains substantial areas of innovation and opportunities for disruption in the global humanoid robotic products and services industry.

According to Frost & Sullivan, a company who owns full-stack core technologies have more opportunities in the future competition over industry peers which are specialized in particular technologies in the smart service robotic products and services industry due to dynamic changes of customer demand and preferences. Our experience, technique and resources accumulated throughout our R&D in core technologies involved in humanoid robots strengthened our abilities to expand our products and services offerings across various industries and use scenarios, which differentiate us from other industry peers. Unlike our competitors which only specialise in a certain areas and technologies and may not be, our full-stack of technologies have put us in a better position to expand into new industries and use scenarios. For example, during the outbreak of COVID-19, we were well positioned to react to any sudden changes in market demand and we launched disinfection model of ADIBOT, a patrol smart robot that uses UV-C for disinfection and sterilization which contained our certain of our core technologies including SLAM and autonomy technology and can automatically perform disinfection tasks through automated mapping, smart calculation, and automatically generating disinfection path.

While we have launched a wide range of smart service robotic products and services across various use scenarios for different sectors during the Track Record Period, our Directors also recognize that not all of our robotic products such as AiRROBO vacuum cleaner, disinfection smart robotic products, reception smart robotic products, logistic smart robotic products require our full-stack core technologies, as the day-to-day use scenarios of customers for these robotic products do not require cutting-edge technologies and only part of our core technologies. These robotic products are therefore subject to risk of being replaced by competing robotic products. For example, unlike our education smart robotic products and Walker X which require the integration of full-stack of core technologies, robotic products such as sanitisation ADIBOT and AiRROBO vacuum robots only require certain technologies such as SLAM and autonomous technology. Our Directors are of the view that robotic products in these use scenarios are distinguished through other factors such as (i) products with comparative technologies at a competitive price, (ii) brand image and available sales channels; and (iii) reaction time to technological advancements and changes in customer preferences. Our Directors consider that as long as we can carry on launching new products and services with technologies that are comparable to our peers at a competitive price and obtain sufficient market recognition, we can gain market share in these industries.

By striking a balance between continuous investments in core technologies utilized in humanoid robots and competing effectively in markets where customers prioritize other factors such as pricing and comparable functions, we believe we can deliver value to our customers and drive sustainable growth over the long term.

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In order to further enhance the functionalities and performance of our humanoid robots to launch humanoid robots with sufficient human-resemblance to meet future market demands, customer preferences and technology requirements, we intend to further upgrade our core technologies that can be applied in our humanoid robots. Examples of (i) upgrades to our existing core technologies/areas and (ii) new core technologies/areas in relation to our humanoid robots which we may develop and utilize upon the advancement of our R&D capabilities are as follows:

Name of technology/area	Applicable core technology/area	Description
Bipedal robot gait algorithm and control algorithm	Upgrade to robotic motion planning and control – Gait planning and control algorithm	We intend to improve the motion control capability, stability and speed of movement, ability to function in complex unstructured scenarios and self-adaptability to external disturbances and environmental changes of humanoid robots.
USLAM 4.0 system iteration and optimization	Upgrade to SLAM and autonomous technology	We intend to improve the deployment efficiency of USLAM system in the real-life application and reduce operational and maintenance costs of products equipped with USLAM system.
Next generation development of Walker	Humanoid robot application scenarios	We intend to research on new humanoid robot configurations to achieve better coordination between different technologies and algorithms.
Commercial use scenarios development for Walker	Humanoid robot application scenarios	We intend to explore the application of humanoid robots in more commercial scenarios.
Next generation large torque servo actuators	Upgrade to servo actuator	We intend to upgrade our large torque servo actuators with the latest technologies and achieve cost reduction by exploring new large torque servo control methods, expanding our servo control technology and improving our servo performance, anti-disturbance capabilities and robustness.

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(ii) *Our smart service robotic products and services for application in different sectors*

(a) Education smart robotic products and services

We plan to invest in the R&D in our education smart robotic products and services with a view to maintain our leading position in the education smart robotic products and services industry and expand the application of humanoid robots in this sector. Examples of smart robotic products and services which we may develop and launch for our education smart robotic products and services industry are as follows:

Name of proposed product	Description
<i>uSim</i>	<p>To further lower the entry barriers for AI and robotics education, we are in the course of developing <i>uSim</i>, an easy to use and accessible simulation creation platform designed for AI and robotics education which allow users to create, program, learn and interact our smart robotic products such as <i>uKit series</i> in virtual worlds. This allows users to apply their AI and robotic programming skills before purchasing our physical smart robotic products.</p> <p>It provides 3D modeling materials, a realistic virtual environment and interactive AI robot programming logic that maps real-life environments, allowing teachers and students to learn and experience AI and robotic knowledge in virtual worlds without hardware.</p> <p>In the world of <i>uSim</i>, the algorithmic programming of <i>uCode</i> can simulate and drive the virtual robots to exhibit AI recognition effects and logic, enabling virtualised hardware AI experiments to be taught. <i>uSim</i> supports virtualised programming and training, allowing students to practice and challenge the topics and tasks in <i>uSim</i> without hardware and venues.</p>
Next generation education platform	<p>We intend to upgrade our AI smart education platform to achieve digital teaching management. The upgraded platform can enhance teaching and learning efficiency.</p>
<i>uKit Explore 3</i>	<p>An upgrade to our <i>uKit Explore</i> series with enhanced AI computational power and multimodal configurations, which includes designing additional robotic models to be applied in the teaching of curriculums in relation to different scenarios.</p>
Next generation humanoid robot for education	<p>We intend to upgrade our humanoid Yanshee robot by increasing its AI and motor capabilities to be applied in various use scenarios in the education sector, which is expected to enhance its capabilities and lifespan and satisfy higher customer needs on humanoid robots.</p>

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(b) Logistics smart robotic products and services

We intend to enhance our existing products offerings of logistics smart robotic products and services upon the advancement of our R&D capabilities, in particular, we intend to upgrade our logistics smart robotic products and services with enhanced software platforms, information security, enriched application scenarios and intelligence which may include the following products:

Name of proposed product	Description
Next generation unmanned forklift AMR	We intend to develop our next generation unmanned forklift which integrates our technologies such as AMR technology and positioning, navigation and artificial intelligence technology. Such unmanned forklift can achieve point-to-point materials handling. It is expected that such unmanned forklift to have high loading capacity.
Outdoor driverless logistics vehicles ..	We intend to design an outdoor driverless logistics vehicle for outdoor transportation of components, semi-finished products and finished products in outdoor industrial parks and open road scenarios. Such outdoor driverless logistics vehicles is expected to be able to achieve point-to-point delivery of components, semi-finished products and finished products in different outdoor scenarios as instructed. It will consist of intelligent navigation and obstacle avoidance algorithms and multi-directional radar and computer vision technologies.
Next generation AMR robot	We intend to develop next generation AMR robots with improved performance, reliability and stability. Such improved AMR robot will also consist of various variations such as latent traction series, top lifting and light lifting series.

(c) Other sector-tailored smart robotic products and services

General service smart robotic products and services. Our general service smart robotic products refer to a wide array of smart robotic products that can be deployed in both indoor and outdoor environments for various commercial and professional uses. To further expand the use scenarios for our general service smart robotic products and services, we intend to enhance our existing offerings of them upon the advancement of our R&D capabilities which we believe can allow us to expand the scenarios of our general service smart robotic products and services.

Name of proposed product	Description
Next generation general service smart robotic products and services	We intend to develop next generation general service smart robotic products such as commercial cleaning robots series and delivery robots. The general service smart robotic products will consist of universal chassis that can be equipped with different upper bodies to perform different functions.
Next generation inspection smart robot	We intend to upgrade our inspection smart robots to enable unmanned operations and provide it with sufficient battery-life and other capabilities in order to meet indoor and outdoor inspection and security monitoring needs.

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Wellness and elderly care smart robotic products and services. In order to address the challenges faced by elderly care facilities, we began to launch our wellness and elderly care smart robotic products and services in small batches and began to sell in the second half of 2022.

We intend to enhance our existing offerings of wellness and elderly care smart robotic products and services upon the advancement of our R&D capabilities, including:

Name of proposed product	Description
Next generation wellness and elderly care smart cloud-based platform	We intend to upgrade our wellness and elderly care smart cloud based platform, such as improving the speed of information feedback from the platform and management of emergency situations for the elderly.
Next generation walking assistance smart robot	We intend to upgrade the function of our walking assistance smart robot by providing more rehabilitation functions for walking assistance. We also intend to improve the hardware design and algorithms so as to enhance the efficiency of robot transitions between rehabilitation, walking and resting modes.
Next generation companion smart robot	We intend to further improve the responsiveness of our companion smart robot so that it can provide more interactions with users.
Next generation wheelchair smart robot	We intend to upgrade functions including navigation and mobility of our wheelchair smart robot so that it can navigate autonomously in specific areas and automatically avoid obstacles.

(d) Consumer-level robots and other hardware devices

We intend to enhance our existing offerings of consumer-level robots and other hardware devices upon the advancement of our R&D capabilities, including:

Name of proposed product	Description
Next generation vacuum cleaner	We intend to upgrade our vacuum cleaner to effectively and efficiently pick up debris, pet hair and food crumbs from hard floors and carpets through its increased strong suction capabilities and autonomously detect household settings, plan cleaning routes and navigate autonomously. With a mobile application, users may be able to remotely check and adjust cleaning routes, schedule cleaning in advance and customize cleaning speed and power.
Pool cleaning robot	Our pool cleaning robot is expected to be used in the cleaning and maintenance of domestic swimming pools to remove small-sized debris or trash. It will adopt a simple and easy-to-use wireless design and its AI algorithms (e.g. intelligent navigation and path planning algorithm) will improve its cleaning efficiency and quality.

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Name of proposed product	Description
Lawn mower	Our lawn mower will be designed to allow effective hands-free outdoor lawn mowing and can autonomously navigate and plan routes outdoors and identify parameters of the lawn, detect grass and avoid obstacles and objects. It will be able to save costs and increase efficiency compared to traditional lawn mowers which require wired fences laid out around the edge of the lawn, while users can also remotely control and monitor our lawn mower.

Enhance our R&D infrastructure to improve our R&D capabilities and efficiencies

We believe that it is necessary to upgrade our R&D infrastructure to conduct more sophisticated R&D projects and tests in order to facilitate our technological development process and Integrated Product Development (IPD) model to enable our development of core technologies, products and services which are compatible with the latest technological developments and customer needs. We intend to upgrade our R&D infrastructure by (i) acquiring machinery, equipment and software, and (ii) recruiting R&D personnel in relation to our existing R&D laboratories located at our R&D institute in Shenzhen in order to enhance the R&D capabilities and efficiencies of such R&D laboratories, thus sustain the ongoing refinement of our core technologies algorithms, hardware and software platforms and maintain our established position in the smart service robotic products and services industry. Such R&D laboratories include (i) motion planning and control laboratory, (ii) servo actuator mechatronics technology laboratory, (iii) robot and AI R&D testing laboratory, (iv) autonomous location and navigation technology laboratory, (v) visual perception and cognition technology laboratory, and (vi) voice interaction technology laboratory.

Enhance brand awareness and market penetration

We intend to enhance our brand awareness and market penetration in the PRC and overseas by establishing more regional offices, branch offices and showrooms across the PRC and overseas to enhance our accessibility to end-users and receive feedback from potential customers.

Enhance PRC and overseas market presence. We intend to expand our sales network in the PRC to facilitate better communication with and experience of customers and end-users of our products and services by setting up regional offices and branch offices in various cities in the PRC. We believe such efforts will increase our local brand awareness and enable us to strengthen our market share in the smart service robotic products and services industry in the PRC. In particular, we plan to expand our market presence in the overseas markets of the smart service robotic products and services industry to further elevate our brand awareness and market penetration and establish ourselves as a domestic and overseas provider of smart service robotic products and services.

Through the setting up of local and overseas showrooms, we intend to offer our existing and potential customers opportunities to experience our smart service robotic products by participating in demonstrations. While we can divulge information of our products to our existing and potential customers through other channels such as social media, the showrooms allow our existing and potential customers to physically examine and experience our products. We believe this is the most direct way to promote the functions and capabilities of our products.

Future marketing endeavors. In addition, we intend to embark on future marketing endeavors which may include other forms of advertising, including digital, traditional advertising or participating in more AI or robotics-related events or seek collaboration with world renowned brands and labels in order to take advantage of their well-known brand recognition as well as their well-established customer base. During the Track Record Period, our sales team contributed to our business by leveraging their marketing abilities to promptly identify potential business opportunities in each sector and obtain up-to-date market intelligence and industry information,

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thus enabling us to make well-informed business decisions and capture nationwide and worldwide market in an efficient manner. Going forward, our sales and marketing team will continue to be an important part of our Group to explore different use scenario across different sectors. Leveraging on our commercialization capabilities in the smart service robotic products and services industry and track record in continuously developing smart service robotic products and services that can be used in various key industries, we believe that we will be able to continue to develop different use scenarios in other sectors for our smart service robotic products and services, such as use scenarios in relation to home service and medical surgery purposes.

As we expand our customer base and enhance exposure in the market, we also plan to promote the concept of Robot-as-a-Service, or RaaS, by offering smart service robots as a subscription service with content creation capabilities through human-robot interactions, to continuously increase customer stickiness, in particular enterprise-level customers, and the penetration rate in our existing markets. In particular, we strive to build a business ecosystem that encompass “hardware, software, services and operations” to create more contents for end users. As such, we believe this can help organizations resolve challenges in different use scenarios more efficiently and maintain continuous adaption and improvement in content creation through service-based activities using smart service robots. This in turn allows us to (i) understand the needs of our customers, (ii) to adapt to the fluctuating market demands and conditions and (iii) adopt technical changes to the systems based on the vast amount of user experience and feedbacks, in an adequate, effective and systemic way.

Further optimize our management and operational efficiency

We plan to improve our productivity and operational efficiency by upgrading our IT infrastructure information system of our headquarters in Shenzhen through the purchasing of various systems such as enterprise resource planning (ERP) system, product lifecycle management (PLM) system, human capital management (HCM) system, customer relationship management (CRM) system and warehouse management (WMS) system. Such upgrades cover various aspects of our key operational activities and include supplier relations management, customer relations management, inventory management, production management, human resources management, business intelligence management, e-commerce platform management and R&D cycle period. We believe that upgrading our information system can expedite our operational activities, increase the efficiency of our business operations and various aspects of our key operational activities, and also help to minimize mistakes caused by human error.

See “Future Plans and Use of [REDACTED]” for details of our future plans and use of [REDACTED].

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Products and services offerings. We segment our products and services by their targeted use scenarios and we generate our revenue in the following segments, namely (i) **Enterprise-level smart service robotic products and services** which include (a) *education smart robotic products and services* (our smart robotic products such as humanoid Yanshee, uKit and Jimu series (education) and humanoid Alpha Mini (education), together with our AI education curriculum in the form of robotic teaching kits, programming software and multimedia equipment); (b) *logistics smart robotic products and services* (our logistics smart robotic products and services including AGVs/AMRs, and automated storage and retrieval system (AS/RS) to our customers); and (c) *other sector-tailored smart robotic products and services* (our Walker series, general service smart robotic products and services such as Cruzr series and AIMBOT series, and wellness and elderly care smart robotic products and services such as wheelchair smart robot (PathFynder)); and (ii) **Consumer-level robots and other hardware devices** (our smart robots such as Jimu series (non-education) and other hardware devices such as AiRROBO vacuum cleaner).

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R&D. Our R&D strategy involves the following aspects (i) R&D on robotic and AI-related core technologies based on industry demands and technological developments — this involves incorporating robotic and AI technologies into our products and services to expand their functionalities and to allow our products and services to accommodate the specific needs of the different sectors; (ii) Conceptualization of core technologies based on customer requirements — the customization and incorporation of our core technologies into our products and services to satisfy the preferences and demands of our consumers; and (iii) Commercialization of our products and services — the rigorous quality control and testing of our products to ensure their viability and performance.

Core technologies. We built our success based on our full-stack robotic and AI technologies that are consumer grade and mass market level covering robotic motion planning and control technology, servo actuators, computer vision, voice interaction technologies, which together power a number of integrated robotic and AI technologies (SLAM and autonomous technology, visual servo operation and human-robot interaction), rounded out with and controlled through our Robot Operating System Application Framework (ROSA). See “Our Core Technologies” below for details on our core technologies.

Marketing initiatives. We adopt multi-faceted marketing initiatives to maintain and build relationships with our existing and new partners and customers. Such marketing initiatives include (i) engagement with customers through online social media, (ii) participating in exhibitions and showrooms, (iii) participating in major national events and industry events; and (iv) sponsorships of robotic and/or AI-related competition events. See “Marketing” below for details on our marketing initiatives.

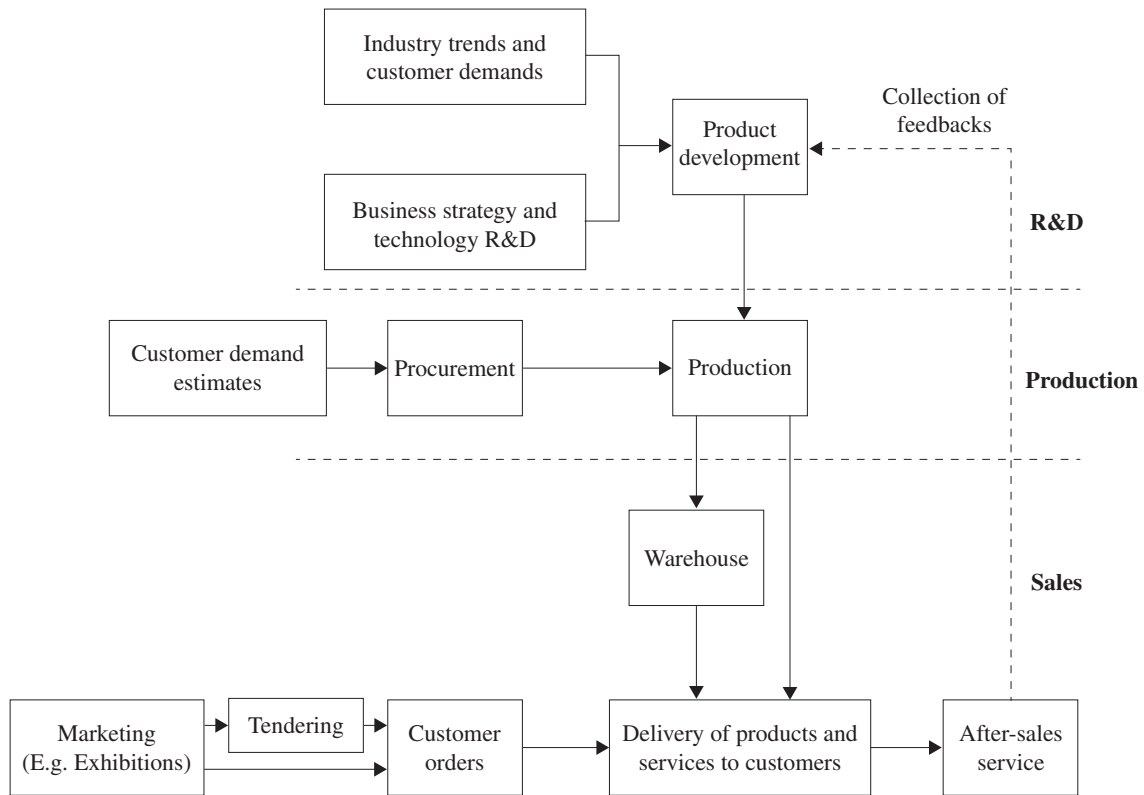
Tendering. For certain direct sales customers such as government educational bureaus, we source new businesses mainly through tendering based on opportunities which arise as a result from our marketing initiatives or publicly available information published by potential customers. See “Sales – Our sales networks – Direct sales” below for details of our tendering process.

Sales channel. We distribute our products through a multi-faceted sales network across the world including online and offline sales networks, which contribute to a broad customer coverage for consumer-level robots and other hardware devices. Our sales channels comprise of (i) direct sales; (ii) distributors which include (a) traditional distributors, and (b) online/offline hybrid distributors; and (iii) sales through our self-operated online stores. See “Sales — Our sales networks” below for details on our sales channel.

Production and our suppliers. Our R&D efforts are driven by our emphasis of the close collaboration between our in-house R&D team and production team. We maintain self-production process for some of our robotic and core components of our products that involve manufacturing technology or serve strategic purposes at our self-owned and operated facilities in China with an aim to achieve intelligent manufacturing. As of the Latest Practicable Date, we had seven production facilities in operation. We also leverage contract manufacturers to produce certain products, mainly including humanoid Alpha Mini and smart robotic appliances, to increase the flexibility of our production capacity and optimize our production network. Our suppliers primarily consist of (i) providers of raw materials and hardware, and (ii) subcontractors. See “Our Suppliers” and “Production” below for details on the manufacturing process of our smart service robotic products and services as well as our suppliers.

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Our operational flow. Our business operations are driven by (i) customer demands of our products and services and (ii) our R&D projects. Our operations management center is primarily responsible for the overall operational planning as well as the informational flow across different business units including our supply-chain center, production center, quality control center, R&D institutes and our business sector departments. Under our operational structure, our operations management center formulates production plan base on customer demand forecast. The production plan and relevant information will be passed to our supply-chain unit for procurement planning based on the availability of raw materials, and to our production unit for production arrangement based on the available production capacity. Depending on the level of customer demand, finished products will then be placed into our inventory storage or delivered directly to customers. They will only be despatched for delivery to customers after passing our pre-despatch procedures. Our quality control unit conducts robust quality control not only at the procurement, production and delivery stage but also during the pre-production R&D and after-sales stages. The following diagram illustrates our operational flow by way of a summary:



RESEARCH AND DEVELOPMENT

Our R&D philosophy

Our R&D philosophy is to develop the necessary core technologies in order to create a life-sized humanoid robot with an aim to assist human-beings in performing every-day tasks. Our R&D-centric product development strategy involves the following aspects: (i) R&D on robotic and AI-related core technologies based on industry demands and technological developments: based on the latest industry demands, technological developments, and long-term development trends in the smart service robotic products and services industry, our in-house R&D team conducts R&D to expand the available functionalities and business environments which our products and services are compatible with to incorporate robotic and AI technologies into our products and services to accommodate the specific needs of the different sectors; (ii) Conceptualization of core technologies: based on customers’ requirements provided during preliminary discussions with our customers from contract negotiations and feedback from the usage of our products and services, coupled with extensive research and analysis, we will have a better understanding of the industry sector-specific preferences and demands of the consumers of our products and services. Our in-house R&D team,

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together with the respective sector departments, customize our core technologies to incorporate our customized core technologies into our products and services to satisfy such requirements in a cost-efficient manner and to provide the desired user experience to consumers; and (iii) Commercialization of our products and services: throughout the deployment of the commercialized core technologies in our products and services, our in-house R&D team works together with our quality control team to conduct quality control and testing to ensure the viability and performance of our products and services prior to their delivery to our customers. See “Our Core Technologies” below for details on our core technologies which are deployed in our smart service robotic products and services.

Our in-house R&D team and R&D institutes

Established since 2012, our in-house R&D team currently includes, but are not limited to, in-house scientists, engineers and other employees who have obtained at least undergraduate robotic and/or AI-related degrees and been involved in our product and technology development during the Track Record Period, consisted of a total of 717 employees as at June 30, 2023, and is led by Dr. Xiong Youjun (PhD degree in Mechanical Design and Theory, with around 18 years of R&D experience mainly in robotic engineering for the design, operation and performance of robotic mechanism components or systems), Dr. Tan Huan (PhD degree in Electrical Engineering, with around 20 years of R&D experience mainly in AI technologies such as robotic cognition, learning and behaviour and core algorithms including visual servo, data dimensionality reduction and spatiotemporal data modeling), Dr. Pang Jianxin who holds a PhD degree in Signal and Information Processing, with around 15 years of R&D experience mainly in AI technologies such as computer vision and perception, integration of robots to Internet of Things (IoT), and human-computer interaction (our vice president and executive R&D director) and Dr. Huang Dongyan (PhD degree in Physics and Metrology, with around 26 years of R&D experience mainly in AI technologies such as signal and information processing, in particular in relation to effecting digital emotion and behaviour processing during human-computer interaction), all of which have expertise in robotic and AI-related areas such as method, equipment (including servo actuators), mediums and terminal settings for robotic motion planning and control as well as algorithm and devices for scene, facial, gestures, poses and obstacles detection and recognition and route planning. Through close cooperation between our in-house R&D team, our different sector departments and other teams such as supply-chain, quality control and intellectual property teams, we have been able to generate ideas, create new smart service robotic concepts, develop new smart service robotic products and services, and improve, redesign or reformulate existing robots and related software during the Track Record Period.

In addition, our in-house R&D institutes focus on conducting the most complex R&D on potential new technologies, in particular software algorithms in the robotic and AI-development fields. We have three in-house R&D institutes located in Shenzhen, Beijing, and Los Angeles for our R&D efforts in relation to the development of our smart service robotic products and services and smart service robots-related core technologies.

Our in-house R&D team also works with professors, researchers and inventors from established tertiary institutions in China through collaboration. They also have long-standing working relationships with several national educational facilities, which enhance our internal R&D capabilities. We have established two joint laboratories in Shenzhen by collaborating with Shenzhen University and South China University of Technology, respectively. During the Track Record Period, we collaborated with Southern University of Science and Technology and Shanghai Jiao Tong University in relation to certain robotic and/or AI-related R&D works.

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The salient terms of the four aforementioned collaboration agreements entered into between our Group and the relevant tertiary institutions during the Track Record Period are as follows:

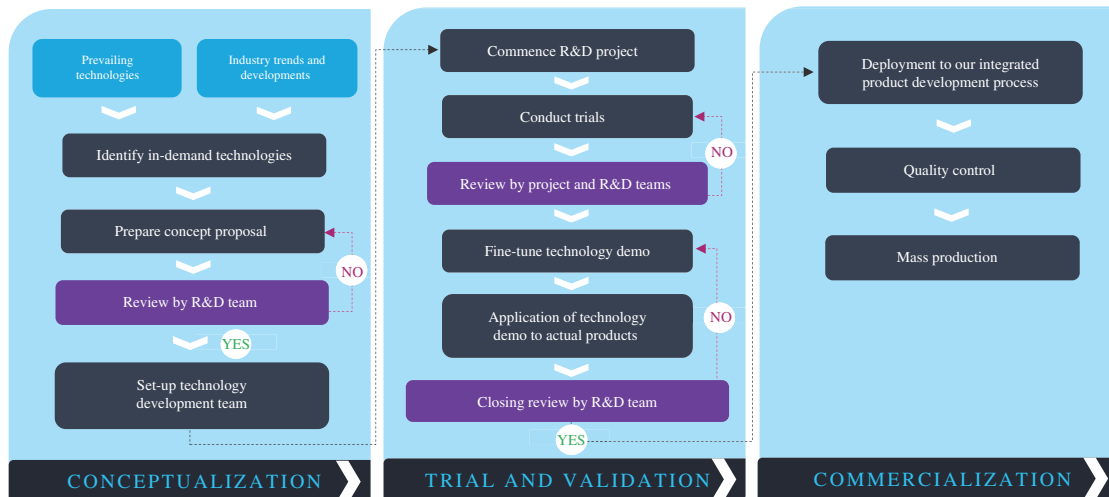
Terms	Description
Duration	Laboratories: Three years to establish. R&D projects: One month to six months.
Scope of works	R&D in relation to (i) smart services robots or (ii) related robotic and/or AI technologies.
Responsibilities of parties	Based on the negotiations between the parties, the parties are generally required to: <ul style="list-style-type: none">• participate in the R&D works;• provide employees and/or training;• provide R&D equipment and software;• provide technical support; and/or• provide financial support to R&D works.
Payment of fees	We are generally required to pay the R&D expenses in relation to our collaboration with educational institutes.
Ownership of intellectual property	Governed by contractual terms to protect our Group from potential competition and disputes on the R&D results co-developed, which are generally co-owned by the parties and with license to use result, except that both parties are generally allowed to further enhance or innovate the relevant intellectual property(ies) on its own and such new intellectual property(ies) will belong to the innovating party(ies). Both parties are also restricted from transferring the intellectual property(ies) to third parties without prior consent from the other party. Our Directors confirm that we did not have any potential competition, disputes or any other pending legal proceedings of intellectual properties with the relevant tertiary institutions during the Track Record Period and up to the Latest Practicable Date.
Confidentiality obligation	Parties generally undertake not to disclose or use confidential information of the other party.
Dispute resolution	Parties shall endeavor to resolve any issues arising from the agreement via negotiation, and will seek resolution at the PRC courts or Shenzhen International Arbitration Court if such issues remain unsolved.

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Our technology development process

Our technology development process involves a development framework in which factors such as technology developments and possible use scenarios are taken into consideration.

The diagram below sets out the principal steps which we generally follow in our technology development process from initial R&D and conceptualization all the way to commercialization:-



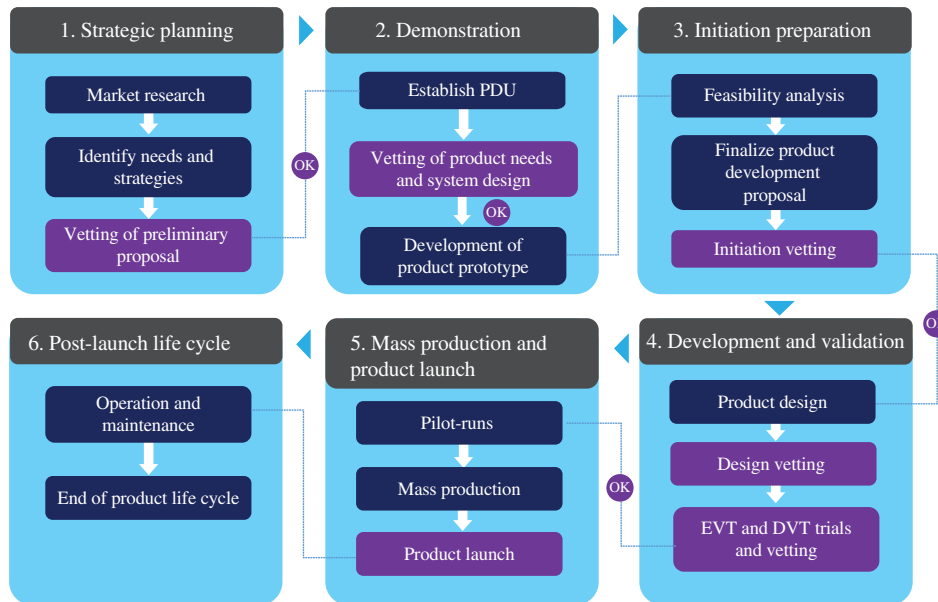
- **R&D and Conceptualization** — We start our technology development process by first conducting *in-depth research* on the prevailing technologies, industry trends and technology developments. Upon identifying a potential R&D area, we then proceed to the *conceptualization* phase where, building on our research findings on the broader industry needs, we further analyze the preferences at the sector-specific and end-user levels for us to prepare a preliminary concept proposal. The proposal will then be reviewed and vetted by our in-house R&D team, which will then decide whether to proceed with the proposed R&D project.
- **Trial and Validation** – Once the proposed R&D project has been approved, a dedicated technology development team will be established to implement the project, which will start conducting relevant trials to test and optimize the concept. The team leaders of the project departments and testers of our in-house R&D team will then review the trial results and decide whether further trials are necessary before proceeding. Upon completing the initial trials, the team will proceed to validate the concept by applying the technology demonstration to our actual products and services for testing, after which our in-house R&D team will conduct a closing review and decide whether the technology demonstration should be further fine-tuned or is ready to be deployed.
- **Commercialization** – After passing the trial and validation stage, the newly developed technologies will serve as a deployable resource of our Group, which will be utilized in our products during our integrated product development process. Our in-house R&D team will also work together with our quality control team to conduct quality control and testing to ensure that the products and services are suitable for mass production and delivery to customers.

Our integrated product development process

Our product development process follows the Integrated Product Development (“IPD”) model which consists of six phases including (i) strategic planning, (ii) conceptualization, (iii) initiation preparation, (iv) design and testing, (v) mass production and product launch, and (vi) post-launch life cycle. We involve not only our in-house R&D team, but also relevant personnel from our finance, supply-chain, quality control, intellectual property and customer services teams throughout our product development process where necessary.

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The following diagram illustrates the steps we generally follow in each of the development phases:-



- *Strategic planning* – Our product development exercises are also led by our in-house R&D team. We start the process by first conducting research on market demands, customer preferences, technology requirements and the competitive environment so as to identify the market needs and devise an overall product development strategy. A preliminary product development proposal will be prepared and submitted to our product decision committee for vetting based on its feasibility and marketability.
- *Demonstration* – If the proposal passes the preliminary vetting stage, a product development unit (“PDU”) will be established to conceptualize the new product for demonstration to determine the needs which our product may seek to address together with its design, production process, assessment and specifications, and draw up a production system framework, which will be further vetted by our product decision committee before proceeding to develop the product prototype for demonstration.
- *Initiation preparation* – Once the product prototype is available, the PDU will proceed to conduct further feasibility analysis on the product prototype in order to finalize the product development proposal. The finalized product development proposal will then be approved for execution by the PDU.
- *Development and validation* – After the approval of the initiation, we will proceed to particularize the product design based on the prototype and conduct engineering verification tests (“EVT”) in order to ensure that the hardware and software of a product are capable in enabling the product to fulfill the functional requirements from an engineering perspective as well as design verification tests (“DVT”) to perfect tools and techniques necessary for consistent production and ensuring a product meets cosmetic and environmental requirements during mass production. The results from the EVT and DVT will also be reviewed by the product decision committee.
- *Mass production and product launch* – Following the EVT and DVT processes, a pilot run will take place where a small batch of the product will be produced in order for us to confirm the operational flow of the production including details such as production time and production capacity. The production verification results will also be signed off by the product decision committee. Afterwards, we will proceed to mass production and eventually launch the product to the market.

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- *Post-launch life cycle* – Following the product launch, we continue to provide maintenance services for the end-users of our products in accordance with our terms and conditions. The feedbacks from customers and end-users as well as general market reception about the newly-launched products will serve as an important source of information for us to consider any further new product development exercises in the future.

Depending on the needs and requirements of specific projects under our technology development process and integrated product development process, we may also involve third parties such as testing agents, raw material suppliers and contract manufacturers throughout the different stages of our R&D process in order to achieve mutual benefits from the sharing of resources and know-how.

Our projects portfolio during the Track Record Period

As at the Latest Practicable Date, (i) our Group had 14, 18 and 77 smart service robotic products which were in the conceptual, R&D and commercialization stages, respectively, and (ii) 64 out of the 141 smart service robotic products which were in commercialization stage during the Track Record Period and up to the Latest Practicable Date have either passed their respective product lifecycle and/or were no longer manufactured. Among the aforementioned 64 smart service robotic products which have either passed their respective product lifecycle and/or were no longer manufactured, (i) the majority of them were consumer-level robots and other hardware devices or education smart robotic products and (ii) some of the products were replaced by either an upgraded version or a new version. Our Directors believe that this demonstrates that we have a stable pipeline of smart service robotic products and services to cater to the functionalities and performance requirements of our customers for use scenarios in different sectors. Based on our Directors’ experience, (i) the estimated time range required to commence R&D from conceptual stage, (ii) the estimated time range required to achieve commercialization from R&D stage and (iii) the estimated product life cycle range of commercialized products generally range from one month to 16 months, two months to 12 months and one year to six years, respectively.

The following table sets forth a summary of the portfolio of our Group’s products under the conceptual, R&D and commercialization stages for each of the business segments and humanoid service robots (Walker) of our Group during the Track Record Period and up to the Latest Practicable Date:

	Conceptual stage ⁽¹⁾	R&D stage ⁽²⁾	Commercialization stage ⁽³⁾
	(Estimated time range required to commence R&D from conceptual stage ⁽⁴⁾)	(Estimated time range required to achieve commercialization from R&D stage ⁽⁴⁾)	(Estimated product life cycle range of commercialized products ⁽⁴⁾)
Education smart robotic products and services	Four products, including (i) upgraded education smart robotic products and (ii) new education platforms (three to 12 months)	Two upgraded education smart robotic products (two to 12 months)	71 products, including education smart robotic products, education curriculums, education platforms, education software tools and others (two to six years)
Logistics smart robotic products and services	One new logistics smart robotic product (approximately six months)	Two upgraded logistics smart robotic products (five to seven months)	Three products, including logistics smart robotic products and logistics management system (three to five years)

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	Conceptual stage ⁽¹⁾	R&D stage ⁽²⁾	Commercialization stage ⁽³⁾
	(Estimated time range required to commence R&D from conceptual stage ⁽⁴⁾)	(Estimated time range required to achieve commercialization from R&D stage ⁽⁴⁾)	(Estimated product life cycle range of commercialized products ⁽⁴⁾)
General service smart robotic products and services	One new general service smart robotic product (approximately three months)	Three new general service smart robotic products (two to nine months)	11 products, including general service smart robotic products and robotic management platform system (three to six years)
Wellness and elderly care smart robotic products and services	Six products, including (i) new and upgraded wellness and elderly care smart robotic products and (ii) upgraded smart cloud-based platform (five to 16 months)	Four new wellness and elderly care smart robotic products (five to nine months)	Four products, including wellness and elderly care smart robotic products and smart cloud-based platform (approximately three years)
Consumer-level robots and other hardware devices	— ⁽⁵⁾ (two to six months)	Five new and upgraded consumer-level robots and other hardware devices (two to 10 months)	48 consumer-level robots and other hardware devices (one to six years)
Humanoid service robots (Walker)	Two new models of Walker series robots (one to four months)	Two new models of Walker series robots (three to 12 months)	Four models of Walker series robots (three to five years)

Notes:

- (1) “Conceptual stage” means the conducting of any preliminary works prior to the formal establishment of a specific R&D project, including but not limited to (i) market research and feasibility studies, (ii) identification of customer needs and preferences; and (iii) product specification and requirement exploration and discussions.
- (2) “R&D stage” means the formal establishment, implementation and up until the completion of a specific R&D project in relation to a product.
- (3) “Commercialization stage” means the completion of the specific R&D project and the commencement of mass production and launch of the relevant product.
- (4) “Estimated time range required to commence R&D from conceptual stage”, “Estimated time range required to achieve commercialization from R&D stage” and “Estimated product life cycle range of commercialized products” are for illustrative purpose only and are estimated based on our Directors’ and our Group’s R&D team experience and with reference to existing and historical products of our Group which are from the same business segment as, are similar in nature to and/or utilize similar core technologies as the relevant product of the R&D project.
- (5) There are currently no products in the product portfolio in relation to the “Conceptual” stage of the relevant business segment of our Group as of the Latest Practicable Date.

Our R&D achievements and investments

We incurred R&D expenses of RMB428.8 million, RMB517.1 million, RMB428.3 million, RMB205.0 million and RMB224.3 million in FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively, accounting for 57.9%, 63.3%, 42.5%, 72.3% and 85.9% of our total revenue during the respective years/periods. Our R&D capabilities have been widely recognized by the smart service robotic products and services industry. During the Track Record Period, we have won more than 140 technology awards, honorary qualifications and recognitions, the highlights of which include (i) The 9th Annual Capek Award for Brand Excellence (第九屆恰佩克獎年度卓越品牌獎) by the China Mechatronics Technology Application Association in May 2023 for the Group’s contribution to the promotion of the healthy and sustainable development of China’s robotics industry; (ii) Bronze Award in the MedTech category in the “2023 Edison Awards” in April 2023 for the excellence in new product and service development, marketing, human-centered design and innovation in relation

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to our wellness and elderly care smart robotic products and services for nursery homes; (iii) First Prize for our “Autonomous navigation and operation of robots based on natural interaction” project from the China Association of Inventions in October 2022; (iv) First Prize of Science and Technology Progress of Guangdong Province in 2021 by the People’s Government of Guangdong Province, China; and (v) the Leaderobot 2020 China Robotics Science Leadership Award (2020年度中國機器人科學引領獎) by the Leaderobot Expert Review Committee. See “Awards and Recognition” below for further details. We also believe that our participation in the formulation of national and international industry standards as well as our wealth of robotic and AI-related intellectual property rights demonstrate our established position in the industry, which can further enhance our reputation and brand image in the smart service robotic products and services industry. See “Research and Development — International and national industry standard formulation” and “Intellectual Property” below for further details. Furthermore, as a testament to our R&D efforts and results, we have also successfully developed and commercialized more than 150 robotic and AI technologies that are consumer grade and mass market level and utilized them in more than 140 different types of smart service robotic products, which can be used in a wide range of use scenarios. See “Our Products and Services” below for further details.

Circumstances leading to high R&D costs during the Track Record Period

Our R&D costs remained high throughout the Track Record Period because our R&D efforts are continuous and ongoing as our smart service robotic products and services are subject to enhancements and upgrades due to technological advancements and changes in customer preferences. The following R&D phases since our establishment in 2012 took place accumulatively and continuously. As such, the R&D expenses incurred in each of the following phases have experienced a significant increasing trend since our Group’s establishment. The following sets forth a summary of the different phases which our Group experienced in relation to our commercialization of humanoid service robots:

- 1. Early-stage mini-sized humanoid robots (2012 to 2015):** According to Frost & Sullivan, AI technologies were at a formative stage at around 2012 and the underlying technologies and equipment in relation to AI technologies, such as AI-empowered deep learning, have yet to be fully developed sufficiently to display measurable results. During this period, our Group mainly focused on the R&D of robotic technologies, such as servo actuators, and their utilization in early-stage robotic products of our Group for the purpose of building up our stack of robotic technologies for our Group to facilitate the future development of humanoid service robots. The total R&D expenses incurred during this period were approximately RMB20.6 million, and we launched several products such as Alpha 1.
- 2. Smart service robotic products for various use scenarios (2016 to 2019):** As AI-empowered smart service robotic products and services began to gain prominence in the smart service robotic products and services industry and experienced an increase in consumer demand at around 2017 according to Frost & Sullivan, apart from continuously developing our robotic technologies, our Group also commenced R&D on and development of our stack of AI technologies, such as computer vision, to complement our robotic technologies and to further enhance the quality and functionalities of the smart service robotic products and services of our Group, which resulted in the development of various humanoid service robots such as (i) humanoid Yanshee for educational purposes in 2018 and (ii) the first generation Walker for general services purpose in 2018. The total R&D expenses incurred during this period were approximately RMB745.6 million.
- 3. Deployment and commercialization of humanoid robots in smart service robotic products and services (2020 to 6M2023):** Leveraging on the accumulation of full-stack robotic and AI technologies and experience mentioned above, our Group further expended significant resources to develop and commercialize humanoid robot models and successfully incorporated our humanoid service robots into our smart service robotic products and services offerings in order to be used in different use scenarios in existing and new sectors to enhance the value-adding proposition of the products and services offerings of our Group, such as (i) combining AI education curriculums and AI smart education platform with humanoid Yanshee and humanoid Alpha Mini (education) for educational purposes and (ii) incorporating our

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Group’s Walker series humanoid robots into our Group’s smart service robotic products and services offerings. R&D expenses incurred also increased significantly during the Track Record Period since our Group conducted R&D in relation to each of our four major business segments during the Track Record Period, as opposed to conducting R&D for fewer business segments prior to the Track Record Period. The total R&D expenses incurred during this period were approximately RMB1.6 billion.

Furthermore, due to current robotic and AI technologies in the industry being unable to fulfil all consumer demands in terms of functionalities and performance requirements in relation to smart service robots and have yet to achieve complete human-resembling motor capabilities and perceptual and cognitive intelligence according to Frost & Sullivan, our Directors are of the view that it is necessary to expend continuous significant R&D efforts in relation to the enhancement, upgrade and development of core technologies, smart service robotic products and services of our Group to keep abreast of the latest technological advancements in order to meet consumer demand and maintain the competitiveness of our Group’s smart service robotic products and services (in particular for technologies in relation to humanoid service robots due to their higher technological requirements) in terms of technological standards, functionalities, customer experience, and cost effectiveness to compete for and maintain a strong market position in the smart service robotic products and services industry in the PRC.

Governmental recognition of our R&D capabilities

As recognition of our R&D capabilities in robotics and AI technologies and the development and commercialization of the related products and services, we have applied and obtained approval for 14 government-supported R&D projects during the Track Record Period. The assignment of such R&D projects by the relevant government entities generally involves a selection process based on criteria such as (i) scale of operations, (ii) technological and R&D capabilities, (iii) functionalities, specifications and use scenarios of products and services, and (iv) market reputation of participants. The participating entity will be incentivized to conduct R&D in the relevant field by the financial support granted by the relevant government entity in the form of monetary grants.

The following table summarizes the key government-supported R&D projects that we have undertaken as the responsible party during the Track Record Period:

No.	Term	Project name	Description	Cooperation institution /authority
1.	January 2021 to December 2024	Research on and demonstration application of key technologies for bionic perception, learning, operation and multi-robot intelligent collaboration (仿生感知、學習、作業及多機器人智能協同關鍵技術研究及示范應用)	National Natural Science Foundation’s project (國家自然科學基金項目) aiming to enhance practical applications of multi-robot intelligent coordination	National Natural Science Foundation of the PRC (國家自然科學基金委員會)
2.	2017 to 2020	Industrialization of high-end intelligent robotic products (高端智能機器人產品產業化)	National Development and Reform Commission’s key pilot project of AI innovation and development in 2018 (國家發改委2018年人工智能創新發展試點重大工程)	National Development and Reform Commission of the PRC (國家發改委)

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No.	Term	Project name	Description	Cooperation institution /authority
3.	November 1, 2019 to October 31, 2022	Research on and application of the key technology of human-robot interaction in cross-media perception (基於跨媒體感知的人機交互關鍵技術研究與應用)	Key Area Research and Development Program of Guangdong Province (廣東省重點領域研發計畫項目) aiming to enhance the interaction between humans, robots and the surrounding environment	Department of Science and Technology of Guangdong Province (廣東省科學技術廳)

During the Track Record Period, we have also established and/or operated seven R&D laboratories with the support of local institutions and authorities in order to pool our R&D capabilities and efforts together to achieve developments in the smart service robotic products and services industry as a common goal. Depending on the terms of the agreements, the government bureaus may allocate funds to us for the establishing and operating of and/or grant official approval in relation to our R&D laboratories. With more resources from the government bureaus and/or their official approvals in relation to our R&D laboratories, our R&D capabilities are recognized by the relevant government bureaus and we can also enhance the quality and scale of our R&D efforts with the additional resources while we expand our R&D capabilities and develop a wider range of technology applications and tools.

The following table sets out the key R&D laboratories that we have established and/or operated with the support of local institutions or authorities during the Track Record Period:

No.	Date of approval	Platform name	Description	Cooperation institution /authority
1.	15 December 2021	Intelligent Robot Research Institute of UBTECH Robotics Corp Ltd (深圳市優必選科技股份有限公司智能機器人研究院)	To research and develop core technologies and their applications, enhance algorithm of servo actuators and improve the design of humanoid robots, and nurture technology talents and enhance our overall innovative skills	Shenzhen Science and Technology Innovation Commission (深圳市科創委)
2.	3 November 2021	UBTECH Robot Industrial Design Center (優必選機器人工業設計中心)	To improve our overall product design abilities with an aim to promote the standard in the industry	Ministry of Industry and Information Technology of China (中國工信部)

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No.	Date of approval	Platform name	Description	Cooperation institution /authority
3.	8 January 2021	Shenzhen Research Institute of Engineering Technology of Human-robot Interaction for Service Robot (深圳市服務機器人智能機交互工程技術研究中心)	To promote the technological progress of our Company and improve our overall technological innovation ability and enhance our ability to transform R&D projects into commercial products	Shenzhen Science and Technology Innovation Commission (深圳市科創委)
4.	1 January 2020	Guangdong Provincial Key Laboratory of Robot Positioning and Navigation Technology (廣東省機器人定位導航技術企業重點實驗室)	To improve the navigation technology including its precision and capability	Department of Science and Technology of Guangdong Province (廣東省科學技術廳)

International and national industry standard formulation

As an established provider in the smart service robotic products and services industry in the PRC, we have participated in the formulation of national and international industry standards during the Track Record Period. The following table sets out some of the key industry standards that we have been involved in the formulation of and which are still in effect during the Track Record Period:

No.	Standard code	Standard name	Date of issuance	Date of implementation	Issuing authority
1	GB/T 41527-2022	General safety requirements for household and similar service robots (家用和類似用途服務機器人安全通用要求)	July 11, 2022	July 11, 2022	State Administration for Market Regulation of the PRC, Standardization Administration of the PRC (國家市場監督管理總局、中國國家標準化管理委員會)
2	GB/T 40013-2021	Service robot – Electrical safety requirements and test methods (服務機器人電氣安全要求及測試方法)	April 30, 2021	November 1, 2021	State Administration for Market Regulation of the PRC, Standardization Administration of the PRC (國家市場監督管理總局、中國國家標準化管理委員會)

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No.	Standard code	Standard name	Date of issuance	Date of implementation	Issuing authority
3	GB/T 39785-2021	Service robot – Mechanical safety assessment and test method (服務機器人機械安全評估與測試方法)	March 9, 2021	August 1, 2021	State Administration for Market Regulation of the PRC, Standardization Administration of the PRC (國家市場監督管理總局、中國國家標準化管理委員會)
4	GB/T 38124-2019	Performance test methods for service robots (服務機器人性能測試方法)	October 18, 2019	March 1, 2020	State Administration for Market Regulation of the PRC, Standardization Administration of the PRC (國家市場監督管理總局、中國國家標準化管理委員會)
5	GB/T 38244-2019	General principles of robot safety (機器人安全總則)	October 18, 2019	May 1, 2020	State Administration for Market Regulation of the PRC, Standardization Administration of the PRC (國家市場監督管理總局、中國國家標準化管理委員會)

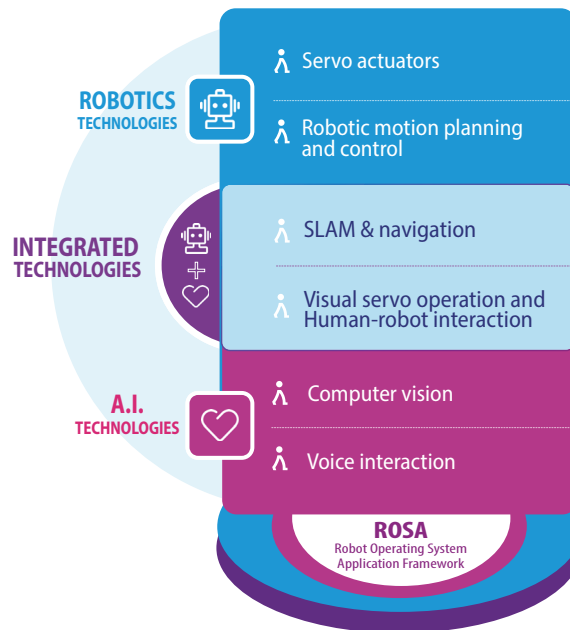
OUR CORE TECHNOLOGIES

Our R&D engine, comprised of our (i) robotic technologies; (ii) AI technologies that are consumer grade and mass market level; and (iii) integrated robotic and AI technologies enables us to introduce robots with three major characteristics that correspond to the functions of a human being’s body (joint movement), brain (perception) and cerebellum (motion planning and control). Our technology advancement is utilized in our products and services through our self-developed ROSA robotic application framework.

Our self-developed full stack of modularized robotic and AI technologies that are consumer grade and mass market level function as building blocks for adaptation and application in a range of enterprise-level and consumer-level scenarios, which lead to a wide range of product portfolio across various industries including education, logistics, wellness and elderly care.

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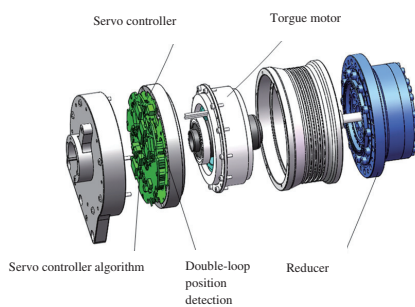
According to Frost & Sullivan, we are one of the few companies in the world that simultaneously masters and fully integrates core technologies and algorithms. In particular, in relation to our humanoid robots, we will continue to strive to enhance our smart service robots in order to achieve human-resembling motor capabilities and perceptual and cognitive intelligence. The following chart illustrates the details of our internally developed (i) robotic technologies, (ii) AI technologies that are consumer grade and mass market level, (iii) integrated robotic and AI technologies, and (iv) ROSA:



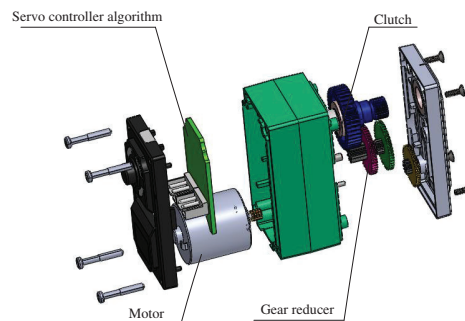
Robotics technologies

Our core robotic technologies include our servo actuators (functioning as joints of our smart service robots) and motion planning and control. These robotic technologies are essential and fundamental to smart service robots in support of the mobility and performance of our smart service robotic products.

Servo actuators



Large torque servo actuators



Small and medium torque servo actuators

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Overview. Our self-developed servo actuators, the joints of robots, are key hardware to the development of control and motion capabilities of our robots. Servo actuator consists of motor, servo controller, servo control algorithm, reducer, sensor and other components. Servo control algorithm, as the built-in core control software of servo actuator, calculates and controls the electric current, speed, position and other variables of the motor according to the various real-time motion commands transmitted by the motion control module, and simultaneously feeds back relevant parameters and information to the motion control module, hence closed-loop control of servo actuators can be achieved. We design and manufacture our servo actuators with different torques so that they can be applied to our smart service robots of various shapes and sizes for application in different industries. With our servo actuators, our smart service robots can perform diverse and precise movements including human-like movements, having up to 41 degrees-of-freedom through 41 servo actuators and grasping objects in different shapes and sizes. We are proud of our ability in developing servo actuators ranging from small torque of 0.2Nm to large torque of 200Nm, which enable smart service robots of different sizes, specification and functionalities to perform joint movements for the purpose of different use scenarios. According to Frost & Sullivan, we have achieved the capabilities to mass produce small torque to large torque servo actuators with a torque ranging from 0.2Nm to 200Nm. With a wide range of servo actuators, our humanoid robots are capable of performing a variety of movements and can manipulate objects, such as drawing, shaking hands and opening doors.

Related technologies. Our servo actuators are classified into (i) small to medium torque servo actuators with a torque of 0.2Nm to 8Nm and are used in motion joints (e.g. legs, arms, hands and necks) of our small and medium-sized smart service robots; and (ii) large torque servo actuators with a torque of 15Nm to 200Nm and are used in our large-sized robots such as Walker. The key technologies embedded in our servo actuators include technologies such as (i) for small torque servo actuators: brush and brush-less servo control algorithms; and (ii) for large servo actuators: high-density frameless torque motor, dual position encoder, harmonic reducer and high-performance processing controller. In addition, to support the high-level performance of our servo actuators and enhance the reliability of our smart service robots, we have designed and developed Serial Elastic Actuator to reduce the damage to the servo actuators caused by external force, as well as to uplift the precision of control of robots.

Robotic motion planning and control

Overview. Robotic motion planning and control is the core key technology in humanoid robots, which refers to the real-time control and management of the position, speed and force of mechanical moving parts to facilitate movement in accordance with the expected motion trajectory and the specified motion parameters.

Related technologies. The following are the key related technologies of our robotic motion planning and control technology:

1. Gait planning and control algorithm: The gait planning and control algorithm facilitates walking by footed robots by enabling gait planning and balance control. Gait planning is based on a virtual robot model and realizes the planning of robot walking, going up and down stairs, jumping and other functions through both online and offline means; whereas balance control allows robots to walk on complex surfaces against potential disturbances, while improving the stability, robustness and environmental self-adaptability of the robot in the walking process.



Walking up and down stairs



Kicking ball



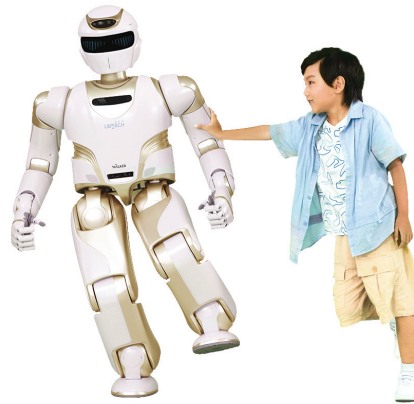
Stable walking

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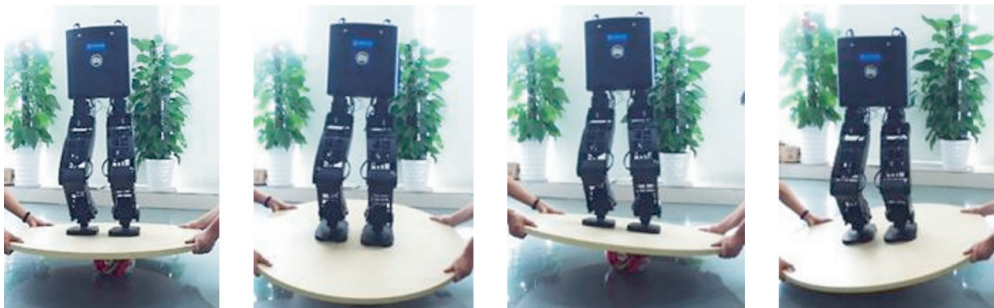
2. Stability control algorithm

In order to improve motion stability of our humanoid robots, we have incorporated our stability control algorithm into our humanoid robots and have enabled them to achieve the following stability control capabilities:

- **Push-recovery ability:** In the event of impact by external forces our smart service robots are capable of correcting its step frequency and landing point during its motion, so that our smart service robots maintain equilibrium when disturbed by external forces and their walking stability is enhanced.



- **Single-leg balancing ability:** By realizing the ability of single-leg balancing, our smart service robots will not be easily pushed down despite standing on a single leg, have very strong stability and can perform series of different movements.
- **Dynamic balance ability:** Based on our force control scheme, we adopted force and position hybrid control algorithm that enable our robots to keep balance on unstable earth slope and surface.



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3. Flexible control algorithm

We have developed our own flexible control algorithm which combines teleoperation with dual-arm force control technology to enable flexible and safe human-robot interaction.



Safe interaction between smart service robots and human-beings

According to Frost & Sullivan, (i) robotic motion planning and control (including gait planning, stability control and flexibility control) is essential to the realization of motion intelligence and has been a major challenge for market participants to surmount in the commercialization of large-scale humanoid service robots; and (ii) we are one of the few companies in the world that simultaneously masters and fully integrates core technologies and algorithms such as robot servo drives, motion control, artificial intelligence perception, robot positioning and navigation.

AI technologies

Our core AI technologies that are consumer grade and mass market level include computer vision and voice interaction technologies. These AI technologies enable our smart service robots to perceive its surrounding environment through seeing, observing, hearing, understanding and reacting accordingly.

Computer vision

Our computer vision technology allows our smart service robots to detect, identify and recognize its surroundings, objects, facial images and human body gestures while they serve and interact with human beings. Fed with data through our independent computer vision algorithms, our smart service robots can carry out complex computer vision tasks by processing the data input, teaching themselves to differentiate one image from another, and then take active and dynamic actions. While the robots are moving and operating, the video signal obtained by the vision sensor may suffer from varying degrees of quality degradation, such as jitter, blurring and flickering, resulting in difficulties in image recognition and detection. In the meantime, the workload of robots is limited if the power of the hardware is low. Therefore, the computer vision algorithms we developed are with a high degree of complexity and optimization to address the quality degradation issues.

Voice interaction

Apart from using third-party voice interaction technology in our smart service robotic products and services, we have also developed our own voice interaction algorithms, including those relating to speech recognition, natural language processing and speech synthesis in order to enable our smart service robots to simulate human-interaction experience and address the problems specific to their application in different use scenarios. Through our own-developed voice conversion technology, we have successfully realized personalized voice conversion to achieve simple human-like speech upon the recording of approximately 20 sentences by the user.

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Integrated robotic and AI technologies

We develop our integrated robotic and AI technologies, including SLAM and autonomous technology and visual servo operation and human-robot interaction to strengthen the perception and movement co-ordination of our smart service robots. The smart service robots with enhanced movement, operation and integrated abilities provide a smoother user experience by offering greater mobility and task adaptation. These integrated robotic and AI technologies allow our smart service robots to perform more complex tasks and maximize the possibility for our smart service robots to be used in a range of enterprise-level and consumer-level use scenarios.

SLAM and autonomous technology

We have developed our autonomous technology and SLAM technology, which allow our smart service robots to achieve point-to-point navigation in real-time environments through autonomous localization of surroundings, route planning, direction navigation and obstacle avoidance.

Our autonomous technology includes SLAM as a core component with core technologies such as mapping, localization, navigation and obstacle avoidance. For mapping and localization, we have developed integrated light detection and ranging (“**LIDAR**”) and vision technologies such as vision mapping and localization technology, LIDAR mapping and localization technology and integrated LIDAR and vision technology. Our smart service robots can map an unfamiliar area while, at the same time, determine where within that area the robots themselves are located. They can realize navigation through real-time positioning and map generation.

Visual servo operation and human-robot interaction



Our visual servo operation and human-robot interaction technologies aim at allowing our smart service robots to have physical interaction with humans and objects by moving safely, perceiving changes in and adapting to the dynamic environment and understanding and interpreting a human’s actions and verbal communication.

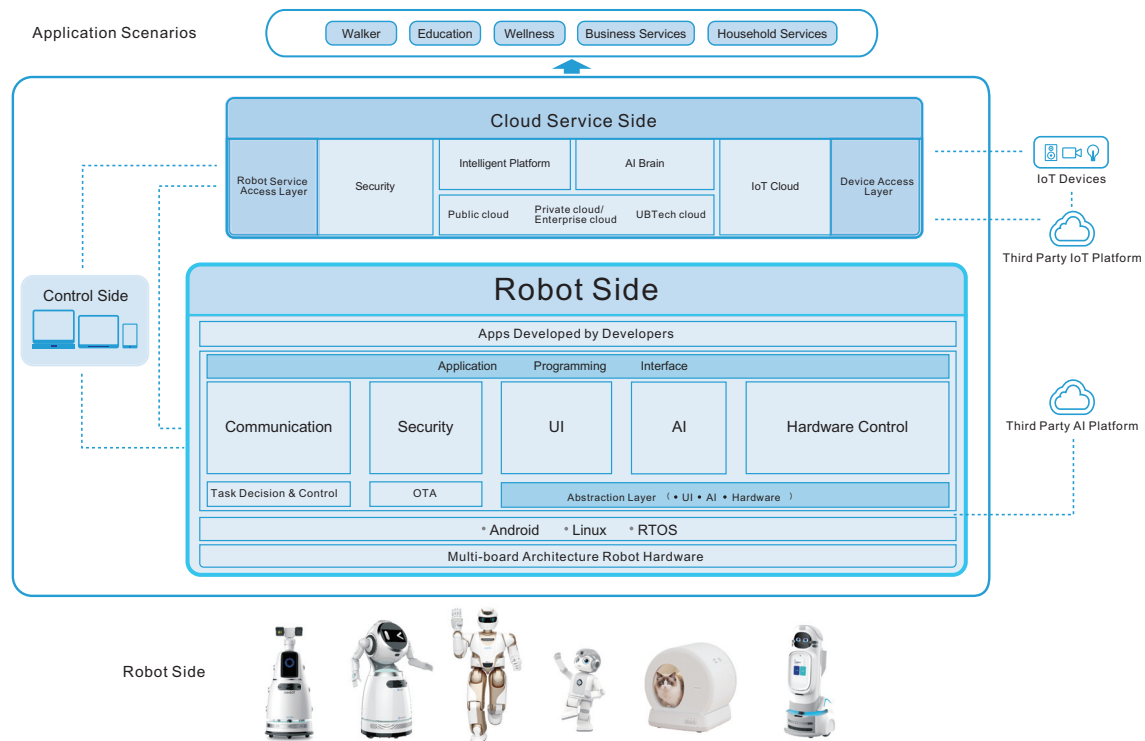
Our robotic visual servo control is the integration of computer vision technologies and robotic motion planning and control technologies which allows our smart service robots to process information relating to shapes, positions and orientations of items. With our algorithms, our smart service robots are able to perceive the surrounding environment, detect objects and obstacles, process signals, capture and analyze various kinds of data and communicate and interact with people. Our voice interaction technology further contribute to the realization of human-robot interaction. Our hand-eye coordination algorithm is a core technology that maximises the ability of our smart service robots to perform complex manipulation tasks.

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Robot Operating System Application Framework (ROSA)

ROSA is a robotics application framework that we developed as an operating system middleware for our smart service robots, allowing us to easily adapt robotics applications to the different robotics hardware we produce. It is modular, standardized and scalable, allowing us to take known applications from our smart service robotic products and services and modify them for new tasks, functions or use scenarios. For each service module, ROSA standardizes the deployment interface and technical interface of the system and provides a mechanism to centralize system information management, resource deployment, module execution behavior and system security, so that different modules can operate together according to a unified command. ROSA can also access mainstream IOT platforms to realize the interconnection between robots and IOT devices. Our extensive use of ROSA in intelligent robot systems and smart service robots has enabled us to adapt to specific domain requirements faster, thus improving the overall development efficiency of our products.

The diagram illustrates the operational flow of our ROSA operating system middleware when applied in conjunction with our smart service robotic products and services:



OUR PRODUCTS AND SERVICES

We create and apply our robotic and AI technologies to drive the development of our smart service robotic products and services. Since our inception, we have launched a variety of product lines and related services in response to needs of customers in different industries and brought diversified user experience to our end users. We offer robotic products and services in a broad range of segments, including education, logistics, general service such as guiding assistance and security patrol, and wellness and elderly care.

BUSINESS

At enterprise level

Education smart robotic products and services

Objectives. Education smart robotic products and supplementary software and services are used as teaching tools to assist students in STEAM curricula learning, such as AI and programming learning. Students and end users are able to input instructions into our education smart robotic products through our software and coding languages to facilitate performances of tasks by our smart robotic products through AI-functions (such as facial recognition, object detection and natural language processing) to accumulate AI and programming experience.

Use scenarios and key features. Our education smart robotic products and services are adopted in various schools at different levels and training centres (i) for the cultivation of the understanding and interest of K-12 students in robotics and AI disciplines; and (ii) for the training of skilled talents at post-secondary vocational programmes and universities. Our education smart robotic products (e.g. humanoid Yanshee, uKit and Jimu (education) series and humanoid Alpha Mini (education)) can interact with students to perform certain functions on default such as basic communication and identifying surrounding objects through our built-in voice interaction and computer vision technologies without the need to input codes or programmes. However, students can also customize the functions of our education smart robotic products by coding and programming their own instructions and commands through software or tool on a computer so that they can perform more complex actions such as customizing the sequence of steps and moves for a dance performance. Through this process, students can learn and experience AI and programming. Coupled with our AI education curriculum in the form of robotic teaching kits, programming software and multimedia equipment, this enables end users to gain an understanding of comprehensive robotic and AI knowledge and programming skills.

Core technologies utilized. The core technologies which our education smart robotic products and services utilize include:

- **Servo actuators:** Our servo actuators function as joints of our education smart robotic products and enable them to make a wide range of movements to different parts of the smart robotic product with varying degrees of scale, such as walking, dancing, waving and nodding. This facilitates the smart robotic products to perform a variety of tasks which students and end users can instruct smart robotic products to perform on default or through coding and programming, thus learn and experience AI and programming in a more interactive and diverse manner.
- **Robotic motion planning and control:** Our robotic motion planning and control technology further enhances the accuracy and stability control of the movements of our education smart robotic products such as our humanoid Yanshee and humanoid Alpha Mini (education), which provides them with better balancing and recovery abilities. This enhances the user experience of students and end users by reducing the scope of error of such movements and allowing them to visualize their coding and programming efforts in real-life.
- **Computer vision:** Our computer vision technology enables our education smart robotic products under our such as our humanoid Yanshee and humanoid Alpha Mini (education) to independently gather real-time information in relation to its surroundings through functions such as facial recognition and object detection, thus allow students and end users to interact with smart robotic products which are receptive and react to its surroundings based on their coding and programming.
- **Voice interaction:** Our voice interaction technology enables our education smart robotic products such as our humanoid Yanshee and humanoid Alpha Mini (education) to perform tasks such as speech recognition and voice conversion, which students and end users can instruct smart robotic products to respond to voice command and perform complete tasks that involve answering questions, thus allow students and end-users to learn AI coding and programming in an interactive way.

BUSINESS

Software and ancillary services. Complementing our education smart robotic products and services and as part of our comprehensive offering, we also provide various software and ancillary services to our customers, including (i) AI education curriculums; (ii) an AI smart education platform which enables teachers to teach and monitor learning progress through the ongoing customization of the AI education curriculum based on the abilities of the students and the latest applicable curriculums; and (iii) AI education software tools including (a) uCode — a graphical block-based visual programming tool for students aged 7 to 14 years old; and (b) uPython — a programming tool for Python robot beginners.

We offer education smart robotic products and software and ancillary services which mainly include (i) education smart robots (e.g. humanoid Yanshee, uKit and Jimu series (education) and humanoid Alpha Mini (education)) for different stages of the education curriculum, (ii) AI education curriculum, (iii) AI smart education platform; and (iv) AI education software tools (such as uCode — a graphical block-based visual programming tool for students aged 7 to 14 years old; and uPython — a programming tool for Python robot beginners) to schools and institutes throughout different stages of the education curriculum (i.e. from K-12 education curriculum through to post-secondary vocational programmes and universities).

Set forth below are the details of our core education smart robots:

1. *Humanoid Yanshee*



Yanshee is a humanoid education smart robot which is capable of executing tasks on command, testing environmental conditions, listening to voice command and answering questions and processing data. It is designed to facilitate AI education courses and laboratories in secondary schools, vocational institutions and universities.

2. *uKit and Jimu (education) Series*



(A) uKit

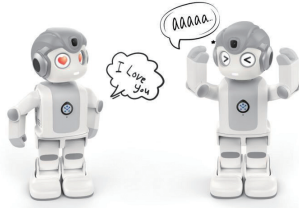
uKit is a block-based programmable education smart robot developed for primary and secondary students’ robotic and AI courses. Students can build various shapes of robots and use uCode to programme them to carry out functions and tasks through the combination of parts, components and sensors. Parts and components of uKit originate from our block parts system which uses our snap-on and pin-and-clip design.

BUSINESS

(B) Jimu series (education)

Our Jimu series (education) are buildable and codable robots for consumers above age 8. They are used in schools, family education, STEAM training, science and technology competitions and other settings. Jimu series (education) allow students to learn basic coding and robotic movement theories while playing in a simple way, through the 3D dynamic visual drawing, action programming, modular logic programming and built-in courses or supporting textbook in our mobile application.

3. *Humanoid Alpha Mini (education)*



Humanoid Alpha Mini (education) is a small-sized humanoid robot mainly applied in the education segment and other segments such as wellness and elderly care. Humanoid Alpha Mini (education), which supports UCode, AI programming and teaching mode, can provide robotic, programming and AI education services to students on-and-off campus, together with our AI curriculum designed for students of different stages and groups.

Set forth below are the details of our core AI education software and ancillary services which are intended to complement our education smart robots to form our comprehensive education smart robotic products and services:

1. *AI education curriculums*

Our AI education curriculums follow the national AI education policy of the PRC as well as national and international curriculum standards. Through our AI education curriculums, students can learn coding and programming and apply them to our education smart robotic products, such as humanoid Yanshee, to give them instructions to perform specific tasks.

As advised by the PRC Legal Adviser, based on the Curriculum Scheme for Compulsory Education* (義務教育課程方案) issued by the Ministry of Education of the PRC in 2022, the AI-education related curriculums provided by the Group during the Track Record Period and up to the Latest Practicable Date are considered as school curriculums. Consequently, the Group is not required to obtain any regulatory approvals, licenses, or permits for the sales of teaching and learning resources such as textbooks, teachers’ manuals and training modules.

2. *AI smart education platform*

Our AI smart education platform provides K-12 teachers and students with AI training materials as well as a range of programming tools and robotics simulation tools. We also offer a number of algorithms and model training services, courses and training resources, assessments, data analysis and account systems through our AI smart education platform. Through our platform, teachers can monitor the learning progress and outcomes of students and analyze their results so that they can modify course and training materials in the future.

3. *AI education software tools*

We have developed two core AI education software tools including (i) visual programming tool uCode, and (ii) Python programming tool uPython:

(i) uCode

uCode is a graphical block-based visual programming learning tool designed for students to learn the basics of programming language and develop a programming mindset.

(ii) uPython

uPython is a programming tool designed for learners who focus on coding and programming of Python, with features such as interactive modulation and support for rich text format.

BUSINESS

4. *Vocational skills certifications*

We provide training in relation to robotic servicing and maintenance and are also authorized by Shenzhen Vocational Skill Appraisal Guidance Office to provide enterprise vocational skills level recognition services for vocational trainers, computer programmers and service robot application technicians.

5. *Talent training programs*

Apart from K-12 students, we also participate in the development of teaching standards for AI education-related courses in secondary and higher education programs. We have developed curriculum resources for talent training programs, such as (i) the “Service Robotics Assembly and Maintenance” (服務機器人裝備與維護) for secondary school students, and (ii) “Intelligent Robotics” (智能機器人技術) and the “Artificial Intelligence Technology Service” (人工智能技術服務) for higher vocational students.

6. *Ancillary platforms and services*

We have developed three ancillary platforms which support our other education smart robotic products and services, namely (i) AI teaching and training platform, (ii) intelligent robotics virtual simulation platform and (iii) online teaching platform. We have also designed a variety of ancillary services to complement our AI education curriculums, namely (i) humanoid robotics teaching services, (ii) chassis robotics teaching services, (iii) edge computing teaching services, (iv) intelligent commercial robotics training application services and (v) intelligent manufacturing production line training application services.

Logistics smart robotic products and services

Objectives. Our logistics smart robotic products and services can assist or replace the traditional workforce in relation to inventory and materials handling, sorting and transportation during warehousing, manufacturing and distribution processes, thus providing enterprises with large factories and warehouses with a more automated, flexible and reliable logistics smart robotic products and services with reduced logistics costs and improved operational quality and efficiency.

Use scenarios and key features. Our logistics smart robotic products are utilized in our indoor logistics smart robotic products and services for factories and warehouses of enterprises such as new energy vehicle manufacturers and logistics companies to achieve the automation and intellectualization of the storage and movement of goods and materials during the processes of warehousing, production and distribution.

Core technologies utilized. The core technologies which our logistics smart robotic products and services utilize include:

- **Computer vision:** Our computer vision technology enables our logistics smart robotic products under our Wali (瓦力) Series to gather real-time information in relation to its surroundings through functions such as object detection and recognition, thus enable our smart robotic products to react to its surroundings in real-time in factories and warehouses.
- **SLAM and autonomous technology:** Our SLAM and autonomous technology enables our logistics smart robotic products to navigate around factories/warehouses through route planning, direction navigation and obstacle avoidance functions. This facilitates the efficient and reliable movement and delivery of objects within factories and warehouses during warehousing, manufacturing or distribution processes.

Software and ancillary services. We also provide various software and ancillary services to our customers, including WMS (Warehouse Management System) and MES (Manufacturing Execution System). The software systems developed by us can also be connected to our customers’ in-house system platforms to achieve more comprehensive offerings.

We offer logistics smart robotic products and services, the core products of which include (i) AGVs/AMRs, under our Wali (瓦力) Series and (ii) automated storage and retrieval system (AS/RS) to our customers.

BUSINESS

During the Track Record Period, our AGVs/AMRs and systems are primarily used for materials handling and transportation in factories and warehouses. We provide a platform and support flexible interface with the existing system of our end users. Staff of our end users will be able to place operational instructions including accessing, moving, picking and the management of goods and materials, in the cloud-based platform to the robot operating system, which will thereafter place robotic instructions to the AGVs/AMRs and equipment to fulfill the instructions. Where the equipment requires human-robot coordination, such staff can also place simple instructions on the operating panel of the logistics smart robots directly or in the cloud-based platform remotely to complete the intended tasks. Our AS/RS System also works in conjunction with and takes advantage of the algorithms and technologies of our AGVs/AMRs robots, thus enabling the enhancement of the operational efficiency of their end-users.

We have successfully applied our logistics smart robotic products and services in factories and warehouses during the Track Record Period. For example, during the Track Record Period, we provided our logistics smart robotic products and services to a new energy vehicle manufacturer, which has adopted our manufacturing logistics smart robotic products and services in certain of its automobile production facilities and warehouses in order to achieve automation and intellectualization of the sorting, movement and storage functions of components, semi-finished products and finished products throughout its installation and assembly processes.

Set forth below are the details of our core logistics smart robotic products:

1. *Automated Guided Vehicles (AGVs) and Automated Mobile Robots (AMRs) (Wali (瓦力) Series)*



Our Wali (瓦力) Series, includes our automated guided vehicles (AGVs) and automated mobile robots (AMRs), which can deliver components, semi-finished products and finished products to designated places within the production facilities or warehouses for manufacturing and e-commerce/third-party logistics companies.

2. *Automated Storage and Retrieval System (AS/RS)*

Our automated storage and retrieval system (AS/RS) is an automated system consisting of stacker cranes, conveying system, information identification system, computer control system, communication system, monitoring system and management system. It is primarily applied in production facilities, typically production workshops of tyre and vehicle manufacturers and can maximize the use of the storage space through control of various equipment and handle components, semi-finished products and finished products on the warehouse management system.

Other sector-tailored smart robotic products and services

We provide other sector-tailored smart robotic products and services covering general service smart robotic products and services and wellness and elderly care smart robotic products and services, to fulfill the various business needs of our enterprise-level customers in different use scenarios.

BUSINESS

General service smart robotic products and services

Objectives. Our general service smart robotic products include a wide array of smart robotic products that can be deployed in both indoor and outdoor environments for various commercial and professional uses.

Use scenarios and key features. Our general service smart robotic products are able to provide various commercial and professional services including guiding assistance, reception, sanitation, security patrol, safety inspection and monitoring of environmental conditions. They can be utilized in a wide range of scenarios, including but not limited to in schools, hospitals, airports, train stations, shopping malls, banks and electrical substations.

Core technologies utilized. The core technologies which our general service smart robotic products and services utilize include:

- **Servo actuators:** Our servo actuators allow our general service smart robotic products to make a wide range of movements to different parts of the robotic products with varying degrees of scale, such as waving and nodding.
- **Robotic motion control and planning:** Our robotic motion control and planning technology allows our general service smart robotic products such as Cruzr to accurately execute the given motion instructions and move on complex surfaces against potential disturbances in environments such as shopping malls, train stations and museums.
- **Computer vision:** Our computer vision technology allows our general service smart robotic products such as Cruzr to gather real-time information, through functions such as facial recognition or object detection, in public places such as schools or government buildings so as to possess reception capabilities.
- **Voice interaction:** Our voice interaction technology allows users to interact with our general service smart robotic products by voice command, enabling them to perform certain functions such as answering to enquiries, guiding and providing entertainment in public places, such as shopping malls or banks.
- **SLAM and autonomous:** Our SLAM and autonomous technology allows our general service smart robotic products to navigate the environment through autonomous localization of surroundings, route planning, direction navigation and obstacle avoidance. This allows our general service smart robotic products such as AIMBOT to navigate and monitor equipment status by navigating around indoor environments.

Software and ancillary services. We provide various software including an integrated management platform which consists of a terminal layer, a network layer, a platform layer, an application layer and an interaction layer.

Set forth below are the details of our core general services smart robotic products during the Track Record Period:

1. *Cruzr Series*



Cruzr is designed for public and commercial use which can be installed with different devices such as infrared thermal imaging sensor camera, QR code reader, identity card identification device to cater to different use scenarios. Cruzr provides services such as reception, business inquiry, navigation, non-contact body temperature measurement, facial recognition and entertainment interactions, to meet different needs in a variety of scenarios. It is primarily deployed in public places such as schools, hospitals, exhibition areas, government buildings, shopping malls, banks, airports, train stations and museums.

BUSINESS

2. *AIMBOT series*



AIMBOT is an automatic indoor monitoring robot which integrates image recognition algorithm and various sensors. It is designed to be used by telecom operators, cloud service providers, financial institutions and electronic power companies to conduct the collection, identification and reporting of indoor equipment status and environmental safety status.

3. *ADIBOT Series*



ADIBOT is a patrol smart robot that uses UV-C for disinfection and sterilization which can be used in hospitals, schools, restaurants, hotels, public transportation and government buildings to perform disinfection tasks through automated mapping, smart calculation, and automatically generating disinfection path.

4. *ATRIS Series*



ATRIS is an inspection smart robot launched which can perform various inspection missions such as safety and security patrol, monitoring environmental conditions, and equipment inspection. It can be used in various outdoor environments, such as squares, business and industrial parks, as well as dangerous environments such as electrical substations to inspect various small devices and equipment such as industrial meters, valves and switches.

BUSINESS

Walker series



Walker 2, our earlier generation of the Walker series



Walker X, our latest generation of the Walker series



Walker is a biped life-sized humanoid robot which is equipped with our full spectrum core AI and robotic technologies and is adaptable to household and business scenarios. The latest version of Walker, Walker X, is equipped with 41 servo actuators and enjoys 41 degrees-of-freedom and possesses basic human-like movement capabilities. It is capable of walking at a speed of up to 3.5 kilometers per hour and can carry weights of up to 1.5 kilograms with a single arm while in motion. During the Track Record Period, we have sold (i) a life-sized humanoid robot Walker-2 for educational purposes in FY2021, (ii) (a) a Walker, a Walker-1, a Walker-2 and two units of Walker X for educational purposes, (b) a Walker-2 for general commercial purposes such as greeting and display and (c) two units of Walker X for general commercial purposes such as greeting and guiding in FY2022 and (iii) a Walker-2 for educational purposes in 6M2023, and have recognized revenue of RMB8.8 million, RMB48.7 million and RMB2.3 million in FY2021, FY2022 and 6M2023 from the Walker series, respectively.

We intend to further advance our R&D capabilities to continually develop our Walker series for application in different use scenarios in various sectors, including but not limited to (i) as an alternative to manpower in the manufacturing industries, (ii) commercial scenarios such as reception and touring services, and (iii) as a companion in household scenario or teacher in the education sector.

Wellness and elderly care smart robotic products and services

We launched and began to sell our wellness and elderly care smart robotic products and services in the second half of 2022. The following table summarizes the objectives, key features and offerings of our wellness and elderly care smart robotic products and services:

Objectives. Our wellness and elderly care smart robotic products and services aim at improving the quality of wellness and elderly care services to be delivered at the institutional and community levels in order to enhance the user experience from our products and services.

Use scenarios and key features. Our wellness and elderly care smart robotic products and services are created to satisfy the needs of the elderly and improve the service quality in institutional and community centres. We assist both large-scale wellness and elderly care institutions and community-focused service providers in streamlining and coordinating their operations, improving the process of rehabilitation, cognitive care, mental recovery and medical care services to the elderly and patients with a variety of wellness needs, and maintaining overall security and safety at their facilities.

BUSINESS

Core technologies utilized. The core technologies which we utilize in our wellness and elderly care smart robotic products and services include:

- **Servo actuators:** Our servo actuators are utilized in the robotic arm of our containerized delivery smart robots (VerCARI) to enable its wide range of movements in order to facilitate grabbing, releasing, reaching and delivering capabilities.
- **Robotic motion control and planning:** Our robotic motion control and planning technology allows our wellness and elderly care smart robotic products such as VerCARI, a containerized delivery smart robot, to accurately execute the given motion instructions such as delivering medications while moving in indoor environments in a stable manner.
- **SLAM and autonomous:** Our SLAM and autonomous technology allows our wellness and elderly care smart robotic products to navigate the environment through autonomous localization of surroundings, route planning, direction navigation and obstacle avoidance. This allows our robots such as Welli, a companion smart robot, to navigate around the indoor environment and provide monitoring functions.
- **Computer vision:** Our computer vision technology allows our Welli to detect, identify and recognize its surroundings, objects, facial images and human body gestures thereby interacting with users.
- **Voice interaction:** Our voice interaction technology allows users to interact with our wellness and elderly care smart robotic products such as Welli by voice command, enabling it to perform certain functions such as answering to enquiries, guiding and providing emotional comfort and companionship.

Software and ancillary services. We also provide software and ancillary services which include (i) space and layout planning services, in which we help institutions and community centres redesign their facilities to make them more suitable for providing wellness and elderly care services; (ii) hardware installation services, in which we help install robots, smart devices and sensors to facilitate autonomous robotic and AI-based service delivery; and (iii) third-party platform integration services, in which we help integrate the software and systems developed by third parties into our software platform.

Set forth below are the details of our core wellness and elderly care smart robotic products and software:

1. *Wheelchair smart robot (PathFynder)*



PathFynder, our wheelchair smart robot is an autonomous-driving tool. It can be used in institutional and community centres and linked to control systems of elevators and door helping users with certain levels of disability or special needs to be transported to their destinations safely and autonomously.

BUSINESS

2. *Companion smart robot (Welli)*



Our companion smart robot Welli can provide emotional comfort and companionship to the elderly. Welli can be used in institutional and community centres to (i) interact and communicate with users; (ii) navigate and guide users and follow physical movement of users; and (iii) provide monitoring functions.

3. *Walking assistance smart robot (Wassi)*



Wassi is a walking assistance and rehabilitation smart service robot designed for the elderly and patients with limited physical ability in lower limbs. It can be used in institutional and community centres to record users' movement, completion status and health statistics through IoT sensor(s) according to users' demand during exercise and training programmes, and generate training reports through cloud data processing.

4. *Containerized delivery smart robot (VerCARI)*



VerCARI, our containerized delivery smart robot, is a delivery smart robot with a robotic arm. It can grab and deliver objects in hospitals, assisted living facilities and nursing facilities.

BUSINESS

5. *Wellness and elderly care smart cloud-based platform*

Our smart cloud-based platform is the centralized system of our wellness and elderly care smart robotic products and services which connects all our wellness and elderly care smart robotic products to facilitate medical care and promote the well-being of our elderly users. We integrate elderly care information into a channel that connects individuals to service terminals, where elderly users can select and confirm services based on their needs. With the ability to record, track, process and analyze information collected by our smart robotic products and devices, our smart cloud-based platform can make decisions for efficient elderly care services.

Consumer-level robots and other hardware devices

Objectives. Our consumer-level robots and other hardware devices, which we sell directly to consumers through our sales channels, are a range of products that are suitable for application in different use scenarios for household use. We also sell household devices that aim at bringing convenience to household users by saving their time and increasing efficiency when doing household chores.

User scenarios and key features. Our consumer-level robots and other hardware devices are designed to be simple and are equipped with our robotic technologies which makes them safe and easy to use in domestic settings.

Core technologies utilized. The core technologies which our consumer-level robots and other hardware devices utilize include computer vision, servo actuators, robotic motion control and planning and/or SLAM and autonomous technology.

Software and ancillary services. We have designed compatible mobile application software, cloud service software and robot system software for our consumer-level robots, indoor and outdoor home robots and hardware devices, which integrate with our core technologies.

Set forth below are the details of our consumer-level robots and other hardware devices:

1. *Humanoid Alpha Mini (non-education)*



Humanoid Alpha Mini (non-education) is designed for household entertainment purposes. Similar to Alpha Mini (education), Alpha Mini (non-education) is capable of photographing, video monitoring, making phone calls, singing and dancing, etc., and possesses the ability to sense its surroundings and human-beings and to react accordingly. In addition to the functions of our humanoid Alpha Mini (non-education), our humanoid Alpha Mini (education) can also access AI-curriculums and uCode programming, while also being supported by formal teaching materials. Some of the functions such as idle actions, active interactions and facial tracking can be temporarily switched off in standby mode for our humanoid Alpha Mini (education). The price of humanoid Alpha Mini (non-education) is generally lower than humanoid Alpha Mini (education). See “Product price” in this section for details.

BUSINESS

2. *Jimu Series (non-education)*



Our Jimu series (non-education) are buildable and codable robots for children to have early access to robotics and AI and are designed for household entertainment purposes. Jimu series (non-education) allow children to learn basic coding and robotic motion control. In addition to the functions of our Jimu series (non-education), our Jimu series (education) can also access to AI-curriculums and uCode programming, while also being supported by a multi-themed model design for AI teaching and learning as opposed to a single-themed model design and basic coding through graphical software in APP for our Jimu series (non-education). The price of Jimu series (non-education) is generally lower than Jimu series (education). See “Product price” in this section for details.

3. *AiRROBO cat litter box*



Our AiRROBO cat litter box is equipped with various sensors such as gravity sensor, microwave radar and camera, which can clean up cat excrement.

4. *AiRROBO vacuum cleaner*



Our AiRROBO vacuum cleaner can clear out debris and dust from hard surfaces and carpets. It can perform real-time mapping to efficiently complete cleaning tasks.

BUSINESS

Product price

We believe we have accumulated an extensive amount of industry know-how to develop our product/service line and marketing strategy by leveraging our strong R&D capabilities. We have successfully realized commercialization of a large portfolio of our smart service robotic products and services during the Track Record Period. We have self-developed various core robotic and AI technologies, full-stack smart robotic products and services which possess user-oriented features and price accessibility. See “Financial Information — Description of selected items in consolidated income statements — Revenue — By products and services” for details of the average selling price of our products and services.

The following table sets forth the average selling price of each category of products generally sold by the Company during the Track Record Period:

Products	Average selling price ^(Note 1)	Industry price range ^(Note 2)
	(RMB)	(RMB)
<i>Education smart robotic products</i>		
Yanshee	13,135	N/A
Alpha Mini series (education)	4,864	N/A
uKit and Jimu series (education)	2,966	N/A
<i>General services robotic products</i>		
ADIBOT series	73,091	N/A
ATRIS series	479,283	N/A
AIMBOT series	422,073	N/A
CruZR series	46,926	N/A
Walker series	5,988,156	N/A
<i>Consumer-level robots and other hardware devices</i>		
Alpha Mini (non-education) series	1,258	100 – 6,000
Jimu series (non-education)	432	100 – 6,000
AiRROBO vacuum cleaner	892	600 – 6,000
AiRROBO cat litter box	804	600 – 8,000

Notes:

- (1) Our selling price may vary depending on the different functionalities and specifications of each type of product. As such, certain products have a broader price range as compared to others.
- (2) As our education smart robotic products and general services robotic products are generally tailored to address customer needs and may be equipped with specific functionalities and specifications that vary across different customers and industries, there is no direct and meaningful comparison for the industry price range of those products according to Frost & Sullivan.

BUSINESS

The following table sets forth the revenue contribution and average selling price of each category of products generally sold by the Company during the Track Record Period:

	FY2020			FY2021			FY2022			6M2023		
	Revenue	ASP ^(Note 2)	%	Revenue	ASP ^(Note 2)	%	Revenue	ASP ^(Note 2)	%	Revenue	ASP ^(Note 2)	%
	RMB'000	RMB/unit		RMB'000	RMB/unit		RMB'000	RMB/unit		RMB'000	RMB/unit	
Education smart robotic products												
Yanshee	64,903	11,786	8.8	29,835	13,680	3.7	37,706	15,950	3.7	2,142	10,986	0.8
Alpha Mini series (education)	42,716	5,008	5.8	44,046	4,605	5.4	28,083	5,190	2.8	1,059	3,268	0.4
uKit and Jimu series (education)	286,978	2,609	38.8	169,405	3,101	20.7	204,860	4,079	20.3	10,491	902	4.0
General services smart robotic products												
ADIBOT series	—	—	—	16,821	92,931	2.1	10,330	145,490	1.0	5,375	27,850	2.1
ATRIS series	2,535	422,580	0.3	6,250	568,222	0.8	1,715	571,675	0.2	43	21,639	0.02
AIMBOT series	4,752	279,547	0.6	21,565	525,981	2.6	1,681	336,176	0.2	280	70,115	0.1
Cruzr series	29,009	73,071	3.9	32,754	96,906	4.0	16,145	17,121	1.6	2,710	67,740	1.0
Walker series	— ^(Note 1)	— ^(Note 1)	—	8,850	8,850,000	1.1	48,731	6,091,389	4.8	2,301	2,300,885	0.9
Consumer-level robots and other hardware devices^(Note 3)												
Alpha Mini (non-education) series	22,462	4,757	3.0	22,952	2,751	2.8	21,326	1,041	2.1	12,223	418	4.7
Jimu series (non-education)	30,783	596	4.2	19,571	383	2.4	12,597	329	1.2	2,078	219	0.8
AiRROBO vacuum cleaner	—	—	—	12,805	716	1.6	73,579	921	7.3	40,507	910	15.5
AiRROBO cat litter box	—	—	—	—	—	—	7,143	912	0.7	14,642	760	5.6

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- Note:*
1. We recognized revenue of RMB0.4 million in FY2020 for the sale of certain accessories for our Walker robots.
 2. According to Frost & Sullivan, it is not feasible to compare the ASP of our education smart robotic products and general services smart robotic products with the industry price range as those products are generally tailored with products and/or services to address customer needs and there is no direct and meaningful comparison with the industry price range of those products. As to the ASP of our consumer-level robots and other hardware devices, our Directors and Frost & Sullivan are of the view that they are within industry price range of comparable products in relation to our consumer-level robots and other hardware devices.
 3. Our consumer-level robots and other hardware devices also include other products such as previous versions of humanoid robots, smart speakers and dictionary pens which are not considered to be products generally sold by the Company during the Track Record Period.

SALES

Our sales regions

Over the years, we have built up a broad and geographically diversified customer base, primarily in China while spreading across over 50 overseas countries around the globe as at June 30, 2023. Our overseas sales mainly includes the United States, Japan, Belgium and Thailand. The following table sets forth the breakdown of our revenue derived by geographical locations of our customers during the Track Record Period:

Countries of sales	FY2020		FY2021		FY2022		6M2022		6M2023	
	Revenue		Revenue		Revenue		Revenue		Revenue	
	RMB'000	%	RMB'000	%	RMB'000	%	RMB'000 (Unaudited)	%	RMB'000	%
Mainland China . . .	682,825	92.2	753,853	92.2	877,267	87.0	235,081	82.9	191,365	73.3
Overseas										
United States	30,825	4.2	33,540	4.1	51,273	5.1	17,145	6.0	20,991	8.0
Japan	2,022	0.3	5,006	0.6	13,915	1.4	5,486	1.9	6,673	2.6
Belgium	4,771	0.6	4,114	0.5	205	0.02	104	0.04	–	0.0
Thailand	3,766	0.5	3,378	0.4	10,989	1.1	10,980	3.9	685	0.3
Others ⁽¹⁾	16,017	2.2	17,339	2.1	54,623	5.4	14,727	5.2	41,424	15.9
<i>Subtotal</i>	<i>57,401⁽²⁾</i>	<i>7.8</i>	<i>63,377⁽³⁾</i>	<i>7.8</i>	<i>131,005⁽⁴⁾</i>	<i>13.0</i>	<i>48,442⁽⁴⁾</i>	<i>17.1</i>	<i>69,774⁽⁴⁾</i>	<i>26.7</i>
Total	740,226	100.0	817,230	100.0	1,008,272	100.0	283,523	100.0	261,139	100.0

Notes:

- (1) Others include over 50 countries, each contributes insignificant revenue to our Group during the Track Record Period.
- (2) In FY2020, our products sold overseas mainly included Jimu Series robots (both education and non-education versions) and Cruzr Series robots.
- (3) In FY2021, our products sold overseas mainly included Jimu Series robots (both education and non-education versions, ADIBOT Series robots and AiRROBO vacuum cleaner.
- (4) In FY2022, 6M2022 and 6M2023, our products sold overseas mainly included AiRROBO vacuum cleaner.

Our Directors believe that our smart robotic products and services sold to overseas customers during the Track Record Period can compete in overseas markets (i) for our enterprise-level smart service robotic products and services, primarily since some of our smart service robots (e.g. our Cruzr series and ADIBOT series) possess numerous functions hence can be customized for application in a wide variety of different use scenarios, such as commercial services, exhibitions, public services and anti-pandemic-related use scenarios, and (ii) for consumer-level robots and other hardware devices, since our products are charged at a competitive price despite having comparable functions with our competitors and we have established overseas sales channels and relationships with overseas distributors to expand the market reach of our products.

During the Track Record Period, we sold consumer-level robotic products to customers located in Belarus, Egypt, Hong Kong, Iraq, Russia, Serbia, Turkey and Ukraine (excluding Crimea, Luhansk, Donetsk, Zaporizhzhia and Kherson regions) and purchased certain promotional services from a

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service provider in Turkey, of which these countries are subject to certain forms of International Sanctions programmes administered by the Relevant Sanctions Authorities. See “Business activities in respect of countries with international sanctions exposure” in this section for further details.

Our sales networks

We distribute our products through a multi-faceted sales channel across the world including online and offline sales networks, which contribute to a broad customer coverage. As of June 30, 2023, our sales networks consisted of the following:

Sales channel	Descriptions	Key products sold through the channel
Direct sales	Direct sales to government educational bureaus, and enterprises such as manufacturing companies.	Education smart robotic products and services such as uKit, Jimu series (education) and humanoid Yanshee for education and learning purposes. Logistics smart robotic products and services. Other sector-tailored smart robotic products and services such as Cruzr.
Distributors		
— <i>Traditional distributors</i>	Sales of our products to offline distributors who then on-sell our products to their customers within a specified territory or provinces.	Consumer-level robots and other hardware devices such as uKit series, Jimu series (non-education) and humanoid Alpha Mini (non-education) which can serve the purposes of companionship, entertainment and education.
— <i>Online/Offline hybrid distributors</i>	Sales of our products to distributors who then on-sell our products to their customers primarily through online platform but also through their offline stores. These distributors are mainly online e-commerce platforms and third-party online stores.	Consumer-level robots and other hardware devices such as Jimu series (non-education) and humanoid Alpha Mini (non-education) which can serve the purposes of companionship, entertainment and education.
Sales through our self-operated online stores	Online sales to consumers through our self-operated online stores.	Consumer-level robots and other hardware devices such as AiRROBO cat litter box, AiRROBO vacuum cleaner, Jimu series (non-education) and humanoid Alpha Mini (non-education) which can serve the purposes of companionship, entertainment and education.

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The following table sets forth the breakdown of revenue, gross profit, gross profit margin and sales volume by our sales channels during the Track Record Period:

	FY2020				FY2021				FY2022				6M2023												
	Revenue	Gross profit/ (loss)	Gross profit margin ⁽⁴⁾	Sales volume ⁽⁴⁾	Revenue	Gross profit/ (loss)	Gross profit margin ⁽⁴⁾	Sales volume ⁽⁴⁾	Revenue	Gross profit/ (loss)	Gross profit margin ⁽⁴⁾	Sales volume ⁽⁴⁾	Revenue	Gross profit/ (loss)	Gross profit margin ⁽⁴⁾	Sales volume ⁽⁴⁾									
Direct sales	RMB'000	%	RMB'000	%	RMB'000	%	RMB'000	%	RMB'000	%	RMB'000	%	RMB'000	%	RMB'000	%									
	649,792	87.8	314,744	48.4	697,394	85.3	233,043	33.4	80	866,251	85.9	365,853	42.2	66	234,720	82.9	93,130	39.7	26.9	164,209	62.9	51,246	31.2	8.7	
Distributors																									
- Traditional distributors ⁽¹⁾	87,048	11.8	27,665	31.8	97,939	12.0	18,705	19.1	58	55,653	5.5	(8,735)	(33.7) ⁽⁵⁾	66	29,293	10.3	(21,444)	(114.1)	44.4	25,947	9.9	(9,528)	(27.2) ⁽⁷⁾	35.8	
- Online/Offline hybrid distributors ⁽²⁾	698	0.1	(165)	(23.7)	6,957	0.9	563	8.1	11	6,705	0.7	(2,464)	(36.7) ⁽⁶⁾	25	1,238	0.4	(397)	(24.8)	2.2	11,720	4.5	(213)	(1.8) ⁽⁸⁾	19.5	
Sales through our self-operated online stores	2,688	0.4	1,073	39.9	15,011	1.7	4,846	32.3	18	79,463	7.9	20,026	25.1	110	18,271	6.4	6,008	32.9	20.0	59,265	22.7	13,132	22.2	75.2	
Total	740,226	100.0	343,317	46.4	817,291	100.0	257,157	31.5	167	1,006,272	100.0	364,662	36.2	267	283,532	100.0	77,687	27.4	93.5	261,139	100.0	54,637	20.9	139.2	

Notes:

- (1) Revenue generated from traditional distributors also include an insignificant number of consignees and retailers which accounted for less than 2.0% of our total revenue each year/period during the Track Record Period.
- (2) Online/offline hybrid distributors mainly include sales through online e-commerce platforms and third party online stores (who may also sell our products through their offline stores).
- (3) The sales volume was negative as the volume of product return exceeded the volume of sales.
- (4) The sales volume figures in this table constitute the sales volume of the core robotic products for each of the respective sales channel and disregards the sales volume of Walker series, other accessories and ancillary products and/or services.
- (5) We recorded gross loss from traditional distributors in FY2022 primarily due to the gross loss attained from the sale of Alpha Mini (non-education) because we adjusted the selling price of our humanoid Alpha Mini (non-education) products downward to boost its sales in order to deal with the slow-moving inventory.

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- (6) We recorded gross loss from online/offline hybrid distributors in FY2022 primarily due to the gross loss attained from the sale of dictionary pens, because we adjusted the selling price downward in order to deal with the slow-moving inventory.
- (7) We recorded gross loss from traditional distributors in 6M2023 primarily due to the gross loss incurred from the sales of uKit and Jimu (education) Series and ADIBOT Series robots because we implemented price reductions on these products to clear out our existing inventories in our U.S. subsidiary to facilitate the transition of our overseas sales channel to direct distributors.
- (8) We recorded gross loss from online/offline hybrid distributors in 6M2023 primarily due to the gross loss incurred from the sales of AiRROBO cat litter box in order to develop the sales channels of such products through online/offline hybrid distributors.

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We generally sell smart service robotic products (e.g. education, logistics, general service and wellness and elderly care smart robotic products) which (i) are sold to government educational bureaus and/or require participation in a tendering process, (ii) can be used in conjunction with other accessories, software and/or ancillary equipment and services as a robotic offering, (iii) are tailor-made, customizable and relatively more technologically advanced and complex in nature, and (iv) we consider strategically important to us and require our sales team to communicate, negotiate, interact, introduce and demonstrate their features directly and independently to our customers, through direct sales to our customers. For consumer-level robots and other hardware devices which are comparatively standardized and less complex in nature, we generally sell them through our distributors and self-operated online stores.

Direct sales

We have established an extensive sales network during the Track Record Period and owed our success to our direct sales force for the sales of our smart service robotic products and services in terms of revenue contribution. With our own direct sales force comprising more than 450 employees, we have acquired 193, 236, 169, and 50 new direct sales customers in FY2020, FY2021, FY2022 and 6M2023, respectively.

Our direct sales customers mainly comprise (i) government educational bureaus and enterprises which purchase our education smart robotic products and services such as uKit and Jimu series (education), humanoid Yanshee for education and learning purposes, (ii) SOEs which purchase our education and/or other sector-tailored smart robotic products and services, and (iii) enterprises such as manufacturing companies which purchase our logistics smart robotic products and services such as AGVs/AMRs (Wali Series), as well as enterprises purchased our other sector-tailored smart robotic products and services such as general service smart robots.

We directly manage our direct sales networks of these customers that we consider strategically important to us and we value the importance of direct sales which contributed to the majority of our revenue during the Track Record Period. Direct sales is also our key way to build our brand image by interacting, introducing and demonstrating the features of our products directly and independently to our customers. The major products sold directly to our customers are generally products and services that are relatively more technologically advanced and complex in nature since their sales require a sales team with more expertise and experience. Our sales team is equipped with knowledge of the smart service robotic products and services industry and is primarily responsible for, including but not limited to, frequently communicating with our customers and understanding their feedback on the quality, preferences, improvements and market demand of our products. They play an important part in the planning, development and implementation of the planned marketing strategies of our Group. To encourage and incentivize our in-house sales team, we have implemented a compensation structure that includes a fixed component as well as a performance-based component and also set performance targets for our sales team. We evaluate the performance of our sales team every year and pay out performance-based compensation accordingly.

For certain direct sales customers, we enter into sales contracts with them without tendering. Enquiries and requests for quotations are handled by our sales personnel, who then prepares the quotation and relevant information with regard to the product type and product price. Once we have prepared the quotation, we will send it to the potential customer who will then confirm the order with us.

For certain direct sales customers such as government educational bureaus, we source new businesses mainly through tendering based on opportunities which we acquired through our marketing initiatives (such as industry exhibition participations) or publicly available information published by potential customers. Upon becoming aware of the tender, we make a preliminary assessment of a potential tender. In considering whether to bid for the tender, we generally take into account the following factors, namely (i) the profitability of the order including the cost of raw materials and labours and potential revenue derived; (ii) the feasibility of undertaking such project with reference to the technical specifications, our capacity and expertise, our then available labor and financial resources; and (iii) the delivery schedule.

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Set forth below is a summary of the key terms that are common to most of our direct sales agreement:

Terms	Description
Duration of agreement	Products: N/A Services: Generally 12 to 36 months.
Delivery of products	Generally, we arrange delivery services with a third party logistics company and the relevant costs are borne by us.
Product return and repair policies	We generally allow direct sales customers to return or exchange products with defects specified in the agreement and incur the labor and material costs in relation to repairs during the warranty period.
Training	We may be required to provide training and operational support to customers.
Minimum purchase amounts	We do not set out minimum purchase amounts for direct sales customers.
Payment and credit terms	Payment is generally settled in stages upon achieving milestones of the agreement.
Retention money	For certain contracts, retention money may be retained by our customers in order to secure our due performance under the contract. The amount of retention money usually accounts for 5.0% of the contract value. It will be released to our Group after the end of the defect liability period (i.e. typically lasts for 12 months).
Termination	In the event of default (such as either parties failing to perform the obligations as agreed), either party may terminate the agreement and/or charge the defaulting party a percentage of the contact value as liquidated damages.

Distributors

We also sell our products through (i) traditional distributors; and (ii) online/offline hybrid distributors. Through the adoption of a multi-layer sales network, our Directors believe that we could (i) diversify our sources of income without over-reliance on markets in any region or a particular type of sales channel; (ii) customize our sales and marketing strategies in respect of different customer types in different regions and sales channels; and (iii) strengthen our presence in markets which allows our products and services to penetrate markets more quickly and effectively. As of June 30, 2023, we sold our products to over 130 distributors which allowed us to increase our market penetration.

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Traditional distributors

We sell our products to traditional distributors who on-sell our products, some of which are limited within a specified territory. We believe that by engaging traditional distributors, we are able to leverage their experience and knowledge of the target local markets as well as their existing sales networks and resources, which may help us expand our market reach over a wider geographical area and to achieve deeper market penetration than if we were to proceed with direct sales and marketing alone, without incurring substantial sales and marketing costs.

We generally enter into distribution agreements with our traditional distributors and may conduct regular checks on their sales performances. We primarily govern the conducts of our traditional distributors through distributorships agreements and our Directors confirm that we have no ownership or management control over any of our traditional distributors and they operate independently from our Group. Distributors are sometimes restricted from engaging sub-distributors and are required to obtain our prior approval before doing so. Our Directors consider that all our traditional distributors are our direct customers of our Group, primarily because (i) these customers generally purchase our products on a purchase order basis and we have established a seller-buyer relationship with them; and (ii) the title and risks of damage of these products are generally passed to the traditional distributors once we have delivered the products to their designated locations.

Set forth below is a summary of the key terms that are common to most of our agreements with traditional distributors and online/offline hybrid distributors:

Terms	Description
Duration of agreement	The distribution agreement typically has a term of one year.
Geographic or other exclusivity	We generally designate the geographical area (for traditional distributors) and distribution channel(s) (mainly for online/offline hybrid distributors) within which our distributors are allowed to market and sell our products and services. A distributor is generally prohibited from marketing and selling our products and services outside its designated geographic area.
Sales and pricing policies	We generally provide price guidance on our products and services to our distributors based on market conditions. We generally do not allow our distributors to sell our products below our minimum retail price.
Product return and exchange	We generally accept return and exchange within seven and 15 days, respectively after receipt of products that (a) are defective and (b) do not conform to agreed specifications or to samples. We also allow product return upon the termination of cooperation with distributors.
	For certain traditional distributors and online/offline hybrid distributors (mainly including e-commerce platforms, overseas distributors and overseas retailers): our Group also allows the return and exchange of products that are (i) overstocked; and/or (ii) returned by retail customers to our distributors in accordance with the unconditional right to return within a certain period of time granted by our distributors.

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Terms	Description
Minimum purchase amounts or sales target	We require some of our distributors to meet the minimum purchase amount and/or sales target during the term of their engagement. Our Directors confirmed that none of the distribution agreements were terminated due to their failure to achieve the minimum purchase amounts or sales targets.
Payment	Traditional distributors are generally required to make full upfront payment to us before we deliver our products and services. For online/offline hybrid distributors (e.g. online e-commerce platforms), we generally receive monthly payments based on the volume of products purchased in a given month and may sometimes require the payment of an initial deposit. We generally allow our distributors to settle their balance by bank transfer.
Termination	The distributorship agreement is generally subject to early termination by us if the distributor breaches its obligations under the agreement.

Online/offline hybrid distributors

Our online/offline hybrid distributors are mainly online e-commerce platforms and third-party online stores who primarily on-sell our products online but also, in some occasions, through their offline stores. By contracting with these third party distributors, we are able to quickly expand the coverage of our products across various sales channels and platforms, which have contributed to our online sales and brand awareness. Similar to our traditional distributors, our relationship with our online/offline hybrid distributors is that of seller/buyer rather than to principal/agent.

Movement of distributors

The following table sets forth the total number of our distributors (including both traditional distributors and online/offline hybrid distributors), the number of new distributors and the number of distributors whose distributorship relationships were ended during the year/period indicated:

	For the financial year ended December 31,			For the six months ended June 30
	2020	2021	2022	2023
Number of distributors as at the beginning of year/period	232	177	163	171
Addition of new distributors (<i>Note</i>)	79	52	83	31
Decrease in number of distributors	(134)	(66)	(75)	(68)
Number of distributors as at the end of year/period	177	163	171	134

Note: The addition of new distributors refers to distributors whom we had generated revenue from for the corresponding year/period.

During the Track Record Period, our business relationship with distributors are generally terminated (i) upon the expiration of the term of the distribution agreement or (ii) unilaterally by us or the distributor as a result of breaches of the terms and conditions of the distribution agreements (e.g. failure to meet minimum purchase amounts and/or sales targets). The number of distributors

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decreased from 232 as of January 1, 2020 to 134 as of June 30, 2023 primarily due to our efforts to streamline our distribution network to replace underperforming distributors upon our regular checks on their sales performances with new distributors to strive to ensure the quality and efficiency of our distributors.

According to Frost & Sullivan, it is consistent with industry norm for providers of smart service robotic products and services to engage distributors in order to take advantage of their knowledge in relation to local marketing practices and consumer preferences.

Sales through our self-operated online stores

Online channels form an integral part of our retail platform and customer experience. Capitalizing on the growing trend of e-commerce and its distribution efficiency, we have set up our own self-operated online stores on various e-commerce platforms that allow easy navigation with search functions, and easily accessible product information pages with comprehensive product descriptions and videos (where applicable) and customer reviews and ratings.

These e-commerce platforms operate online marketplaces where brands like us sell products to consumers through third party online stores. Our online stores receive orders from consumers, then such e-commerce platforms automatically place matching orders with us. Upon receiving the orders from the online stores, we deliver our products to the consumers directly according to the purchase orders they place through the online stores. E-commerce platforms do not take inventory of our products sold through our self-operated online stores.

Our Directors believe that our self-operated online stores allow our customers to learn more about our products including their specifications and functions at any time and from anywhere in the world whereby optimizing their shopping experience and allowing us to establish a strong online retail presence in the market and our own sales network and resources, thus increasing our market penetration and sales during the Track Record Period. It also allows us to test market acceptance for our new products, gauging consumer feedback as well as collecting market intelligence to optimize our offline sales networks and guide our offline marketing and product strategies.

During the Track Record Period and as of the Latest Practicable Date, our self-operated online stores are based on these e-commerce platforms run by third parties, like Taobao or Jingdong. As advised by our PRC Legal Adviser, as we have not run our self-operated e-commerce platforms to sell products in PRC, we are not required to obtain ICP license or ICP filings for those self-operated online stores.

TRANSFER PRICING ARRANGEMENTS

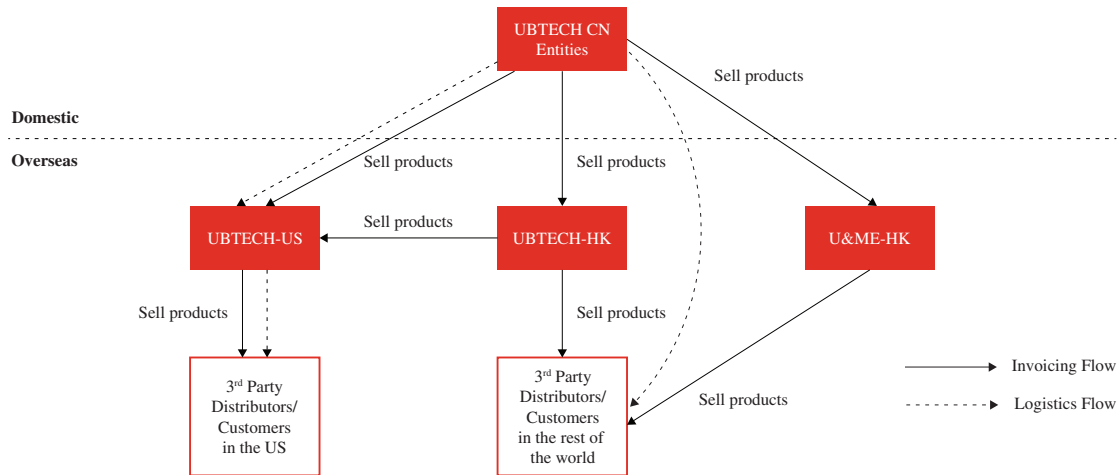
Our Group has established subsidiaries in the PRC, Hong Kong, and the United States to perform different functions including but not limited to procurement, manufacturing, sales and marketing, and research and development. During the Track Record Period, our Group’s subsidiaries in the PRC, Hong Kong, and the United States have primarily engaged in the following two types of cross-border intra-group transactions, namely (i) intercompany buy-sell transactions; and (ii) research and development collaboration:

(1) Intercompany buy-sell transactions

During the Track Record Period, almost all of our Group’s intercompany buy-sell transactions were conducted within Mainland China, while only a small amount of cross-border intercompany buy-sell transactions (i.e. around 8.45% of the total intercompany buy-sell transactions during the Track Record Period) were conducted between our Group’s Chinese and overseas entities. Given that no China transfer pricing audit adjustment would be conducted on domestic intragroup transactions as long as the transactions had not resulted in the reduction of the overall tax revenues according to the China’s transfer pricing regulations, the below mainly addresses our Group’s cross-border intercompany buy-sell arrangement.

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The diagram below sets out the business and logistics flow of the cross-border intercompany buy-sell arrangement within our Group during the Track Record Period:



More specifically, our Group’s cross-border intercompany buy-sell transactions could be illustrated as follows:

- i. U&ME Innovation Technology Company Limited (“U&ME-HK”) purchased certain products from our Group’s domestic related parties and sold them onwards to third party distributors and customers;
- ii. UBTEch Robotics Limited (“UBTECH-HK”) purchased products from our Group’s domestic related parties;
- iii. UBTEch Robotics Corp (“UBTECH-US”) purchased certain products from UBTECH-HK and our Group’s domestic related parties for US local market distribution; and
- iv. UBTECH-HK sold the remaining products to third party distributors and customers in the rest of the world.

During the Track Record Period, the overseas revenues generated therefrom are relatively insignificant by comparing to the China domestic revenues. The following table sets forth the cross-border intercompany buy-sell transaction amounts for the periods indicated:

	FY2020	FY2021	FY2022	6M2023
	RMB’000	RMB’000	RMB’000	RMB’000
Cross-border intercompany buy-sell transactions	39,070	55,351	81,050	70,908

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(2) Research and development (“R&D”) collaboration

Our Group’s other primary intercompany transactions are the contract R&D services rendered by UBTECH North America Research and Development Center Corp (“**UBTECH-R&D**”) and Futronics (NA) Corporation (“**FUTRON-R&D**”) to UBTECH Robotics Corp Ltd (“**UBTECH-SZ**”). Functioned as our Group’s IP economic owner, UBTECH-SZ leads our Group’s R&D by setting overall R&D policies and protocols, conducting significant R&D activities by our in-house team of employees, and subcontracting part of the works to UBTECH-R&D and FUTRON-R&D. Both entities have been providing contract R&D services to UBTECH-SZ, with the focused areas on wellness and elderly care smart robotic products and services. As per the relevant intercompany agreements, upon the confirmation by UBTECH-SZ on the provision of R&D services by UBTECH-R&D and FUTRON-R&D, the intercompany R&D services fees would be arranged to compensate all the relevant costs incurred by UBTECH-R&D and FUTRON-R&D, with an additional 10% mark-up. The following table sets forth the intercompany R&D services transaction amounts for the periods indicated:

	FY2020	FY2021	FY2022	6M2023
	RMB’000	RMB’000	RMB’000	RMB’000
Cross-border intercompany R&D services	64,836	68,032	52,172	17,630

Transfer pricing assessment

Our Group has engaged an independent transfer pricing tax consultant, namely Shenzhen Qianhai PricewaterhouseCoopers Business Consulting Services Co., Limited (“**Transfer Pricing Consultant**”), to conduct a transfer pricing review, including benchmarking studies, to evaluate the transfer pricing arrangement in relation to the above-mentioned intra-group transactions.

(1) Transfer pricing assessment of our Group’s cross-border intercompany buy-sell transactions

UBTECH-HK, U&ME-HK and UBTECH-US functioned as distributors assuming local market risk in their cross-border intercompany buy-sell transactions. Based upon these functional profiles, resale price method (“**RPM**”) was selected as the most appropriate transfer pricing method with gross margin (“**GM**”) employed as the profit level indicators (“**PLIs**”) respectively, to evaluate these intercompany buy-sell transactions during the Track Record Period.

A benchmarking study was conducted by selecting independent companies that perform activities similar to the activities performed by UBTECH-HK, U&ME-HK and UBTECH-US with respect to their related party arrangements. The three-year weighted average GM ratios achieved by the comparable companies range from 10.76% to 46.93%. The tested parties’ three-year weighted average ratios of UBTECH-HK, UBTECH-US, U&ME-HK are 42.53%, 22.31% and 15.29% respectively which are within the comparable companies range. The tested parties three-year and six-month weighted average ratios of UBTECH-HK, UBTECH-US and U&ME-HK remain relatively stable as compared to three-year weighted average ratio and within the comparable companies range.

As shown in the above, during the Track Record Period, UBTECH-HK, U&ME-HK and UBTECH-US all achieved the profitability within the arm’s length profit ranges derived from the relevant set of comparable companies.

(2) Transfer pricing assessment of contract R&D services rendered by UBTECH-R&D and FUTRON-R&D to UBTECH-SZ

For UBTECH-R&D and FUTRON-R&D, comparable profit method (“**CPM**”) was selected as the most appropriate transfer pricing method and the full-cost mark up (“**FCMU**”) was employed as the PLI, to evaluate the contract R&D services rendered by UBTECH-R&D and FUTRON-R&D to UBTECH-SZ during the Track Record Period.

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A benchmarking study was conducted by selecting independent companies providing contract R&D services which are comparable to those performed by UBTECH-R&D and FUTRON-R&D. By comparing to the benchmarking results where the interquartile range of the three-year weighted average FCMU rates is from -1.48% to 11.40%, the respective weighted average FCMU ratio (i.e. FCMU 10%) of UBTECH-R&D and FUTRON-R&D during the Track Record Period falls within the arm’s length range of the independent comparable companies.

Conclusion

Our Directors, together with the Transfer Pricing Consultant, are of the view that the above-mentioned intercompany transactions of our Group were in line with the arm’s length principle and our Group has been in compliance with the relevant transfer pricing laws and regulations during the Track Record Period.

In order to ensure our ongoing compliance with the applicable transfer pricing laws and regulations, we have adopted or are in the process of adopting the following measures:

- we will engage an external tax consultant advising on transfer pricing matters annually to conduct analysis on our transfer pricing method and profit level indicator selected, and plan our transfer pricing policy of the transactions through financial budgeting according to the result of the analysis;
- we will provide trainings to our finance team relating to updates on relevant transfer pricing laws and regulations in the relevant jurisdictions;
- we will review all reporting forms before submitting to the relevant tax authority;
- we will optimize the supporting of functional profile for the main operating business;
- we will ensure the profit arrangement is aligned with each entity’s value contribution; and
- we will document and file relevant supporting documents of value contribution of each entity for risk management purposes, including but not limited to responsibilities planning, correspondences, performance and outcome assessment of relevant work, etc.

Our management has and will continue to closely monitor our Group’s transfer pricing arrangements including reviewing the reasonableness of the pricing policy of our intra-group transactions from time to time. However, we cannot assure that our transfer pricing arrangements will not be subject to review and possible challenge by any relevant tax authorities in future, even though we believe we have reasonable grounds to defend ourselves against such possible challenge. Please refer to the section headed “Risk Factors – Risks Relating to Our Business – Our operations may be subject to transfer pricing adjustments by competent authorities” in this document for further details.

MARKETING

We constantly seek to explore the application scenarios of our products and services through maintaining and building relationships with our existing or new partners and customers. To achieve this, we adopt multi-faceted marketing initiatives.

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Online social media

Part of our marketing strategies is to demonstrate the capabilities of our products and share our experience and knowledge of our products with our customers, therefore every now and then, we engage with our community through a wide variety of content, with the goal of creating interactive exchanges with our customers, thereby promoting and sharing the information of our products. We also upload our video productions to social networking platforms for viewing. We cultivate and support the growth of our user community through close interaction with our users and actively gathering their feedback.



Participating in exhibitions and showrooms

We participate in domestic and overseas exhibitions such as (i) the World Artificial Intelligence Conference in 2022; (ii) the Robot Showroom* (“機器人大秀場”) at the China Science and Technology Museum in 2023; (iii) the Dubai World Expo in 2021 to 2022; (iv) the International Consumer Electronics Show (CES) 2020 in the United States; and (v) the 40th Anniversary of the Establishment of Shenzhen Special Economic Zone Cultural Gala in 2020. Through the participation of such exhibitions, we are able to enhance the market exposure of our smart service robotic products and services by demonstrating their capabilities to potential customers, thus allowing us to receive more invitations to participate in tenders and drive their potential demand, which will allow us to receive more invitations and opportunities to participate in the tendering process of such customers (such as government educational bureaus).

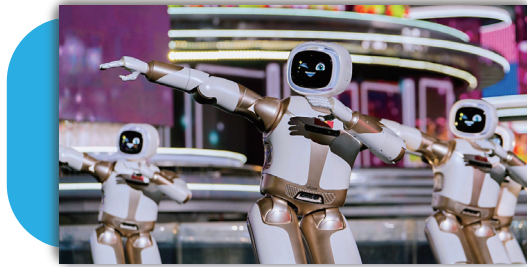
We have also operated showrooms at (i) Shenzhen City at our Shenzhen headquarters and (ii) Kunming City, Xiamen City, Suzhou City, Taiyuan City and Liuzhou City at locations such as exhibition centers, public areas and cafes during the Track Record Period, which enabled our potential customers to interact with and obtain a better understanding in relation to the application of our latest smart service robotic products and services (mainly including other sector-tailored smart robotic products and services and consumer-level robots and other hardware devices) in various use scenarios in a user-friendly manner.

Participation of major national events and industry events

During the Track Record Period, we have participated in various major national events and industry events which allows us to benefit from word-of-mouth marketing and minimizes our sales and marketing costs. For instance, in 2021, our customised ox-themed robots named “The Pioneering Ox” performed at China’s CCTV Spring Festival Gala to celebrate the Year of the Ox and, together with our other robotic performances in the CCTV Spring Festival Gala of 2016 with Alpha robots, 2018 with Jimu robots and 2019 with Walker robots. We believe this is an important step to increase

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our brand awareness as an established provider within China’s smart service robotic products and services industry. As a reflection of our brand image, we were also (i) selected as the sole official intelligent robot partner of the Floriade China Pavilion at the World Horticultural Expo 2022 in the Netherlands in April 2022 where our Cruzr was appointed as the Cultural Communication Ambassador of the China Pavilion to provide guided tours; (ii) invited to deploy nine of our humanoid Alpha Mini robots to participate in one of the opening ceremony performances of the Beijing Winter Olympic Games in 2022; and (iii) appointed as the sole official AI-robotics partner in the China Pavilion of Dubai World Expo in 2021 to 2022 where we demonstrated the functions of our latest biped life-sized humanoid robots, Walker X, to the public.



We participated in the 2019 CCTV Spring Festival Galas.



We participated in the World Expo in Dubai in 2021 to 2022.

Sponsorships

We actively promote our smart service robotic products and services and reinforce our position as an established provider in the industry through our support of robotic and/or AI-related competition events during the Track Record Period, with an aim to bring AI education to the general public. For example, we were a sponsor of the Robo Genius 2021 World Online Competition, which aimed at creating a program and platform that helps younger generation to grow and thrive in the robotic field. It is also dedicated to AI education and inspiring the youth to learn and study robotic and AI science. We also sponsored the filming of a TV series in relation to the development process of a robotic and AI technologies start-up in the PRC, which was aired on China Central Television in April 2023, by providing the necessary robots, equipment and accessories for filming purpose and technical guidance and consultancy support.

Multi-level marketing initiatives in the education sector

To build up our reputation in the education sector and build up business relationships with government educational bureaus, we adopted multi-level marketing initiatives which we believe have brought us tender and business opportunities throughout the years. At national-level, we participated in various national education exhibitions such as the National Education Equipment Exhibition (全國教育裝備展示會). At regional level, we organized provincial and municipal AI exhibition and exchange sessions for primary and secondary schools. We also supported various education related events hosted by schools through sponsorship. We believe all these initiatives can enhance our access to tender opportunities and put us in a competitive market position.

Our selling and marketing expenses amounted to RMB313.3 million, RMB357.6 million, RMB361.0 million, RMB171.6 million and RMB189.8 million for FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively and accounted for 42.3%, 43.8%, 35.8%, 60.5% and 72.7% of our total revenue for the corresponding year/period.

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OUR CUSTOMERS

Customers

Our major customers include (i) government educational bureaus and enterprises who purchase our education smart robotic products and services including uKit and Jimu series (education), humanoid Yanshee and the relevant AI curriculums and equipment for education purposes; and (ii) enterprises which purchase our sector-tailored smart robotic products and services including AMRs and the relevant software and platform. Our customers also include distributors, some of which who resell our products to consumers. See “Sales — Our sales networks — Distributors” above for further details.

The following tables set forth the details of our top five customers during the Track Record Period:

Customer	Principal business	Year of commencement of business relationship with us	Registered Capital (RMB'000)	Types of products/ services provided by us	Major end users	Revenue contribution (RMB'000)	% of our total revenue (%)	Credit period	Settlement method
For FY2020									
Customer A	A subsidiary of a SOE listed on the Shanghai Stock Exchange engaged in import and export of commodities and technologies located in the PRC	2020	400,000	Education smart robotic products and services; other sector-tailored smart robotic products and services	Schools	279,668	37.8	Within 3 months	Bank transfer
Hangzhou Linping Economic Development and Construction Co., Ltd. (杭州臨平經濟開發建設有限公司)	A SOE engaged in provision of technological development and consulting services located in the PRC	2019	1,500,000	Education smart robotic products and services	Schools	124,454	16.8	Within 6 months	Bank transfer
Customer B	PRC government education department located in the PRC	2020	—	Education smart robotic products and services; other sector-tailored smart robotic products and services	Schools	48,152	6.5	Within 12 months	Bank transfer
Guiyang Bureau of Education (貴陽市教育局)	PRC government education department located in the PRC	2019	—	Education smart robotic products and services	Schools	21,060	2.8	Within 7 months	Bank transfer
Customer C	PRC government school located in the PRC	2020	—	Education smart robotic products and services; other sector-tailored smart robotic products and services	Schools	19,249	2.6	Within 4 months	Bank transfer

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Customer	Principal business	Year of commencement of business relationship with us	Registered Capital (RMB'000)	Types of products/ services provided by us	Major end users	Revenue contribution (RMB'000)	% of our total revenue (%)	Credit period	Settlement method
For FY2021									
MAE Group ^{Note} . . .	A company listed on the Shenzhen Stock Exchange (stock code: 002009) headquartered in the PRC engaged in design, manufacture, installation and management of intelligent automation system engineering	2020	379,299	Logistics smart robotic products and services	Automobile and relevant component manufacturers	175,005	21.4	Within 12 months	Bank transfer and bills
Customer D	A SOE engaged in sale of technological products and provision of technological development and consulting services located in the PRC	2021	2,715,000	Education smart robotic products and services; other sector-tailored smart robotic products and services	Schools	75,640	9.3	Within 10 days	Bank transfer
Customer E	A SOE engaged in sale of electronic products located in the PRC	2021	99,000	Education smart robotic products and services; other sector-tailored smart robotic products and services	Schools and hospitals	67,811	8.3	Within 45 days	Bank transfer
Hangzhou Linping Economic Development and Construction Co., Ltd. (杭州臨平經濟開發建設有限公司) . . .	Please see above	Please see above	Please see above	Please see above	Please see above	63,159	7.7	Please see above	Please see above
Customer F	PRC government education department located in the PRC	2021	—	Education smart robotic products and services; other sector-tailored smart robotic products and services	Schools	45,088	5.5	Within 24 months	Bank transfer
For FY2022									
Customer F	Please see above	Please see above	—	Education smart robotic products and services; other sector-tailored smart robotic products and services	Please see above	276,581	27.4	Please see above	Please see above

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Customer	Principal business	Year of commencement of business relationship with us	Registered Capital (RMB'000)	Types of products/ services provided by us	Major end users	Revenue contribution (RMB'000)	% of our total revenue (%)	Credit period	Settlement method
MAE Group ^{Note} . . .	Please see above	Please see above	Please see above	Logistics smart robotic products and services; other sector-tailored smart robotic products and services	Please see above	251,244	24.9	Please see above	Please see above
Customer G	A SOE engaged in investments in education infrastructure located in the PRC	2022	100,000	Education smart robotic products and services; other sector-tailored smart robotic products and services	Schools	87,069	8.6	Within 22 months	Bank transfer
Customer H	PRC government education department located in the PRC	2022	—	Education smart robotic products and services; other sector-tailored smart robotic products and services	Schools	56,778	5.6	Within 36 months	Bank transfer
Hangzhou Linping Economic Development and Construction Co., Ltd. (杭州臨平經濟開發建設有限公司) . . .	Please see above	Please see above	Please see above	Please see above	Please see above	49,214	4.9	Please see above	Please see above
For 6M2023									
MAE Group ^{Note} . . .	Please see above	Please see above	Please see above	Logistics smart robotic products and services; other sector-tailored smart robotic products and services	Please see above	71,425	27.4	Please see above	Bank transfer
Customer H	PRC government education department located in the PRC	Please see above	Please see above	Education smart robotic products and services; other sector-tailored smart robotic products and services	Please see above	16,376	6.3	Please see above	Please see above
Customer F	PRC government education department located in the PRC	Please see above	Please see above	Education smart robotic products and services; other sector-tailored smart robotic products and services	Please see above	11,761	4.5	Please see above	Please see above
Customer I	An entity owned by a PRC education department which is engaged in education training	2022	—	Education smart robotic products and services	Schools	9,539	3.7	Within 24 months	Bank Transfer
Customer J	A SOE engaged in provision of software and information technology services located in the PRC	2023	2,000,000	Education smart robotic products and services; other sector-tailored smart robotic products and services	Schools	7,168	2.7	Within 5 days	Bank Transfer

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Note: During the Track Record Period, we had business transactions with seven group companies of MAE Group. MAE Group is also our supplier during the Track Record Period and our connected person under the Listing Rules. See “Business — Overlapping of Customers and Suppliers — Overlapping Relationship with MAE Group” in this section and “Connected Transactions”.

The sales to our top five customers in each year/period during the Track Record Period amounted to RMB492.6 million, RMB426.7 million, RMB720.9 million and RMB116.3 million, respectively, representing 66.5%, 52.2%, 71.5% and 44.5% of our total revenue for the respective years/period. The sales to our largest customer in each year/period during the Track Record Period amounted to RMB279.7 million, RMB175.0 million, RMB276.6 million and RMB71.4 million, representing 37.8%, 21.4%, 27.4% and 27.4% of our total revenue for the respective years/period.

Save as disclosed below, to the best of our knowledge, during the Track Record Period and up to the Latest Practicable Date, other than MAE, all of our top five customers were Independent Third Parties. As of the Latest Practicable Date, none of our Directors, Supervisors, their associates or any of our Shareholders (who or which to the knowledge of the Directors or Supervisors owned more than 5% of our issued share capital) had any interest in any of our top five customers.

Based on publicly available information and the best information and knowledge of our Directors, our top five customers during the Track Record Period which together with certain of the [REDACTED] Investors were government entities or state-owned enterprises in the same cities in the PRC included (i) Hangzhou Linping Economic Development and Construction Co., Ltd. (“**Hangzhou Linping**”) which is a SOE located in the Linping District of Hangzhou City, whereas Hangzhou Youzhi and Hangzhou Hushan are ultimately controlled by Hangzhou City Yuhang District People’s Government State-owned Assets Supervision and Administration Office and Hangzhou City Lin’an District State-owned Assets Management Service Centre, respectively; (ii) Customer A which is a SOE located in Xiamen City, whereas Xiamen Jinyuan and Xiamen Siming are ultimately controlled by Xiamen Finance Bureau and Xiamen City Siming District Finance Bureau, respectively; (iii) Customer E which is a SOE located in Nanxun District of Huzhou City, whereas Huzhou Nanxun is ultimately controlled by Huzhou City Nanxun District Finance Bureau; (iv) Customer H which is a government education department in Liuzhou City, whereas Liuzhou Industrial Fund and Liuzhou Government Investment Fund are ultimately controlled by Liuzhou City People’s Government State-owned Assets Supervision and Administration Commission, and (v) Customer J which is a SOE located in Sichuan Province, and together with Chengdu Hongzhijia Enterprise Management Centre (Limited Partnership)* (成都宏之佳企業管理中心(有限合夥)) (i.e. a [REDACTED] Investor), are both ultimately controlled by the Sichuan Provincial Government State-owned Assets Supervision and Administration Commission and the Sichuan Provincial Department of Finance.

Our Group’s purchase orders for education smart robotic products and services are tailored to meet customer needs after arm’s length negotiations, resulting in varying principal terms (such as pricing and products/services required, payment terms, credit period and product return and exchange) and gross profit margins. In general, sales of education hardware products and services, and software typically enjoy higher average selling price due to the launch of new products and better economies of scale, leading to higher gross profit margins compared to other products and ancillary services, whereas ancillary services generally have a higher gross profit margin compared to other products after 2022 as a result of the increased gross profit margin from ancillary services upon the acquisition of Shanghai UBJ which became our subsidiary in July 2022. Our Directors are of the view that (i) there are no material differences between the principal terms of our transactions (a) with the aforementioned customers and other customers which contributed to more than 1.0% of the total revenue of our education smart robotic products and services segment in a given financial year during the Track Record Period and together with certain of the [REDACTED] Investors were government entities or state-owned enterprises in the same cities in the PRC (“**Relevant Customers**”) and (b) with the remaining customers of our education smart robotic products and services segment which were government entities or state-owned enterprises and contributed to more than 1.0% of the total revenue of our education smart robotic products and services segment

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in a given financial year during the Track Record Period (“**Independent Customers**”); and (ii) the gross profit margins of our transactions with the Relevant Customers for FY2020, FY2021, FY2022 and 6M2023 were higher than, lower than, consistent with and lower than those with the Independent Customers, respectively, the differences of which were caused by the different proportions of education hardware products and services, and software, and other products and ancillary services sold to the Relevant Customers compared to the Independent Customers in the relevant years/period. Furthermore, Frost & Sullivan is of the view that there are no material differences in relation to the principal terms, and the gross profit margins are comparable between our transactions with the Relevant Customers and with general market practice in the education smart robotic products and services industry in the PRC.

Top five customers concentration

During the Track Record Period we had a concentration of top five customers. Education smart robotic products and services have been our principal business through which we have accumulated substantial expertise and know-how. Our Directors consider that our customer concentration is a result of our strategic decision to participate in government projects where certain of our top customers cater to end-customers generally consisting of multiple government institutes, such as schools. Taking into account our then available resources, historically we have been inclined to stay focused in accommodating the demand of our top five customers through which we can reach out to a number of schools. While we intend to maintain a stable relationship with our existing top five customers, we have no intention to limit ourselves to serving only our existing top five customers. During the Track Record Period, we developed and launched a series of sector-tailored smart robotic products and services for logistics purposes in late FY2020 and wellness and elderly care purposes in the second half of 2022. Going forward, as AI-empowered smart service robots become more prevalent in other sectors, our Directors believe that we will be able to diversify our product and service offerings for usage of scenarios across different industries by utilizing our full-stack technologies. As such, we expect that our customer base will become more diversified and the extent of our customer concentration is expected to decrease in the future.

After-sale services

We believe that high quality after-sales services constitute an essential factor that determines our success as it extends the value chain of our products and services while also promoting customer and end-user satisfaction. We have been developing and optimizing our after-sales services since the establishment of our UBTECH brand.

The right to return and exchange products are generally agreed upon in the written agreement between our customers and us and depends on factors including, but not limited to, (i) quality and conformity with agreed specifications of the relevant smart service robotic product, (ii) bargaining power and market position of the relevant customer, (iii) availability of comparable products in the market in relation to the relevant smart service robotic product, and (iv) whether the relevant smart service robotic products are standardized or customized. We generally allow customers to return and exchange hardware products with defect within certain period in accordance with the agreements. Our Directors confirm that during the Track Record Period and up to the Latest Practicable Date, there were no material product recalls, product returns, product liability claims, warranty expenses or customer complaints that adversely affected our business.

For our education smart robotic products and services, we typically offer 12 to 36 months warranty commencing from the date of delivery to or inspection by the customers of such products and/or services, depending on the category of the products and/or services. For our remaining smart service robotic products and services, we typically offer 12 months warranty commencing from the date of delivery to or inspection by the customers of such products and/or services.

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For products sold to distributors which are mainly the Group's consumer-level robots and other hardware devices, we typically allow return and exchange of products that (a) are defective, (b) do not conform to agreed specifications or to samples and (c) are subject to the termination of cooperation with distributors. For certain traditional distributors and online/offline hybrid distributors (mainly including e-commerce platforms, overseas distributors and overseas retailers), our Group also allows the return and exchange of products that are (i) overstocked, as some of the e-commerce platforms, overseas distributors and overseas retailers include the right to return overstocked products that are unsold upon their request at their discretion as part of their standard commercial terms and conditions. Based on the best information and knowledge of our Directors, the return of such overstocked products are generally carried out within twelve months of the delivery of such products, which is consistent with general market practice for e-commerce platforms, overseas distributors and overseas retailers according to Frost & Sullivan; and/or (ii) returned by retail customers to our distributors (mainly including e-commerce platforms, overseas distributors and overseas retailers) in accordance with the unconditional right to return within a certain period of time granted by our distributors, which generally ranges within seven to 30 days from the date of shipment/delivery of the relevant robotic product and our Directors confirm that the purpose of this is to comply with the applicable laws and regulations in relation to the protection of consumer rights and interests in the countries where the relevant transactions take place. According to Frost & Sullivan, the right to return overstocked products and the right for retail customers of distributors to return products unconditionally within a certain period of time are common standard terms among e-commerce platforms, overseas and/or established distributors in order to safeguard their commercial interests by leveraging on their relatively strong market position against counterparties which seek to make available their products to a wider range of end-customers through such distributors. Our Directors are of the view that the establishment of business relations with such distributors despite the inclusion of the aforementioned terms in our agreements is in the best interest of the Group as a whole since their extensive online and/or offline distribution networks in terms of number and geographical coverage of end-customers have enabled us to maximize the market outreach and number of potential end-customers in relation to our robotic products. Based on the best estimates of our Directors, the maximum periods of product return are generally within twelve months from delivery of the products. For products which do not fulfil the aforementioned criteria, we do not accept return or exchange but we offer maintenance and repair services. According to Frost & Sullivan, the Group's product return and exchange policies are in line with market practices in relation to distribution arrangements, in particular those executed with e-commerce platforms, in the smart service robotic products and services industry. During the Track Record Period, the total value of our product return amounted to RMB26.4 million, RMB9.9 million, RMB4.4 million and RMB2.4 million, respectively, of which the total value of our product return due to (i) overstock of distributors amounted to RMB16.3 million, RMB8.1 million, RMB3.0 million and RMB1.2 million, (ii) termination of distributorship agreement amounted to RMB5.3 million, nil, nil and nil, (iii) return within a certain period of time stipulated in our agreements amounted to RMB3.8 million, RMB1.1 million, RMB1.3 million and RMB1.1 million, (iv) agreed amendments with customers in relation to purchase amount or specification of products amounted to RMB0.9 million, RMB0.6 million, RMB28,000 and RMB27,000, and (v) product quality amounted to RMB0.1 million, RMB0.1 million, RMB50,000 and RMB28,000, respectively. In relation to the accounting treatment of products return by distributors, the return clause stipulated in the distributorship agreements is not regarded as a separate performance obligation, but it affects the estimated transaction price for the sale as the clause of product return represented a variable consideration included in the transaction price. For contracts which provide a customer with a right to return the goods within a specified period, the expected value method is used to estimate the goods that will not be returned so as to best predict the amount of variable consideration that we will be entitled to receive. The requirements in HKFRS 15 on constraining estimates of variable consideration are applied in order to determine the amount of variable consideration that can be included in the transaction price. For sales that the goods are expected to be returned, a refund liability is recognized. The amounts of refund liabilities were calculated based on the multiple of accumulated average historical return rate and the sales for the past twelve months.

On the other hand, a right-of-return asset and the corresponding adjustment to cost of sales are also recognized for goods expected to be returned. The amounts of right-of-return assets were calculated based on the multiple of accumulated average historical return rate and the cost of sales for the past twelve months.

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When goods are returned, the refund liabilities are settled by cash or offsetting accounts receivables due from the distributors and the right-of-return assets are transferred to the inventories of returned goods.

The reasonableness of all assumptions and the estimated amounts of product return are reassessed by the Group at each reporting date. As at December 31, 2020, 2021 and 2022 and June 30, 2023, the refund liabilities are RMB21.1 million, RMB21.4 million, RMB15.3 million and RMB13.3 million and right-of-return assets are RMB8.6 million, RMB5.8 million, RMB6.5 million and RMB7.9 million, respectively. The difference between the amount of actual products returned and the provision recognized as refund liabilities were adjusted to the revenue and cost of sales for the respective period/year.

We recorded product return of RMB26.4 million in FY2020 mainly because of (i) certain traditional distributors and online/offline hybrid distributors (mainly including e-commerce platforms, an overseas household supplies and hardware distributor and established overseas retailers which operate multiple chain stores in the United States) were unable to sell the products, mainly consumer-level robots and other hardware devices such as Jimu series (non-education) robots and accessories and movie licensed robots, due to lowered market demand during the COVID-19 outbreak, and they returned overstocked products to us pursuant to the relevant distributorship agreements; and (ii) product return from a traditional distributor from overseas upon the termination of our exclusive distributorship agreement in 2018 due to its failure in achieving the minimum purchase amount pursuant to the aforementioned agreement. According to the best information and knowledge of our Directors, we had no material outstanding disputes with our customers as a result of product return during the Track Record Period and up to the Latest Practicable Date. Save as disclosed above, we did not experience any other material product return during the Track Record Period.

OUR SUPPLIERS

Our suppliers primarily consist of (i) providers of raw materials and hardware for the development, assemble and production of our smart service robotic products and services, and (ii) subcontractors in relation to services which we consider it is more efficient to subcontract that are not within our expertise in order to reduce our operational costs and focus on our core business (e.g. training and teaching support services for our education smart robotic products and services and contract manufacturing services). We select leading suppliers in the relevant sectors in order to ensure the availability and quality of such hardware, equipment and services. Our procurement process is under constant review for higher efficiency and cost control purpose without jeopardizing the quality of deliverables.

Providers for raw materials and hardware

The key raw materials and hardware for the development, assemble and production of our smart service robotic products and services include, but are not limited to, entire machine and module components, chip module on the board and electronic parts, servo components, motor components, intelligent drive induction devices, optical components, sensor components and laser components. We may require the suppliers to develop and manufacture the components based on the specifications of us with quality standards satisfactory to us. Upon receiving the hardware, we retain the right to reject or return based on the results of our inspection. We typically obtain quotations from at least two suppliers, in order to ensure supply stability and optimal procurement cost control, whereas we may source those components which we believe substitute suppliers can be easily identified.

We normally enter into master agreements with raw materials and hardware providers which set out the general terms and conditions of cooperation. We make separate purchase orders pursuant to the framework agreements and negotiate prices and volumes before creating each purchase order. We typically pay a fixed fee and make the payment as set forth in the purchase order, and the supplier is typically responsible for the delivery of the products.

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Prior to entering into business relationships with such raw materials and hardware providers, we evaluate a variety of factors, including their research and development capabilities, product quality, qualification, reputation, pricing, and overall services. We perform thorough due diligence on our suppliers, request samples before making purchase orders and regularly monitor and review their performance.

Subcontractors

During the Track Record Period, we also engaged subcontractors. We generally outsource our services when our Directors consider it is more efficient to subcontract certain services that are not within our expertise in order to reduce our operational costs and focus on our core business. We generally engage subcontractors for services such as teaching support services for our education smart robotic products and services (which typically include providing on-site operation team to address any issues, operation support services, teaching training services) and contract manufacturing services. We believe such subcontracting arrangements allow us to reduce the labor cost and increase our flexibility and capacity in carrying out the projects.

We maintain good relationships with our subcontractors through frequent and open communication on project-related matters, particularly on the progress of work and project requirements. There was no material delay in delivery of services by subcontractors during the Track Record Period. For FY2020, FY2021, FY2022 and 6M2023, the amount of subcontracting service fee paid by us was RMB80.3 million, RMB105.8 million, RMB63.8 million and RMB6.9 million, respectively, accounting for 19.6%, 18.8%, 8.9% and 3.3%, respectively, of our total cost of sales for the corresponding year/period. The increase in subcontracting fee from FY2020 to FY2021 was primarily due to the increase in subcontracting fee for our education smart robotic products and services. See “Financial information — Review of historical results of operation — FY2021 compared to FY2020 — Cost of sales” for further details.

We typically select our subcontractors based on the prices, contract performance, delivery ability, quality of services. We are selective of the subcontractors we work with and implement stringent management procedures to control the work of our subcontractors. Our procedures include: (i) adopting a series of strict cost auditing measures, which are reviewed regularly by our management; and (ii) designating project management personnel who are employed by our Group to supervise and manage our subcontractors and holding meetings with subcontractors to discuss their performance, construction progress. To the best of our knowledge, save as Shanghai UBJ which was acquired by our Group in 2022, during the Track Record Period and up to the Latest Practicable Date, all of our subcontractors were Independent Third Parties.

Top Suppliers

The purchases from our top five suppliers in each year/period during the Track Record Period amounted to RMB144.3 million, RMB195.0 million, RMB188.2 million and RMB105.8 million, respectively, representing 35.2%, 34.7%, 26.3% and 50.7% of our total cost of sales for the respective years/period. The purchases from our largest supplier in each year/period during the Track Record Period amounted to RMB73.9 million, RMB93.7 million, RMB60.5 million and RMB44.8 million, representing 18.0%, 16.7%, 8.5% and 21.5% of our total cost of sales for the respective years/period.

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The following tables set forth the details of our top five suppliers during the Track Record Period:

Supplier	Principal business	Year of commencement of business relationship with us	Registered Capital (RMB'000)	Types of products/ services procured by us	Amount of purchases (RMB'000)	% of our total cost of sales (%)	Credit period	Settlement method
For FY2020								
Shanghai UBJ ⁽¹⁾ ..	A private company engaged in technology and software services, development and consulting and sales of education equipment located in the PRC	2018	7,243	Subcontracting of ancillary services (such as teacher training and event organization support) and raw materials and consumables (such as education hardware, teaching toolkits and custom display systems)	73,899	18.0	Within 30 days	Bank transfer
Supplier A	A subsidiary of a company listed on the Shenzhen Stock Exchange engaged in sales of computer components, communications equipment and instruments located in the PRC	2020	700,000	Raw materials and consumables such as compliers and computers for teaching purposes	25,473	6.2	Within 60 days	Bank transfer
Supplier B	A subsidiary of a company listed on the Shenzhen Stock Exchange engaged in interior and decoration design and development and sales of computer software and hardware located in the PRC	2019	20,000	Installation costs in relation to design and construction works for educational project sites and schools	18,807	4.6	Within 20 days	Bank transfer
Beijing Yin Si Lang Information Technology Co., Ltd. (北京銀思朗信息技術有限公司)	A company with over 30% shareholding held by a company listed on Hong Kong Stock Exchange engaged in technology services and development and sales of computer software and hardware located in the PRC	2018	204,080	Raw materials and consumables such as compliers, displays and monitors, computers, robot extensions, switchboards and other accessories for educational project sites	15,264	3.7	Within 60 days	Bank transfer
Shenzhen Top-Tek Technology Co., Ltd (深圳市拓普泰克技術股份有限公司)	A private company engaged in sales and development of intelligent home appliances, industrial automation products and new energy products located in the PRC	2017	46,236	Raw materials and consumables such as PCBAs, sensor plates, sockets, connectors, power boards and mainboards	10,861	2.7	Within 30 days	Bank transfer

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Supplier	Principal business	Year of commencement of business relationship with us	Registered Capital (RMB'000)	Types of products/ services procured by us	Amount of purchases (RMB'000)	% of our total cost of sales (%)	Credit period	Settlement method
For FY2021								
Shanghai UBJ ⁽¹⁾ . . .	Please see above	Please see above	Please see above	Please see above	93,683	16.7	Please see above	Please see above
Supplier A	Please see above	Please see above	Please see above	Please see above	37,465	6.7	Within 75 days	Please see above
Taiyuan Aoteli Logistics Technology Co., Ltd. (太原市奥特莱物流科技有限公司)	A private company engaged in design, sales and installation of automated warehousing and logistics system and equipment located in the PRC	2020	31,696	Raw materials and consumables such as backplanes, stackers, electronic control systems, rails, and ground operating stations for stacker cranes for logistics smart robotic products and services projects	25,412	4.5	Nil	Bills
Shanghai XingJian Intelligent Technology Co., Ltd (上海行箭智能科技有限公司)	A private company engaged in development of intelligent and automation technology and sales of electrical equipment located in the PRC	2020	10,000	Raw materials and consumables such as truss manipulators for logistics smart robotic products and services projects	19,540	3.5	Within 30 days	Bank transfer
Supplier C ⁽²⁾	A private company engaged in design, manufacturing and installation of intelligent conveying machinery and equipment, general mechanical and electrical equipment located in the PRC	2021	50,000	Raw materials and consumables such as lifts, conveyors, pulleys, diverters, hoisters and roller machines for logistics smart robotic products and services projects	18,939	3.4	Nil	Bank transfer and bills
For FY2022								
Supplier C ⁽¹⁾	Please see above	Please see above	Please see above	Please see above	60,507	8.5	within 90 days	Please see above
Shanghai UBJ ⁽²⁾	Please see above	Please see above	Please see above	Please see above	49,364	6.9	Please see above	Please see above
Wuhan Perfect Industrial Equipment Co., Ltd. (武漢普菲特工業設備有限公司)	A private company engaged in storage equipment, general machinery and equipment and research and development on metal products located in the PRC	2020	5,000	Raw materials and consumables such as steel structures (including shelves and rails), pallets and trays for green tires for logistics smart robotic products and services projects	36,240	5.1	Nil	Bank transfer

BUSINESS

Supplier	Principal business	Year of commencement of business relationship with us	Registered Capital (RMB'000)	Types of products/ services procured by us	Amount of purchases (RMB'000)	% of our total cost of sales (%)	Credit period	Settlement method
Supplier D	A private company engaged in design, manufacturing and installation of intelligent conveying machinery and equipment, general mechanical and electrical equipment located in the PRC	2021	50,000	Raw materials and consumables such as stackers, electronic control systems and rails for logistics smart robotic products and services projects	21,901	3.1	Within 180 days	Bank transfer and bills
Supplier E	A private company engaged in civil engineering construction located in the PRC	2022	20,000	Raw materials and consumables such as safety net, mezzanine fence, steel ladder and stairs for logistics smart robotic products and services projects	20,146	2.8	Nil	Bank transfer and bills
For 6M2023								
Wuhan Perfect Industrial Equipment Co., Ltd. (武漢普萊特工業設備有限公司)	A private company engaged in storage equipment, general machinery and equipment and research and development on metal products located in the PRC	2020	5,000	Raw materials and consumables such as steel structures (including shelves and rails), pallets and trays for green tires for logistics smart robotic products and services projects	44,802	21.5	Within 3 months	Bank transfer and bills
Shenzhen HW Automation Equipment Co., Ltd. (深圳市宏偉自動化設備有限公司)	A private company engaged in general machinery manufacturing located in the PRC	2022	14,286	Raw materials and consumables such as stackers and industrial forks for logistics smart robotic products and services projects	27,911	13.4	Within 14 days	Bank transfer and bills
Supplier F	A private company engaged in general machinery manufacturing located in the PRC	2021	5,000	Raw materials and consumables including various types of PCBA boards installed on AiRROBO vacuum cleaner	11,238	5.4	Within 30 days	Bank transfer
Supplier G	A private company engaged in household refrigeration electrical appliance manufacturing located in the PRC	2021	11,216	Raw materials and consumables including LIDAR and dust collector for AiRROBO vacuum cleaner	10,910	5.2	Within 30 days	Bank transfer

BUSINESS

Supplier	Principal business	Year of commencement of business relationship with us	Registered Capital (RMB'000)	Types of products/ services procured by us	Amount of purchases (RMB'000)	% of our total cost of sales (%)	Credit period	Settlement method
Zhicheng Power (Beijing) Technology Co., Ltd. (智橙動力(北京)科技有限 公司).....	A private company engaged in science and technology promotion and application services located in the PRC	2022	908	ODM services in relation to the hardware of pool cleaning robot	10,904	5.2	Nil	Bank transfer

Notes:

- (1) *Shanghai UBJ was acquired by our Group in July 2022. See “History, Development and Corporate Structure – Material Acquisitions During the Track Record Period”.*
- (2) *During the Track Record Period, we had business transactions with two companies in the same group of Supplier C.*

During the Track Record Period, our Directors confirmed that we have not experienced any significant material fluctuation in prices set by our suppliers, material breach of contract on the part of our suppliers or delay in delivery of our orders from our suppliers.

To the best of our knowledge, during the Track Record Period and up to the Latest Practicable Date, save as Shanghai UBJ which was acquired by our Group in 2022, all of our top five suppliers were Independent Third Parties. As of the Latest Practicable Date, none of our Directors, Supervisors, their associates or any of our Shareholders (who or which to the knowledge of the Directors or Supervisors owned more than 5% of our issued share capital) had any interest in any of our top five suppliers.

We may enter into master contracts with our suppliers and place purchase orders with them on case-by-case basis. The following table sets forth the general terms of our master contracts with suppliers of raw materials and hardware:

Term of contract	Generally one year.
Payment	The master contracts will set out payment terms.
Delivery	The supplier is generally responsible for delivering the raw materials to our designated locations. The master contract will specify that the supplier is subject to penalty for late delivery.
Quality assurance	We require the raw materials to satisfy our requirements. If the raw materials are defective or fail to satisfy our requirements, the supplier shall send us replacement or rectify the defects.
Confidentiality	We generally require the supplier to enter into a confidentiality agreement.
Termination	The contracts can be terminated if either party fails to perform its respective obligations under the agreement.

BUSINESS

The following table sets forth the general terms of our purchase orders with suppliers of raw materials and hardware:

Unit price, types and specifications of materials	Price is generally determined based on (i) the quantity of materials purchased and (ii) the unit price with reference to the specification of the materials as stated in the agreement and the prevailing market price upon the entering into the agreement. The specifications of the materials (such as type and usage of materials, technical specifications, trademark, producer, packaging and manufacturing process) are stated in the agreement.
Payment	The terms of payment will be stated in the agreement and payment is typically upon delivery or within a specific period from the date of invoice issuance.
Credit Period	Generally within 90 days.
Delivery	Our supplier is generally responsible for delivering the materials to our designated locations.
Warranty	Generally 24 months.
Intellectual property	The intellectual property rights of the design, specifications and prototype (if any) provided by our Group to our suppliers shall belong to our Group. Without our consent, our suppliers shall not disclose such information to third parties.

The terms of subcontracting agreements are determined on a case-by-case basis with reference to specific requirements for each project. We obtain quotations from subcontractors where service is needed. The following table sets forth the general terms of our contracts with the subcontractors:

Terms	Description
Duration of agreement	The duration of our sub-contracting agreements vary according to the complexity of the services but typically range from one to three years.
Payment	Payments are generally made in instalments based on progress of services, with the first installment paid upon signing of agreement and last installment paid upon inspection and delivery.
Warranty deposit	There is usually a warranty deposit ranging from 3% to 10% of contract sum.
Warranty period	There is usually a warranty period of one to two years.
Termination	The contracts can be terminated if either party fails to perform its respective obligations under the agreement.

OVERLAPPING OF CUSTOMERS AND SUPPLIERS

Overlapping relationship with MAE Group

Background

On September 7, 2020, pursuant to an agreement entered into by our Company, MAE and Tianjie Logistics (a wholly owned subsidiary of MAE) dated July 30, 2020, Wuxi Uqi was established under the laws of PRC by our Company and MAE, holding 51% and 49% equity interest, respectively. For details, please see “History, Development and Corporate Structure — Our major subsidiaries — Wuxi Uqi”.

BUSINESS

As at the Latest Practicable Date, each of our Company and MAE is interested in Wuxi Uqi as to 36.22% and 30.97%, respectively. Prior to the establishment of Wuxi Uqi, MAE generally supplied products and services to its end-users through its subsidiaries (together with MAE, “**MAE Group**”).

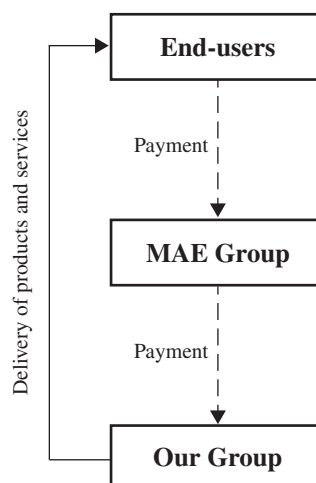
MAE Group is a company listed on Shenzhen Stock Exchange (stock code: 002009.SZ). Based on public information, MAE Group’s major business include (i) intelligent equipment business (which include automotive intelligent equipment, material handling equipment and logistics equipment and maintenance); (ii) lithium battery recycling business; (iii) recycling equipment business; and (iv) heavy industry machinery business. Its major customers include large automobile companies and other conglomerate customers. Our logistics smart robotic products and services, which are designed to be utilized for warehousing and materials handling and transportation, can assist MAE Group to fulfill its customers’ demand and requirements. In order for MAE Group to focus on its main business more efficiently and to streamline its operations, and for our Group to consolidate our technological know-how for logistics smart robotic products and services into one operating subsidiary, Wuxi Uqi was established for the purpose of R&D, manufacture and sales of industrial and service robots, intelligent industrial and intelligent logistics products and services, and Tianjie Logistics agreed to transfer its intellectual property to Wuxi Uqi for its development. Since the establishment of Wuxi Uqi, Wuxi Uqi became involved in supplying products and services, which are utilized in warehousing and materials handling and transportation, to end-users through business relationship with MAE Group.

Given that MAE is a substantial shareholder of our subsidiary, Wuxi Uqi, MAE and its subsidiaries are our connected persons under Chapter 14A of the Listing Rules. As such, all transactions with MAE Group constitute continuing connected transactions upon [REDACTED]. Our transactions with MAE Group had been, and will be, on normal commercial terms. For details, see “Connected Transactions — Connected Transactions”.

MAE Group as our customer

MAE Group was one of our top five customers for FY2021, FY2022 and 6M2023. Our revenue generated from MAE Group was approximately RMB12.7 million, RMB175.0 million, RMB251.2 million, RMB29.2 million and RMB71.4 million, representing approximately 1.7%, 21.4%, 24.9%, 10.3% and 27.4% of our total revenue for FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively. In particular, a substantial portion of our revenue from our logistics smart robotic products and services were derived through MAE Group. Our revenue generated from MAE Group was higher in FY2021 than in FY2020 since we launched our logistics smart robotic products and services in late 2020. The substantial increase in revenue in FY2021 was driven by the increase in number of projects completed from two in FY2020 to 43 in FY2021 and the higher contract value of the projects completed in FY2021. Our revenue generated from MAE Group increased from RMB175.0 million in FY2021 to RMB251.2 million in FY2022 due to the completion of certain projects of higher revenue during the year for a sizeable end-user in the automobile industry.

The following diagrams illustrate our relationship with MAE Group as our customer:



BUSINESS

MAE Group tender and enter into contracts with the end-users. We, as suppliers of products and services, entered into contracts with MAE Group to supply to such end-users (collectively, “**MAE Arrangements**”). Under our contracts with MAE Group, we are required to deliver our products and services to MAE Group’s designated location who are the end users.

Reasons and benefits

From our Group’s perspective, our Group entered into business arrangements with MAE Group given that MAE Group has long history of operation with a large customer base which is our targeted customer group (i.e. automobile manufacturers). As we only entered into the logistics and mobile smart robotic products and services industry in late FY2020, we believe that we would be able to leverage the clientele of the MAE Group to achieve a quick expansion. During the Track Record Period, our revenue from logistics smart robotic products and services business increased significantly since the launching our logistics smart robotic products and services business.

Our Directors believe that from the MAE Group’s perspective, there are only a limited number of AI and robotic companies in China which possess the requisite and acceptable level of experience and technical know-how to reach the product and service requirements and specifications of their global conglomerate customers. In the long-term, our Directors intend for Wuxi Uqi to gradually build up its own brand name and reputation to attract more end-customers.

MAE Group as our supplier

Aside from the MAE Arrangements, our Group also (i) procures goods such as speed reduction motor, hydraulic buffers and motors; and (ii) engages for the provision of services such as design and installation of equipment from MAE Group. During the Track Record Period, our procurement from MAE Group amounted to RMB1.7 million, RMB16.6 million, RMB2.4 million and RMB1.1 million, representing approximately 0.4%, 3.0%, 0.3% and 0.5% of our total cost of sales for FY2020, FY2021, FY2022 and 6M2023, respectively.

Our Group procures logistics services machinery from MAE Group as our Directors consider that (i) MAE Group has an extensive network of machinery procurement chain with globally agreed procurement price and can offer us a competitive package compared to fee packages offered by independent third parties and (ii) sourcing from MAE Group and supplying products and services to their end-users can streamline logistics arrangement and enhance efficiency as we will not need to liaise and make arrangements with multiple parties. Our purchases from the MAE Group is not inter-conditional with the MAE Arrangements discussed above.

The table below sets forth the revenue, purchases and gross profit margin for transactions between our Group and MAE Group during the Track Record Period:

Year/period	Revenue (RMB’000)	Percentage to total revenue (%)	Purchases (RMB’000)	Percentage to total cost of sales (%)	Gross profit/loss margin of sales (%)
FY2020	12,691	1.7	1,659	0.4	16.7
FY2021	175,005	21.4	16,594	3.0	13.3
FY2022	251,244	24.9	2,353	0.3	7.6
6M2023	71,425	27.4	1,102	0.5	13.3

The fluctuations in the volume of transactions between our Group and the MAE Group during the Track Record Period were due to the actual business demands of the end-users.

BUSINESS

Our ongoing business operations

Our Directors are of the view that our Group is and will be able to secure contracts with end-users directly and independently, given that (a) during the Track Record Period, we were also able to enter into contracts with end-users directly without the involvement of MAE Group; and (b) Wuxi Uqi acquired a subsidiary of MAE Group (namely, Jiangsu Tianhui Science and Technology Development Company Limited) in December, 2022 which has existing business relationships with certain end-users to increase our competitiveness in project tendering. Our Directors expect that our revenue derived through MAE Group will gradually decrease and be gradually be replaced with revenue directly generated from end-users. See “History, development and corporate structure — Wuxi Uqi” for further details.

Other overlapping customers and suppliers

The following table sets forth our major suppliers who were also our customers during the Track Record Period other than MAE Group.

Supplier	Principal business	Year/period	Purchases (RMB'000)	Revenue (RMB'000)	Gross profit/(loss) margin of sales %	Reasons for overlapping
Shanghai UBJ ^{Note} . . .	See above	FY2020	73,899	1,179	45.8	During the Track Record Period, we purchased from Shanghai UBJ teacher training and ancillary support services which we sold to customers together with our hardware products. We sold to Shanghai UBJ our hardware products which Shanghai UBJ sold to its customers together with its services.
		FY2021	93,683	4,454	37.1	
		FY2022	49,369	427	35.3	
		6M2023	–	–	–	
Shenzhen Top-Tek Technology Co., Ltd (深圳市托普泰克技術股份有限公司)	See above	FY2020	10,861	484	(9.1)	During the Track Record Period, our Group sourced electronic materials from suppliers and sold them to Shenzhen Top-Tek Technology Co., Ltd, who then produces hardware parts and components for our Group using such electronic materials.
		FY2021	11,870	1,238	(19.0)	
		FY2022	10,910	2,411	(41.3)	
		6M2023	1,536	324	(46.6)	

Note: Shanghai UBJ was acquired by our Group in July 2022. See “History, Development and Corporate Structure — Material Acquisitions during the Track Record Period”.

Our Directors consider that the revenue in relation our overlapping customers and suppliers (other than to MAE Group) were generally insignificant during the Track Record Period and the transactions were in our Group’s ordinary course of business.

BUSINESS

PRODUCTION

Our production methods

We manufacture and produce our products through (i) our self-operated production facilities or (ii) our contract manufacturers during the Track Record Period. We select which production method to adopt for different types of products after a careful consideration of a wide range of factors, including but not limited to the confidential nature of our core technologies, manufacturing costs, technical complexity, and production capacity. During the Track Record Period, we mainly engaged our contract manufacturers to manufacture and produce our consumer-level robots and other hardware devices which do not utilize or only utilize to a small extent our core technologies, whereas we produce our relatively more technically complex products and product components such as our education smart robotic products and servo actuators in our self-operated production facilities in order to better safeguard our core technologies.

In-house production

We conduct in-house production at our production facilities in China for the majority of our robots and core components of our products that involve manufacturing technology or serve strategic purposes. To ensure high level of quality and reliability, our dedicated manufacturing team, in close collaboration with our design and engineering arm, manages and conducts manufacturing of our products, mainly including servo actuators, Jimu series, uKit, humanoid Yanshee, Cruzr, AIMBOT, ADIBOT, AMRs and ATRIS.

We produce smart service robotic products which use significant core technologies self-developed by us at our in-house production facilities, whereas we also leverage on contract manufacturers to produce certain products such as consumer-level robots and other hardware devices which only use part of our core technologies.

We formulate production schedules and plans according to the market demand, taking into consideration with the level of our stock and utilization rates of our production facilities. We have implemented a comprehensive set of internal production and operation policies in compliance with the applicable national and international industry standards. We carry out regular inspections to assess the conditions of our production facilities and conduct necessary repairs and maintenance. We have also introduced and implemented a stringent reporting system as to all the accidents and malfunction of the equipment and keep all the relevant records. See “Quality Control” in this section for further details.

Contract manufacturers

We also leverage on contract manufacturers to produce certain products, mainly consumer level robots and other hardware devices including humanoid Alpha Mini and AiRROBO vacuum cleaner, to increase the flexibility of production process. The following table sets forth the service fees incurred from contract manufacturing, revenue and gross profit margin attributable to our sales of products manufactured by contract manufacturers during the Track Record Period:

	FY2020	FY2021	FY2022	6M2023
Service fees paid to OEM contract manufacturers (Note 1) (RMB'000)	6,753	7,551	5,893	4,925
Purchase cost of ODM products (Note 2) (RMB'000)	5,019	42,776	40,312	29,881
Revenue (RMB'000)	71,768	95,514	128,632	37,249
Gross profit margin (%)	48.3	29.5	10.7	25.7

Notes:

1. This represents the service fees paid to OEM contract manufacturers for production of products or processing of raw materials.

BUSINESS

2. This represents purchase cost of ODM products (such as AiRROBO vacuum cleaner) purchased from contract manufacturers.

During the Track Record Period, revenue generated from sales of products manufactured by contract manufacturers were mainly humanoid Alpha Mini which were mostly manufactured before the Track Record Period and AiRROBO vacuum cleaner which were manufactured through ODM. These products accounted for over 80.0% of revenue generated from our sales of products manufactured by contract manufacturers during the Track Record Period. During the Track Record Period, our gross profit margin of products manufactured by contract manufacturers decreased primarily because we adjusted the selling price of our humanoid Alpha Mini (non-education) products downward to boost its sales in order to deal with the slow-moving inventory.

During the introduction stage of new products and services, our production manufacturing team and our contract manufacturers are jointly responsible for process planning to ensure compliance with our specifications and quality requirements. During the mass production stage, we monitor the manufacturing processes and procedures.

We select our contract manufacturers partners based on a number of factors, including technological expertise, product quality, manufacturing capacity, market reputation and price. We have implemented robust quality control standards and policies on our contract manufacturers. During the Track Record Period, we have strategically entered into business partnerships with a number of well-known OEM manufacturers. Our Directors confirm that during the Track Record Period, we did not encounter any material dispute with our contract manufacturers, material breach of contract on the part of our contract manufacturers or delay in delivery of components, products or services from our orders with our contract manufacturers.

We enter into manufacturing agreements with our contract manufacturers, and place purchase orders with them on a case-by-case basis. The following table sets forth the general salient terms of our manufacturing agreements with our contract manufacturers:

Duration of agreements	Generally one year which will be automatically extended by one-year period unless notified otherwise.
Payment	The payments are generally made by bank transfer on a monthly basis.
Delivery	The contract manufacturer is generally responsible for delivering the finished products to our designated location, and may be subject to penalty for late delivery.
Quality assurance	We require the finished products to satisfy our requirements. If the finished products are defective or fail to satisfy our requirements, the contract manufacturer shall rectify the defects and make compensations for that.
Confidentiality	We generally require the contract manufacturer to keep all the information in relation to our business confidential, and enter into a confidentiality agreement.
Intellectual property	For OEM contract manufacturers, the intellectual property rights of the design, specifications and prototype (if any) provided by our Group to our contract manufacturers shall belong to our Group. Without our consent, our contract manufacturers shall not disclose such information to third parties. We may also require the contract manufacturers to undertake that the end products delivered to our Group do not constitute any infringements of intellectual properties of third parties.

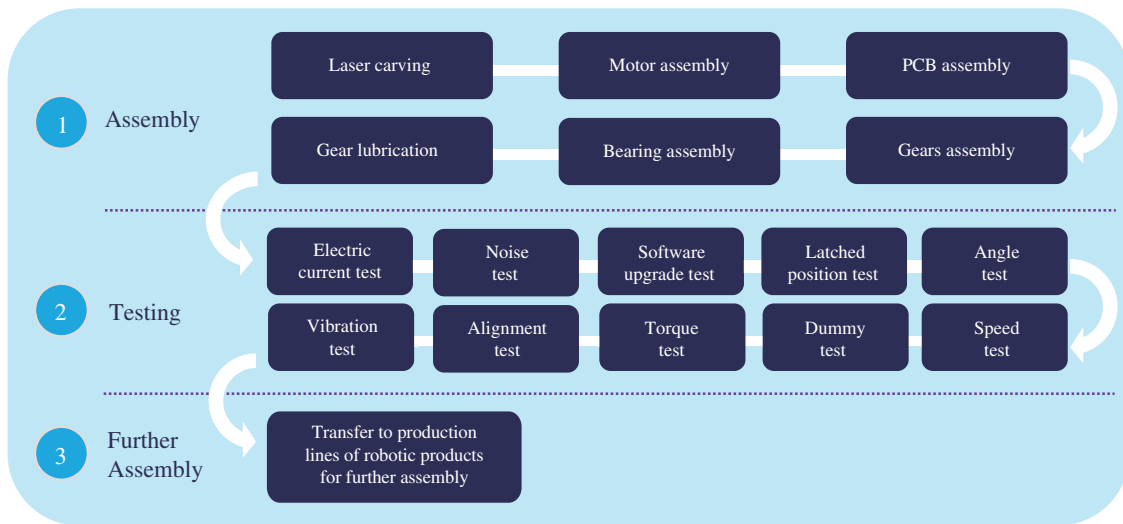
BUSINESS

Packaging and labelling	For OEM contract manufacturers, the packaging and labelling of the products shall be in accordance with our requirements.
Termination	The agreements can be terminated by prior written notice if either party fails to perform its respective obligations under the agreement.

Our production processes

Production process of our servo actuators

The following diagram illustrates the principal steps of the production process generally applicable to our servo actuators:



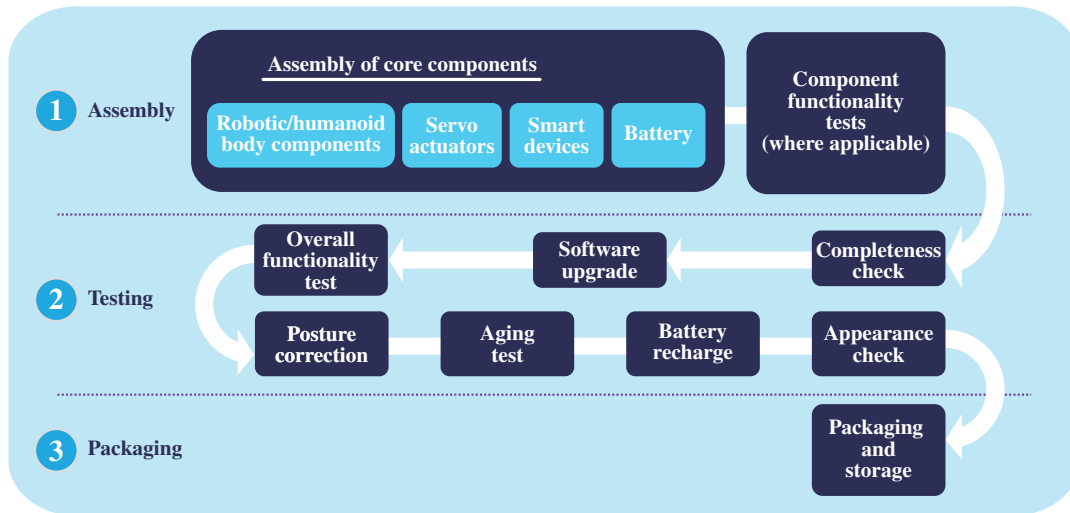
- *Assembly stage* – The production of each of our servo actuators involves a laser carving process in which a unique device number is imprinted on the motor/outer case for identification purposes at subsequent production stages. We assemble the motor, being the core unit, together with a printed circuit board, a bearing, and three levels of gears. The assembling procedures are automated and conducted through our pre-instaled robotic arms. Afterwards, we proceed to lubricate the gears and assemble all components into a carrying case.
- *Testing stage* – After the assembly stage, we carry out multiple tests to ensure that the produced actuators function properly. The tests we conduct in this stage include electric current test, noise test, software upgrade test, latched position test, angle test, speed test, dummy test, torque test, alignment test and vibration test.

After completion of the assembly and testing stages, our actuators are then transferred to our robotic production lines discussed below for further assembly.

BUSINESS

Production process of our robotic products

The following diagram illustrates the principal steps of the production process generally applicable to our robotic products:



- Assembly stage* – We generally start the production process of our robotic products by first assembling the essential robotic or humanoid body components together with our self-produced servo actuators to form the core body of the product. Depending on the type of product being produced and the functionalities required, the core body is further assembled with other additional components such as smart devices and batteries. Where applicable, we may conduct various component functionality tests.
- Testing stage* – After we assemble all of the required components and devices of the product, an overall completeness check is performed to ensure that all components and devices have been properly assembled, and necessary software upgrades are also carried out at this stage. An overall functionality test is then conducted to test whether the product could perform all of its intended functions properly. The next step is posture correction, where we perform more specific tests and carry out necessary adjustments to ensure the accuracy of the physical postures and movements of the product, which is especially important for our robotic products with humanoid features. Finally, the product goes through an aging test and an appearance check, and in the case of humanoid robotic products, a battery recharge, before finally moving to the packaging stage.
- Packaging stage* – The finished robotic products are packaged together with the ancillary devices and transported to the warehouses for storage.

Our production facilities

As of the Latest Practicable Date, we had eight production facilities in total, seven of which were in operation. The following table sets forth their details:

City	Approximate gross floor area/ land use area (s.q. m)	Main functions/current status
<u>Product mass operation:</u>		
1. Shenzhen	5,300	Production of (i) wellness and elderly care smart robotic products and consumer-level robots and other hardware devices and (ii) product demonstrations for R&D
2. Xiamen	3,200	Production of servo actuators and education smart robotic products

BUSINESS

City	Approximate gross floor area/ land use area (s.q. m)	Main functions/current status
3. Shijiazhuang ⁽¹⁾	19,100	Production of servo actuators and education smart robotic products
4. Jiujiang	5,300	Production of general service smart robotic products
5. Wuxi	5,600	Production of logistics smart robotic products
6. Liuzhou ⁽²⁾	9,500	Production of AiRROBO vacuum cleaner
Ancillary production functions:		
7. Guiyang	1,400	Post-sales repair and maintenance
Not yet in full operation:		
8. Anqing	2,200	Under construction

Notes:

- (1) An additional reserve production line is currently under construction at our Shijiazhuang production facility which will be available for the production of general service smart robotic products in the future.
- (2) Our Liuzhou factory has commenced mass production of AiRROBO vacuum cleaner from May 2023.

The following tables sets forth the details of the production capacities and utilisation rates of our production facilities in operation during the Track Record Period:

By factory (finished products)

	Factory	Aggregate designed annual production capacity of finished products (units) ⁽¹⁾	Aggregate utilization rate (%)			
			FY2020	FY2021	FY2022	6M2023
1	Xiamen	121,000	57.1%	59.8%	38.0%	8.2%
2	Kunming	3,013	10.0%	6.4%	19.7%	–
3	Shenzhen	142,863	0.0%	3.7%	48.4%	130.6%
4	Jiujiang	2500	–	–	3.1%	5.3%
5	Shijiazhuang	135,000	–	–	–	13.1%
6	Wuxi	2,000	–	–	–	13.6%
7	Liuzhou	180,000	–	–	–	8.5%

By factory (product components)

	Factory	Aggregate designed annual production capacity of product components (units) ⁽¹⁾	Aggregate utilization rate (%)			
			FY2020	FY2021	FY2022	6M2023
1	Xiamen	960,000	31.0%	34.6%	33.5%	16.8%
2	Kunming	–	–	–	–	–
3	Shenzhen	800,000	–	53.1%	78.0%	90.0%
4	Jiujiang	–	–	–	–	–
5	Shijiazhuang	540,000	–	–	–	–
6	Wuxi	–	–	–	–	–
7	Liuzhou	–	–	–	–	–

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By production line

Factory	Production line	Designed annual production capacity (units) ⁽¹⁾	Production volume (units)				Utilisation rate (%)				
			FY2020	FY2021	FY2022	6M2023	FY2020	FY2021	FY2022	6M2023	
1	Xiamen	Small-size education smart robots ⁽²⁾	110,000 ⁽³⁾	62,808	64,606	41,260	3,950	57.1%	58.7%	37.5%	7.2%
		Humanoid education smart robots ⁽⁴⁾	11,000 ⁽⁵⁾	6,238	7,805	4,738	1,028	56.7%	71.0%	43.1%	18.7%
	4kg servo actuators	600,000	210,868	307,179	255,383	67,100	35.1%	51.2%	42.6%	22.4%	
	12kg servo actuators	360,000	86,822	25,020	66,536	13,428	24.1%	7.0%	18.5%	7.5%	
2	Kunming ⁽¹⁵⁾	Logistics smart robots ⁽⁶⁾	2,000	-	-	593	-	-	-	29.7%	-
		General service smart robots ⁽⁷⁾	1,013 ⁽⁸⁾	302	193	2	-	29.8%	19.1%	0.2%	-
3	Shenzhen	Small-size robotic products ⁽⁹⁾	18,000 ⁽¹⁰⁾	-	4,248 ⁽¹¹⁾	1,517	-	0.7%	23.6%	8.4%	-
		Disinfection smart robots ⁽¹²⁾	2,863	12	1,071	88	24	0.4%	37.4%	3.1%	1.7%
		AiRROBO Vacuum cleaner	100,000	-	-	55,035	74,129	-	-	55.0%	148.3% ⁽¹⁶⁾
		AiRROBO cat litter box	22,000	-	-	12,532	19,111	-	-	57.0%	173.7% ⁽¹⁷⁾
4	Jiujiang	SMT components	800,000	-	424,410	624,094	360,002	-	53.1%	78.0%	90.0%
		General service smart robots	2,500	-	-	78	66	-	-	3.1%	5.3%
5	Shijiazhuang	Small-size education smart robots	130,000	-	-	-	8,840	-	-	-	13.6%
		Humanoid education smart robots ⁽¹⁸⁾	5,000	-	-	-	-	-	-	-	-
		4kg servo actuators ⁽¹⁸⁾	300,000	-	-	-	-	-	-	-	-
		12 kg servo actuators ⁽¹⁸⁾	240,000	-	-	-	-	-	-	-	-
6	Wuxi	Logistics smart robots	2,000	-	-	-	136	-	-	-	13.6%
7	Liuzhou	AiRROBO vacuum cleaner	180,000	-	-	-	15,300	-	-	-	8.5%

Notes:

- The designed production capacity is based on one single shift with eight working hours per day and 250 working days per year (250 working days are based on five working days per week multiplied by 52 weeks minus the number of statutory holidays in China for the year). The designed annual production capacity for each of the production line in this table did not vary during the Track Record Period.
- The small-size education smart robots produced in our Xiamen factory include JIMU-uKit series and JIMU-AI series which share one production line.
- The figure is calculated on the assumption that 25% of the time of the shared production line will be allocated to produce JIMU-uKIT series, and the remaining 75% of the time will be allocated to produce JIMU-AI series.
- The humanoid education smart robots produced in our Xiamen factory include humanoid Yanshee series and Ebot series which share one production line.
- The figure is calculated on the assumption that 50% of the time of the shared production line will be allocated to produce humanoid Yanshee series, and the remaining 50% of the time will be allocated to produce Ebot series.
- The logistics smart robots produced in our Kunming factory include Wali series.
- The general service smart robots produced in our Kunming factory include Cruzr Series, Aimbot series, Atris series and our inspection smart robots.
- The figure is calculated on the assumption that 70% of the time of the shared production line will be allocated to produce Aimbot series, 15% of the time will be allocated to produce Cruzr series, 10% of the time will be allocated to produce Atris series, and 5% of the time will be used to produce inspection smart robots.

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9. The small-size robotic products produced in our Shenzhen factory include AI BOX and Transland, both of which have passed their respective product lifecycle and/or were no longer manufactured as of the Latest Practicable Date.
10. This figure does not include the annual designed production capacity for Transland as production trials are still being conducted for Transland and the figure is yet to be determined.
11. This figure excludes the production volume for Transland.
12. The disinfection smart robots produced in our Shenzhen factory include Adibot series.
13. The utilization levels of our small-size education smart robots and humanoid smart robots production lines during the first three quarters of each year are typically lower because most education smart robotic products are produced at the fourth quarter of the year.
14. Similarly, the utilization levels of our 4kg servo actuators production line are usually lower during the first three quarters and significantly are higher during the fourth quarter of a given year since they are the core components of our education smart robotic products.
15. Our Kunming factory has ceased its operation and has been converted to office (including research and development) premise as of the Latest Practicable Date. The logistics smart robots production line has been transferred to our Wuxi factory and the general service smart robots production line has been transferred to our Jiujiang factory.
16. The utilization rate of the AIRROBO vacuum cleaner production line exceeded 100% for 6M2023, as we had taken measures to increase the production volume meeting the customers’ needs, such as assigning additional workers to AIRROBO vacuum cleaner production line by temporarily arranging workers from other factories.
17. The utilization rate of the AIRROBO cat litter box production line exceeded 100% for 6M2023, as we had taken measures to increase the production volume meeting the customers’ needs, such as assigning additional workers to AIRROBO cat litter box production line by temporarily arranging workers from other factories.
18. Not yet in operation.

Certain of the Group’s production facilities had low utilization rates during the Track Record Period mainly because we had a diverse product mix during the Track Record Period owing to our ability to commercialize our core technologies into various smart service robotic products and services for application across various use scenarios and to expand into different market segments. As a result, certain of our production facilities were deployed in the production of newly launched smart service robotic products of the Group which do not have significant initial sales and require the expending of sales and marketing efforts in order to increase their sales and the necessary production volume.

According to Frost & Sullivan, the smart service robotic products and services industry is continuously expanding, and we strive to capture as many new market opportunities as possible. We seek to achieve this by continuously developing new types of products and services, and we have designed our production facilities in a manner that provide us with high production capacities in order to prepare for the constant expansion of our products and services offerings. Depending on the changing market trends and demands, we plan to reallocate parts of the production capacities which are yet to be fully utilized by our existing products to an increasing number of new and high-performing products in the future.

LOGISTICS AND INVENTORY MANAGEMENT

Logistics and warehouses

We leverage on our own warehouse for storing finished products, semi-finished products and certain components and raw materials, and we engage third-party logistics service providers for delivery services. Finished products that have passed quality inspections are delivered by the logistics service providers from our contract manufacturers or our own production facilities directly to our customers or to our designated warehouses and ultimately to locations specified by our customers.

Inventory management

Our inventory includes work in progress, semi-finished products and components for our smart service robots as well as finished products. As of December 31, 2020, 2021 and 2022 and June 30, 2023, our inventories amounted to RMB412.8 million, RMB426.1 million, RMB332.7 million and RMB416.5 million, respectively. We have a strict inventory control policy to monitor our inventory levels in order to minimize obsolete inventory. Through close coordination with our customers and our third-party contract manufacturers, we are able to carry less raw materials and in-process inventories and lower our inventory risk. We allocate and keep finished products of different sectors in each our own facilities and third-party warehouses to minimize the risk of delay in delivery due to unexpected lock-down during the outbreak of COVID-19. See “Impact of COVID-19 Outbreak” for details. Our average inventory turnover days decreased from 407 days for FY2020 to 273 days

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for FY2021, primarily due to (i) the relatively higher balance of inventories as of end of 2019 which was ready to be delivered in early 2020; and (ii) significant balance of allowance for write-down of inventories in FY2020, which led to lower opening inventories balance for FY2021. Our average inventory turnover days then decreased to 194 days for FY2022, primarily due to the lower balance as of December 31, 2022 mainly resulting from the increase in allowance for write-down of inventories in FY2022 and decrease in finished goods as of December 31, 2022. Our average inventory turnover days increased to 324 days in 6M2023 because the annualized cost of sales using the figures from the first six months is usually lower than the actual annual cost of sales due to the seasonality factor as mentioned previously while our inventory balance has taken into the full-year effect.

In order to prevent future occurrences of significant net write-down of inventories, we have implemented the following inventory management measures:

- Improved and extended our sales and management model for consumer products to our customers to enable a better understanding of sales forecasts, production schedule and inventory levels to adjust production volumes accurately and as necessary;
- Increased regularity of the inspection of fulfilment of minimum purchase amounts or sales targets of distributors and negotiations in relation to sales forecasts;
- Conducting regular checks on sales performances of distributors and replace distributors which underperform;
- Introduced production sales inventory management model to involve sales and marketing team to participate in sales forecasts to take into consideration of factors such as sales strategy, historical sales data, industry changes, inventory levels of finished goods and supply chain risks;
- Strengthened the reviewing process of the key terms in relation to our agreements with customers and distributors, such as advance payment arrangements and minimum purchase amounts of sales targets, to mitigate inventory risks which may arise from such agreements;
- Communicating with customers regularly to obtain a better understanding of market demand; and
- Conducting enhanced know-your-client procedures when commencing business relationships with new distributors.

QUALITY CONTROL

We are committed to maintaining high level of quality and safety in our products and services. We have designed and implemented stringent monitoring and quality control systems to manage our manufacturing activities. Our quality control system compasses all aspects of our operations, including product design and development, sourcing and procuring of raw material, parts and components, production, packaging, inventory storage, delivery and after-sales services.

Our products and services are sold worldwide and are subject to different safety standards and quality requirements depending on the sales destination and/or consumer destination. We have also adopted the appropriate quality control system and engaged independent product testing and certification organizations to test and certify our products and services on the relevant standards of each target market. For example, our products and services are certified by Federal Communications Commission (“FCC”) in the United States, Conformance Europeene (“CE”) Mark in Europe and China Compulsory Certificate (“CCC”), which are the leading product safety and quality standards in the respective market.

As a result of our adherence to quality control procedures, we did not experience any material sales returns or any material product liability or major legal claims due to product safety and quality control issues, and we did not recall any products or services during the Track Record Period and up to the Latest Practicable Date. We typically provide 12 to 36 months warranties as stated in our contracts with our customers. Our warranty term is usually limited to defects or failure of products

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or services that do not meet the quality standards as specified and agreed with our customers. In case of product failure within the warranty period, we will arrange for repair or replacement of products and/or services without extra charge. After the warranty period expires, we may provide maintenance and repair services at a reasonable cost.

During the Track Record Period, our warranty expenses amounted to approximately RMB7.3 million, RMB6.3 million, RMB6.7 million and RMB6.0 million in FY2020, FY2021, FY2022 and 6M2023, respectively.

Our product quality engineers work with our engineering team to help ensure that the product designs meet functional specifications and durability requirements of the relevant industry standards and our customer requirements. At the procurement stage, we select reliable suppliers and enter into quality control agreements with them, allowing us to seek remedies, such as damages and rectification in the event that supplies fall below our quality standards. We conduct thorough test and examination of product and service samples to make sure they satisfy all the technical requirement set forth in our design. Our main component suppliers, including suppliers for hardware such as module components, chip module on the board, and sensor module, and software applications such as cloud-based platform service provider application, applications capable of telling stories, provide manufacturer warranties for a period ranging from one to two years. Our quality control team continually monitors the quality of incoming components and materials, and finished products as well as the assembling processes at our production facilities.

Before entering into business partnerships with our subcontractors, we review their licenses, certifications and other credentials and examine their technological expertise. We also conduct site visits to our subcontractors from time to time to examine their product quality and manufacturing capacity.

DATA PRIVACY AND SECURITY

A substantial part of our business and operations are located in China, and we sell products to over 50 other countries in the world. When providing our smart service robotic products and services, we may (i) directly collect user data, (ii) procure data from third-party suppliers and open sources for the enhancement of our algorithms and product development; (iii) provide data to third-party service providers so as to realize functions based on third-party services; (iv) storage and transmission of data; and (v) retention and deletion of data. As such, we may have access to or request the collection of certain data of the individual end users, including but not limited to phone numbers, email address, account information on third party communication platforms for registration purposes; and serial numbers and device models for security or operation and management purposes. Certain types of such data may fall within the scope of personal information under applicable PRC laws and regulations. To ensure compliance of applicable laws and regulations, our data compliance team is responsible for monitoring the compliance of data privacy and security and we have implemented robust data protection policies regarding the collection, use, storage, transmission and dissemination of such data.

Data of end users

We strictly limit the scope of the personal information we receive to ensure that the scope of access is proportionate to, and the usage is narrowly tailored to, our legitimate business needs of our customers. In order to promote safety and enhance convenience of our products and services, we may require end users to register on the mobile apps that are used to control and operate our smart service robotic products and services so that we can verify their identities.

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The following illustrates how we use and process the collected data:

- (i) ***Collecting end user data.*** We collect end user data to facilitate the operation of our smart robotic products and services, such as completing account registration, connecting to control machines, configuring network connection, providing improvement, upgrades, maintenance and security to products and services. Data collected in this category mainly includes phone numbers, email address, account information on third party communication platforms, serial numbers, device models and data collected in the course of human and robot interaction such as voice data and visual data (which are usually processed within the robot). Prior to collecting personal information, we disclose our data privacy policy and inform end users of the purpose, scope and use of such data, and obtain their consent for doing so.
- (ii) ***Procuring data from third parties and open sources.*** We purchase data from third parties and obtain data from open sources for product development and algorithm enhancement. The data collected in this category mainly includes, wake word data and voice data. For data purchased from third parties, we entered into written contracts with third-party data vendors and required them to confirm the legitimacy of the source of the data and sufficient authorization from data subjects. Data obtained from open sources involves location navigation technology, voice interaction technology and visual perception technology. Such data is publicly available on the internet, produced and publicly released by academic research institutions or enterprises to support development and training of algorithm models in academia and industries. We manage and protect the acquired public data in accordance with internal data security procedures and policies.
- (iii) ***Provision of data to third-party service providers.*** We set out in our data privacy policies and obtain users’ consent on the purpose, means and scope of provision of data to third parties. When we provide our smart robotic products and services to end users, we may not be able to carry out certain functions in the smart robotic products and services (including but not limited to crash information statistical analysis and specific functions on social media and communication platforms such as authorised log-in and media sharing). After we obtain users’ consent, we may entrust a third-party service provider to process the collected data, or allow the third-party service providers to collect data directly from end users. When our business partners are involved, we generally enter into agreements with them, which include clauses that require compliance with applicable data protection laws and regulations.
- (iv) ***Storage and transmission of data.*** We adopt various measures to ensure data security, including encryption and access control and storage of personal data. Our Directors confirm that as at the Latest Practicable Date, data of end-users collected and generated in the PRC are stored in the PRC and there had not been any transmission to locations outside the PRC.
- (v) ***Retention and deletion of data.*** We store end users’ personal information in accordance with the agreed period in the data privacy policy, and delete the personal information upon expiration of the agreed period. Moreover, end users are entitled to exercise their rights as owners of personal information in accordance with data privacy policy of our smart service robotic products and services, including but not limited to requesting us to delete their personal information. When we cease to provide products or services to users, or when end users voluntarily deregister their registered accounts, we delete the relevant personal information stored to minimise the storage duration of the personal information.

Our Procedures and Measures

The Company strives to achieve data privacy and security from three aspects, namely, data protection policies, technical measures and procedures, and organisational controls, to ensure that personal information of end-users are well protected.

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1. *Data Protection policies*

Name of data protection policies	Key goals and aims
Data Compliance Management Policy	<ul style="list-style-type: none"> Sets out key principles of our data security internal control measures, namely, organizational structure and responsibilities, management responsibilities (including notification obligations, data compliance risk assessment, product and service data compliance, data security management, third-party management, data cross-border management, user rights and interests, incident feedback, compliance training), and assessment and supervision of data compliance work
Data Classification and Grading Management Measures	<ul style="list-style-type: none"> Sets out requirements of classifying and grading data generated in our production, operation and management activities, and further stipulates the overriding principles, organizational structure and responsibilities, workflow, data grading standards and corresponding control measures for data classification and grading
Response to Personal Information Rights Management Measures	<ul style="list-style-type: none"> Standardises the handling of response to personal information rights, timeliness of resolving requests and complaints relating to users’ personal information rights, and sets out work procedures and work responsibilities
Personal Information Data Security Management Measures	<ul style="list-style-type: none"> Ensures the integrity, security, legal and compliant use of personal information data of our customers and employees. It sets out the work responsibilities of each department and regulates the storage, transmission, use, external sharing, deletion and safe management of data, such as preventing unauthorized access, encryption, secure storage and access control when storing important data and sensitive personal information
Personal Information Desensitization Measures	<ul style="list-style-type: none"> Requires the desensitization of data and sets out applicable scenarios and examples for desensitization measures
UBTECH Mobile Application Personal Information Protection Compliance Guidelines	<ul style="list-style-type: none"> Guides the handling of personal information of our mobile applications. Personal information protection is a mandatory consideration in the design and development of mobile applications
Personal Information Emergency Response Plan	<ul style="list-style-type: none"> Provides clear procedures for handling emergencies relating to the protection of personal information. It requires a data security risk monitoring system, grading standards and procedures for personal information emergencies
Product Data Compliance Management Measures	<ul style="list-style-type: none"> Standardizes our product data compliance work, incorporates data compliance-related requirements into our R&D and product development process, ensures compliance with internal mechanisms and sets out responsibilities in our R&D and product development process
Business Cooperation Data Management Measures	<ul style="list-style-type: none"> Governs collaboration between our Group and business partners. To strengthen the data security management of our business partners, we require our business partners to comply with applicable data protection laws which we are required to review during the collaboration.

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2. *Technical measures and procedures*

<u>Main aspects</u>	<u>Key features</u>
Data collection	<ul style="list-style-type: none">• Adopt data protection impact assessment system to minimize the type of data collected for business purpose• Adopt data classification and grading system to discover and control the collected data according to different risk levels
Data usage	<ul style="list-style-type: none">• Allocate and manage account access and control based on necessity of employees’ duties• Adopt approval procedures for data usage and provision
Data storage	<ul style="list-style-type: none">• Adopt encryption and pseudonymization mechanism for storing data
Data transmission	<ul style="list-style-type: none">• Encrypt transport channels and the transmitted contents
Data deletion	<ul style="list-style-type: none">• Retain personal information only for the minimum duration, comprehensively consider regulatory and business requirements and delete after the expiration of the period
Safety management	<ul style="list-style-type: none">• Introduce network security devices (including firewalls and fortress machine) and security software (including threat intelligence)• Perform data backups

3. *Organizational controls*

- *Appointment of a personnel in charge.* We have appointed personnel in charge of personal information protection and network security to coordinate our data protection work. We have set up data compliance working groups to carry out daily management and implementation of data security and privacy protection.
- *Enter into contractually binding agreements.* We have signed confidentiality agreements with our employees which include provisions on personal information protection.
- *Cultivate awareness on compliance.* We continuously organize different training sessions on data protection for new employees, existing employees and key personnel.
- *Implement complaint and report system.* We implement a complaint and report system to award employees who adhere to our policies and penalize personnel who violate our policies to minimise data leakage and security incidents.

Continuous compliance with data laws and regulations

Based on the Measures for Cyber Security Review issued on January 4, 2022 already in place, and assuming that the Administration Regulations on Cyber Data Security (Draft for Comments) (《網絡數據安全管理條例(徵求意見稿)》) enters into force in its current form, we believe that the regulations do not cause any material impediment to the Group’s compliance obligations and business operations, since we have not engaged and will not engage in any activities that may affect national security based on our analysis of the national security risks set out in article 10 of the Measures for Cyber Security Review (《網絡安全審查辦法》) for the following reasons:—

1. During the Track Record Period and up to the date of this document:
 - there has not been any material cyber security incident or violation of data protection and privacy laws and regulations that would have a material adverse effect on the business operations of our Group;
 - we have not been subject to any investigation, enquiry or sanction from any relevant government departments or authorities in relations to cyber security or any data processing activities that affect or may affect national security;
 - the user data collected and generated in mainland China is stored in mainland China;

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- appropriate data security controls have been put in place and major information systems have met the security protection requirements and obtained certification;
 - a comprehensive and solid data protection policy is in place and comprehensive data collection, storage and protection procedures have been implemented;
2. We have not received any notification from the relevant regulators that we have been identified as a critical information infrastructure operator and the Group is not involved in handling important data within the scope of regulation.
 3. Upon completion of the [REDACTED], the Group will continue to be controlled by Mr. Zhou Jian and the parties acting in concert, and not by any foreign government.

As confirmed by our Special PRC Legal Adviser, (i) as we do not possess the personal information of over one million users as an online platform operator during the course of our business, (ii) we are not seeking a foreign [REDACTED], and (iii) taking into account the analysis on the regulations mentioned above, we are not required to apply for a cybersecurity review under the Measures for Cyber Security Review. In addition, in a telephone consultation with the CAC in October 2022, we were advised that applying for a [REDACTED] in Hong Kong is not considered as seeking a foreign [REDACTED] (國外[REDACTED]), and we are not required to apply for a cybersecurity review.

Our Special PRC Legal Adviser is of the view that we are not identified as a critical information infrastructure operator given that during the Track Record Period and up to the Latest Practicable Date, we have not received any notification from the relevant regulators that we have been identified as a critical information infrastructure operator.

As further confirmed by our Special PRC Legal Adviser, during the Track Record Period and up to the Latest Practicable Date, we were not involved in handling core data, which the Data Security Law (《中華人民共和國數據安全法》) defines as data related to national security, national economy and public interests; and we were not involved in handling important data which is defined in the Important Data Identification Guideline (《信息安全技術重要數據識別指南》) issued on January 7, 2022 as data that may endanger national security and public interests once it is tampered with, destroyed, leaked or illegally obtained or used.

As further confirmed by our Special PRC Legal Adviser, during the Track Record Period and up to the Latest Practicable Date, we had been in compliance in all material respects with all applicable PRC laws and regulations with respect to data privacy and security. In addition, during the same period, we had not been aware of or received any claim from any third party against us on the ground of infringement of such party’s right to data protection as provided by the PRC General Principles of Civil Law or any applicable laws and regulations in other jurisdictions. To the best knowledge of our Group, during the Track Record Period and up to the Latest Practicable Date, our Group has not been involved in any investigation on data processing activities that affects or may affect national security. Our Directors and dedicated data compliance team continue to maintain close communication with regulatory authorities, including through:

1. monthly tracking and interpretation of global data security and privacy protection laws and regulations, industry standards and related cases;
2. active participation in laws and regulation interpretation and internal seminars and pilot exploration by government, regulatory authorities and industry organizations; and
3. continue to monitor the latest legislative and regulatory developments in cyber security and data protection, and continue to monitor cyber information security risks in order to achieve and maintain compliance in a timely manner.

Internal control

Our data privacy and protection measures are an integral part of our internal control systems. We have adopted comprehensive data privacy and protection policies and have a dedicated team to enforce our data privacy and protection measures. Please see “Risk Management and Internal Control — Data Privacy and Security Risk Management” in this section for further details.

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COMPETITION

Smart Service Robotic Products and Services Industry in China

Industry and competitive and landscape. According to Frost & Sullivan, there are only a few players in smart service robotic products and services industry in China who are able to provide full stack core technologies, which include computer vision, voice interaction, servo actuators, motion planning and control, and positioning navigation. We ranked 3rd in China’s smart service robotic products and services industry in terms of revenue in 2022.

China’s government has launched a series of favorable policies such as Implementation Plan for “Robotics+” Application Action 《“機器人+”應用行動實施方案》 issued by the MIIT and various other PRC governmental departments in January, 2023 to promote the development of robot industry. As a consequence, the market players of China’s smart service robotic products and services industry have formulated an aggregation and synergistic effect. The strong market demand in China provides more opportunities and confidence for smart service robotic products and services companies to launch innovative products and services. China’s smart service robotic products and services market, measured by sales revenue, has increased from RMB19.3 billion in 2018 to RMB51.6 billion in 2022 representing a CAGR of 27.9% during this period.

Going forward, it is expected that the cutting edge AI technologies will shape the development of China’s smart service robotic products and services market significantly in the next few years, and the use scenarios of smart service robotic products and services in China will be further expanded. Moreover, with the increasing labor costs and labor shortage in China, there are huge demands across industries for utilizing smart service robotic products and services to address the challenges of enterprises. It is expected that the smart service robotic products and services market will reach RMB183.2 billion with a CAGR of 23.5% from 2022 to 2028. See “Industry Overview — Market Size of China’s Smart Service Robotic Products and Services Industry” for further details.

Competition. According to Frost & Sullivan, we face major direct competition from companies with diversified background including (i) CloudMinds Inc., a company headquartered in Shanghai and established in 2015 which specialized in cloud-based robot and operation platform; (ii) Hangzhou Haikang Robot Technology Co., Ltd., a company headquartered in Hangzhou and established in 2016 which provided machine vision products and mobile robots; (iii) State Grid Intelligence Technology Co., Ltd., a company headquartered in Jinan and established in 2000 which specialized in inspection robot in electronic industry; and (iv) Beijing Geekplus Technology Co., Ltd., a company headquartered in Beijing and established in 2015 which is a products and services provider in the logistics and mobile smart robotic products and services industry. We also face indirect competition from traditional machinery, equipment and human workforce which perform the same day-to-day tasks as the relevant smart service robotic products in the relevant industries.

Our ability to compete. Our Directors believe that we are well-positioned to compete as we possess full-stack technologies which offers a distinct advantage over our competitors as it allows for seamless expansion into different use scenarios and sectors. This ensures we can quickly adapt to changing market trends and customer demands. In contrast, our competitors only possess certain technologies which may impede their fulfill new demand from market and effectively compete with us. For example, competitors who only possess a limited range of technologies such as computer vision and voice interaction technologies may not be able to easily enhance the movement of its smart service robotic products as it lacks the relevant robotic motion planning and control technology.

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Education smart robotic products and services

Industry and competitive landscape. According to Frost & Sullivan, China’s education smart robotic products and services industry has experienced a strong growth in terms of sales revenue from RMB1.0 billion to RMB2.3 billion between 2018 to 2022 with a CAGR of 23.1%. Top five companies accounted for 32.8% in terms of sales revenue of China’s education smart robotic products and services industry in 2022. According to Frost & Sullivan, the competition of China’s education smart robotic products and services industry is relatively fragmented with more than 50 market players and we ranked first and accounted for 22.5% market share of the industry in terms of revenue in 2022. The continuous development of machine learning, AI, and other technologies, will continue to benefit the education smart robotic products and services industry and innovate product forms and optimize product performance. For instance, there will be an increasing demand of humanoid robots to serve as educational tools for learning purpose. Furthermore, in order to enhance the learning and using experience supported by education smart robots, more and more market players will engage in providing related services, such as robot competitions, professional curriculum content, robot culture, science and technology activities and teacher training.

Competition. According to Frost & Sullivan, we face direct competition from competitors with diversified background such as (i) Beijing Shengtong Printing Co., Ltd., a company established in 2000 which engaged in the provision of a wide range of tech-enabled services and products associated with programme writing education, robotic education and smart education tools; (ii) WhalesBot Technology (Shanghai) Co., Ltd., a company established in 2018 which is a robotic products and services provider for the youth education; and (iii) Shenzhen DJI Technology Co., Ltd., a company established in 2006 which engaged in designing and manufacturing action cameras which provides a wide range of education smart robotic products and services for learners. We also face potential indirect competition from providers of traditional educational equipment and materials.

Our ability to compete. Our Directors believe that we are in a competitive position and have established business relationships with government educational bureaus and our education smart robotic products and services have been used by over 240 schools in the PRC during the Track Record Period. In addition, we believe our marketing initiatives have brought us tender and business opportunities and facilitated the building up of our reputation in the education sector and business relationships with government educational bureaus and we intend to continue to adopt such initiatives to strengthen our business relationships with government educational bureaus. On the other hand, our Directors believe that we have to continuously invest in the R&D in our education smart robotic products and services to maintain our leading position in the education smart robotic products and services industry and expand the application of humanoid robots in this sector.

Logistics smart robotic products and services

Industry and competitive landscape. According to Frost & Sullivan, China’s logistics and mobile smart robotic products and services industry has experienced a strong growth in terms of revenue from RMB2.4 billion to RMB12.0 billion between 2018 to 2022 with a CAGR of 49.5% driven by a rising application scenarios of logistics and mobile smart robots such as warehouse picking and distribution. China’s logistics and mobile smart robotic products and services industry is relatively fragmented with more than 50 market players and top five market players accounted for approximately 31.9% of market share of the industry in terms of revenue in 2022. According to Frost & Sullivan, we ranked eighth and accounted for 2.2% market share of China’s logistics and mobile smart robotic products and services industry in terms of revenue in 2022. According to Frost & Sullivan, there is an increasing trend for automobile manufacturers to incorporate logistics and mobile smart robotic products and services into its warehousing and production processes, as traditional labor may not be able to provide consistent and safe handling of automobile components, semi finished products and finished products due to their heavy and fragile nature.

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Competition. According to Frost & Sullivan, we face direct competition from established logistics smart robotic products and services market players such as (i) Hangzhou Haikang Robot Technology Co., Ltd., a company founded in 2016 headquartered in Hangzhou, China which provides customers with leading machine vision products and mobile robots; (ii) Beijing Geekplus Technology Co., Ltd., a company founded in 2015 headquartered in Beijing, China which is a products and services provider in the logistics and mobile smart robotic products and services industry; and (iii) Hefei Jingsong Intelligent Technology Co., Ltd., a public company founded in 2007 headquartered in Hefei, China and listed on the Shanghai Stock Exchange which is a comprehensive products and services provider in the manufacturing smart and logistics smart industry. We also face indirect competition from manual labour in the logistics industry and non-robotic logistics equipment and machinery providers.

Our ability to compete. While we only launched our logistics smart robotic products and services in late 2020, our Directors believe we are able to compete with existing market leaders as evidenced by our performance during the Track Record Period. As we have to compete with existing established market players, it is our strategy to lower our pricing to gain sufficient market shares in the beginning. Furthermore, as we have accumulated expertise and technologies during the R&D of our core technologies and humanoid robots, our Directors consider that we can expand our product lines to compete with existing market leaders and further penetrate the market through the expansion of use scenarios. For instance, we intend to research outdoor driverless logistics vehicles which are designed for outdoor transportation of components, semi-finished products and finished products in outdoor industrial park. See “— Our Business Strategies — Further advance our R&D capabilities to enhance our core technologies and products and services offerings — (ii) Our smart service robotic products and services for application in different sectors — (b) Logistics smart robotic products and services” for further details.

Other sector-tailored smart robotic products and services

(a) General service smart robotic products and services

Our general service smart robotic products and services are able to provide various commercial and professional services including guiding assistance, reception, sanitation, security patrol, safety inspection and monitoring of environmental conditions. Our general service smart robotic products and services mainly cover three sectors, namely (i) inspection smart robotic products and services industry; (ii) reception smart robotic products and services industry; and (iii) wellness and elderly care smart robotic products and services.

(i) Inspection smart robotic products and services industry

Industry and competitive landscape. Inspection smart robots are mainly used in substation, tunnels, and other high-risk, complex scenarios of intelligent inspection and detection work. According to Frost & Sullivan, the market size of China’s inspection smart robotic products and services industry experienced a strong growth in terms of revenue from RMB4.2 billion to RMB9.9 billion between 2018 to 2022 with a CAGR of 23.9%. According to Frost & Sullivan, China’s inspection smart robotic products and services industry has a highly fragmented competitive landscape with more than 200 market players and the top five industry players accounted for approximately 16.0% of market share in terms of revenue in 2022. Major competitors are technology driven products and services providers of a wide range of smart outdoor and indoor inspection products and services.

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Competition. According to Frost & Sullivan, our Directors believe that we are considered to be a late market entrant to China’s inspection smart robotic products and services industry as we only launched our product (i.e. ATRIS Series) in 2019. Thus, we face direct competition from existing market leaders such as (i) State Grid Intelligence Technology Co., Ltd., a company founded in 2000 headquartered in Jinan, China which is specialized in inspection robots in electronic industry; (ii) Yijiahe, a public company founded in 1999 headquartered in Nanjing, China and listed on the Shanghai Stock Exchange which is specialized in inspection robot in the field of electric power, energy and municipal; (iii) Shenhao, a high-tech public company founded in 2002 headquartered in Hangzhou, China and listed on the Shenzhen Stock Exchange which is specialized in the inspection and fault diagnosis of equipment; and (iv) Guozi, a company founded in 2011 headquartered in Hangzhou, China that provides a wide product variety that includes logistics smart robot and smart manufacturing. We also face indirect competition from security and inspection patrol personnel and providers of non-robotic equipment and machinery which possess inspection functionalities.

(ii) Reception smart robotic products and services industry

Industry and competitive landscape. Reception smart robots refer to the smart service robots that can assist the human to complete the work of reception, guidance, and business explanation, etc. in scenarios such as building, hotel, or hospital. According to Frost & Sullivan, China’s reception smart robotic products and services industry remained at a very early stage of commercialization in the past few years and has a highly fragmented competitive landscape. In 2022, the market size amounted to RMB0.5 billion in terms of sales revenue. It is expected that the market size will steadily increase to RMB2.1 billion by 2028, representing a CAGR of 27.0% from 2022 to 2028.

Competition. According to Frost & Sullivan, China’s reception smart robotic products and services industry is currently in its early stages of development, with a highly fragmented competitive landscape. This means that many companies have the ability to provide reception smart robotic products and services, but none of them have emerged as dominant players in the market yet. As a result, it is difficult to identify the dominant market players, given the current highly fragmented landscape, while the total number of the players in China’s reception smart robotic products and services industry is more than 50 in 2022. Nevertheless, we expect to face (i) direct competition from industry peers which are reception smart robotic products and services providers and (ii) indirect competition from receptionists and non-robotic reception equipment and machinery providers.

Our ability to compete in the above industries. According to Frost & Sullivan, the reception smart robotic products and services industry is at its early stages of development. There remain substantial areas of innovation and opportunities for disruption as there are currently limited players with mature and leading core technologies in this sector to address the market potentials. Our Directors believe our success in this industry to capture market share depends on our ability to utilize our core technologies and develop and launch products with quality and functionality in a timely manner ahead of competitors, which will enable us to capture market shares with the liberty to set the selling prices at a level so as to achieve optimal gross profit margins. As to China’s inspection smart robotic products and services industry, it is also considered to be relatively fragmented and we are considered to be a late market entrant to the industry as we only launched our product (i.e. ATRIS Series) in 2019. Despite such competitive landscape, our Directors believe that we are well positioned to compete with existing market leaders and new market entrants within the inspection smart robotic products and services industry due to our full-stack of core technologies and established sales networks as well as expertise and know-how accumulated throughout our years of operation. Thus, we are confident that we are able to replicate our success in education smart robotic products and services and compete with existing market players.

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(iii) Wellness and elderly care smart robotic products and services

Industry and competitive landscape. Wellness and elderly care smart robot refers to smart service robots that are designed to assist the elderly or patients with companionship, food and medicine delivery, and can be used in hospitals, age-friendly community or care facilities. According to Frost & Sullivan, China’s wellness and elderly care smart robotic products and services industry, measured by sales revenue, has increased from RMB0.3 billion in 2018 to RMB1.2 billion in 2022, with a CAGR of 41.4% during this period. The competitive landscape of wellness and elderly care smart robotic products and services industry is highly fragmented with the top three market players accounted to approximately 15.0% of market shares in terms of revenue in 2022. Thus there remain substantial areas of innovation and opportunities for disruption as there are currently limited players with mature and leading core technologies in this area.

Competition. According to Frost & Sullivan, we face direct competition from companies such as (i) GWELL, a company founded in 2014 headquartered in Shanghai, China which is focusing on the field of medical service robots; and (ii) TMiRob, a company founded in 2015 headquartered in Shanghai, China which is an intelligent products and services provider for medical infrastructure. We also face indirect competition from doctors, nurses, caretakers and other medical staff and non-robotic wellness and elderly care equipment and machinery providers.

Our ability to compete. According to Frost & Sullivan, the wellness and elderly care smart robotic products and services industry is at its early stage of commercialization and is highly fragmented. As such, similar to the reception smart robotic products and services industry, there remains substantial areas of innovation and opportunities for disruption as there is currently limited players with mature and leading core technologies in this sector to address the market potentials. Our Directors believe our success in this industry to establish a market position depends on our ability to utilize our core technologies and develop and launch products with quality and functionality to cater to the specific needs of large-scale wellness and elderly care institutions and community-focused service providers to enhance their operational efficiency, thus increasing the demand for and sales volume of our wellness and elderly care smart robotic products and services. We will also leverage our brand image as a China-based smart robotics company with overseas market presence to penetrate this market.

(b) Global humanoid robotic products and services industry

Industry and competitive landscape. According to Frost & Sullivan, the global humanoid robotic products and services industry is still at an early stage with a few market players and limited use scenarios and the full potential of the global humanoid robotic products and services market is yet to be realized. It is difficult to identify the market size of global humanoid robotic products and services industry in terms of revenue in the past years.

Competition. According to Frost & Sullivan, we face competition from companies such as (i) Boston Dynamics, a company established in 1992 and headquartered in Waltham, the U.S. which focuses on creating robots with advanced mobility, dexterity and intelligence; and (ii) Agility Robotics, a company established in 2015 and headquartered in Albany, the U.S. which focuses on the development of highly capable bipedal robots for applications that include logistics, telepresence, automated inspection, entertainment, and research. We also face indirect competition from traditional human workforce which perform the same day-to-day tasks as the relevant humanoid robots.

Our ability to compete. According to Frost & Sullivan, there are very few market participants within the global humanoid robotic products and services industry. While the global humanoid robotic products and services industry is still in its early stage of commercialization, we believe our track record of commercializing our Walker positions allows us to have first mover advantage for future growth. Our Directors recognize there is significant growth potential in this industry, as humanoid robots continue to gain traction in a variety of applications. As we have been focusing our R&D efforts on advancing core technologies utilized in humanoid robots, our ongoing R&D

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ensures that we will remain at the forefront of technological advancements, enabling us to continue to compete effectively with other competitors. In addition, our Directors believe that our early success in selling limited units of Walker series demonstrates the market demand for our humanoid robots and highlights the potential for continued growth as the market matures. See “— Walker series” for further details of our Walker series.

Consumer-level robots and other hardware devices

Industry and competitive landscape. Our consumer-level robots and other hardware devices include a range of user-friendly products that are suitable for household use, namely, humanoid Alpha Mini (non-education), our small-sized humanoid robot, and Jimu series (non-education) which are designed for children to have early access to robotics and AI, indoor and outdoor cleaning robots and user-friendly household devices that aim at bringing convenience to household users by saving their time and increasing efficiency when doing household chores. Our consumer-level robots and other hardware devices mainly cover AiRROBO vacuum and floor cleaning robotic products. According to Frost & Sullivan, the vacuum and floor cleaning robotic products industry is highly concentrated with the top five market players accounted for approximately 90.0% of market share in terms of revenue in 2022.

Competition. According to Frost & Sullivan, we face direct competition from existing established market players such as (i) Ecovas, a company established in 1998, listed in Shanghai Stock Exchange and is a provider of service robots; and (ii) Roborock, a company established in 2014 and listed in Shanghai Stock Exchange which focused on the application of AI technology in household robots. We also face indirect competition from traditional human workforce which perform the same day-to-day tasks as the relevant consumer-level robots and non-robotic consumer-level equipment and machinery providers.

Our ability to compete in the above industries. Our Directors believe that as long as (i) we can constantly launch products with comparable functions with our competitors at competitive price; and (ii) expand our sales channels to cater to more consumers, we will be able to compete with competitors. To this end, we have (i) possessed technologies that are readily available to be utilized in our consumer-level robots and other hardware devices; and (ii) have an established sales networks which comprised of more than 130 distributors as of June 30, 2023 which enable us to reach a wide group of consumers. To further penetrate the market, it is part of our strategies to enhance our brand awareness and market penetration in the PRC and overseas by establishing more regional offices, branch offices and showrooms across the PRC and overseas to enhance our accessibility to end-users and receive feedback from potential customers. See “Our Business Strategies — Enhance brand awareness and market penetration” for further details.

INTELLECTUAL PROPERTY

We believe that our intellectual property rights are critical to our continued success. We have taken the following key measures to protect our intellectual property rights, including: (i) implementing a set of comprehensive internal policies to establish robust management over our intellectual property rights; (ii) establishing an intellectual property taskforce to guide, manage, supervise and monitor our daily work regarding intellectual properties; (iii) timely registration, filing and application for ownership of our intellectual properties; (iv) actively tracking the registration and authorization status of intellectual properties and take action in timely manner if any potential conflicts with our intellectual property rights are identified; and (v) clearly stating all rights and obligations regarding the ownership and protection of intellectual properties in the employment agreements we enter into. For further details of the protection of our intellectual property rights, see “Risk Management and Internal Control – Compliance and Intellectual Property Rights Risk Management” in this section.

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As of the Latest Practicable Date, our Group had registered (i) 12 trademarks, 227 patents and 30 copyrights in the PRC; (ii) 13 trademarks and 98 patents in other jurisdictions; and (iii) 1 domain name which we consider to be material or may be material to our business. Examples of patents held by our Group in relation to our core technologies which we consider to be material or may be material to our business include the following:

Patent Name	Place of registration	Patent Number	Core technology involved	Intended usage or function
A servo motor and its control method (一種伺服電機及其控制方法)	PRC	ZL201610615912.9	Servo actuators	Enhancing the accuracy in angle transmission of the servo motor
Servo and robot (舵機及機器人)	PRC	ZL201811291334.3	Servo actuators	Reducing the load on the gears of the servo actuator, lowering the damages to the gears
Robot control method, device, readable storage medium and robot (機器人控制方法、裝置、計算機可讀存儲介質及機器人)	PRC	ZL201911279545.X	Robotic motion planning and control	Enhancing the walking stability of robots
Robot control method, device, readable storage medium and robot (機器人控制方法、裝置、計算機可讀存儲介質及機器人)	PRC	ZL202111214282.1	Robotic motion planning and control	Enhancing the stability of robots when subject to external force
A robot and its climbing stairs control method and device (一種機器人及其爬樓控制方法和裝置)	PRC	ZL201911266155.9	Computer vision	Enhancing the robots’ ability in climbing stairs
Multi-target tracking method, device, equipment and storage medium (多目標追蹤方法、裝置、設備及存儲介質)	PRC	ZL202110640635.8	Computer vision	Enhancing the robots’ ability in human body detection
A robot and its voice interaction system (一種機器人及其語音交互系統)	PRC	ZL201811441703.2	Voice interaction	Enhancing the robots’ ability and efficiency in voice recognition
Speech synthesis method and apparatus and computer readable storage medium using the same	United States	US11417316B2	Voice interaction	Enhancing the robots’ ability and efficiency in speech synthesis
Robot navigation method, system, robot and storage medium (機器人導航方法、系統、機器人及存儲介質)	PRC	ZL201911159641.0	SLAM and autonomous technology	Enhancing the robots’ user-friendliness and intelligence during the process of navigation
A navigation map update method, device, readable storage medium and robot (一種導航地圖更新方法、裝置、可讀存儲介質及機器人)	PRC	ZL201911330291.X	SLAM and autonomous technology	Reducing the need for the robot operators to re-construct navigation maps at the working places of the robots after re-positioning
A grasping control method, device and robot based on visual servo (一種基於視覺伺服的抓取控制方法、裝置和機器人)	PRC	ZL201711431821.0	Visual servo operation and human-robot interaction	Enhancing the robots’ ability in grasping moving objects
An action imitation method, device, readable storage medium and robot (一種動作模仿方法、裝置、計算機可讀存儲介質及機器人)	PRC	ZL201911227303.6	Visual servo operation and human-robot interaction	Enhancing the robots’ efficiency in imitation

For details of our material intellectual property rights, see “Appendix VII — Statutory and General Information — B. Further Information about Our Business — 2. Intellectual Property Rights”.

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Our Group held more than 1,800 registered robotic and AI-related patents as of June 30, 2023, most of which are invention patents registered in the PRC. As advised by our PRC Legal Adviser and pursuant to the Patent Law of the People’s Republic of China (《中華人民共和國專利法》), an invention patent registered in the PRC is valid for a term of 20 years from the date of filing of the application for the patent, an utility model patent registered in the PRC is valid for a term of 10 years from the date of filing of the application for the patent, and a design patent registered in the PRC is valid for a term of 15 years from the date of filing of the application for the patent. The invention patents of our Group registered in jurisdictions outside the PRC are generally valid for a term of 20 years from the dates of the filing of the applications for such patents, and the design patents of our Group registered in jurisdictions outside the PRC are generally valid for terms ranging from 15 years from the dates of publication to 25 years from the dates of the filing of the applications for such patents.

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The following table sets forth (i) the number of patent applications filed by the Group and (ii) the number of patents granted to the Group respectively during the Track Record Period:

	FY2020			FY2021			FY2022			6M2023			
	Number of patents held as at January 1, 2020	Number of patent applications filed	Number of patents granted	Number of patents held as at December 31, 2020	Number of patent applications filed	Number of patents granted	Number of patents held as at December 31, 2021	Number of patent applications filed	Number of patents granted	Number of patents held as at December 31, 2022	Number of patent applications filed	Number of patents granted	Number of patents held as at June 30, 2023
AI-related technologies	10	171	13	23	121	46	69	111	37	106	30	31	137
Robotic technologies	153	228	97	250	238	154	404	73	139	543	29	35	578
Integrated robotic and AI technologies	7	80	12	19	90	50	69	83	45	114	15	22	136
ROSA	—	4	—	—	5	2	2	—	2	4	—	1	5
Others (note)	353	187	154	507	254	185	692	218	185	877	42	86	963
Total	523	670	276	799	708	437	1,236	485	408	1,644	116	175	1,819

Note: Other technologies include technologies relating to robotic structures, circuits, system software, functional software, exterior design, etc.

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Details of our top five patent inventors are set out below:

Name	Position(s) within our Group	Number of patents invented
Xiong Youjun	Executive Director, chief technology officer and deputy general manager	403
Bai Jie	N/A (Formerly a senior engineer; left the Group in July 2021)	16
Zhao Yongsheng	Senior engineer	15
Huang Tingshuang	N/A (Formerly an electronic software engineer; left the Group in September 2016)	14
Chen Chunyu	Senior engineer	11

Despite our precautions, however, third parties may obtain and use our intellectual property without our consent. Unauthorized use of our intellectual property by third parties and the expenses incurred in protecting our intellectual property rights from such unauthorized use may adversely affect our business and results of operations. See “Risk Factors — Risks Relating to Our Business — We may not be able to prevent unauthorized use of our intellectual properties, which could harm our brand and reputation”.

Our Directors confirm that we did not have any material disputes or any other pending material legal proceedings of intellectual property rights with third parties during the Track Record Period and up to the Latest Practicable Date.

EMPLOYEES

We had a total of 1,769 employees as of June 30, 2023. The following table sets forth a breakdown of our employees by function as of June 30, 2023:

Function	Number of Employees	Percentage (%)
Research and development	717	40.5
Sales and marketing	480	27.1
Production and procurement	339	19.2
General administration and management	233	13.2
Total	1,769	100.0

Most of our employees are based in China, primarily located at our headquarters in Shenzhen, with the rest located in our other offices in Shanghai, Beijing and Xiamen. As of June 30, 2023, we had 1,753 employees in China.

Our success deeply rests with our ability to attract, retain and motivate qualified talents, and we believe that our high-quality talent pool is one of our core strengths and competitive advantages. We recruit with high standards and rigorous procedures and through various methods, including campus recruitment, online recruitment, internal referral, and third party recruiters, to select the best-fit personnel for the corresponding positions in response to our various talent demands.

We invest in continuing education and training programs, including regular and tailor-made internal and external training, for our employees to improve their professional knowledge, and management skills, upgrade their skill sets and keep abreast of the industry standards in their respective positions. Pre-employment induction training and orientation is provided to all new hiring. We also organize activities to provide our employees with a deeper understanding of our culture.

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We offer competitive remuneration package to our employees, which are generally based on their qualifications, industry experience, position and performance. In order to motivate, retain and reward talents for their contribution to the development of our Group, we have approved and adopted several equity incentive schemes since 2015. We regularly evaluate the performance of our employees and reward the well-performed with bonus and promotion.

As required by PRC laws and regulations, we participate in various employee social security schemes organized by municipal and provincial governments of the PRC, including pension, unemployment insurance, maternity insurance, work-related injury insurance, medical insurance and housing provident funds. We are required under PRC laws and regulations to make contributions to employee social security schemes at specified percentages of the salaries, bonuses and certain allowances of our employees, up to a maximum amount specified by the local government from time to time. During the Track Record Period, we were involved in non-compliance incidents in relation to social insurance and housing provident fund contributions. See “Non-compliance matters — 3. Failure to make full contributions to social insurance and housing provident funds and the use of third parties to pay the contributions” for further details.

We have established a labor union and our employees may join the labor union voluntarily. We believe that we maintain a good working relationship with our employees, and we have not experienced any significant labor disputes or any difficulty in recruiting staff for our operations during the Track Record Period.

INSURANCE

We believe we have adequate insurance coverage by putting in place all the mandatory insurance policies required by PRC laws and regulations and in accordance with the commercial practices in the smart service robotic products and services industry, such as product liability insurance for our smart service robotic products which the insurance premium is based on the estimated total sales of the Group during the period of insurance. As required by PRC laws and regulations, our employee-related insurance includes pension insurance, maternity insurance, unemployment insurance, work-related injury insurance, medical insurance. During the Track Record Period, we did not make any material insurance claim in relation to our business.

ENVIRONMENTAL, SOCIAL AND GOVERNANCE MATTERS

We are committed to be a responsible corporate citizen to abide by applicable laws and regulations and market practice principles and to increase the wellness of the society. We place great emphasis to environmental, social and governance matters, including environmental sustainability, social responsibility and governance (“ESG”) as an established enterprise in the smart service robotic products and services industry.

Our ESG governance structure

Our Board is fully and collectively responsible for the formation and establishment of ESG-related mechanisms and policies including reviewing our ESG strategy and reporting, overseeing our ESG issues, reviewing progress on ESG-related objectives, and assessing, prioritizing and managing key ESG-related issues. For more information relating to the qualifications and experience of our management, see the section headed “Directors, Supervisors and Senior Management — Directors” in this document. To strengthen our sustainability capabilities, improve our governance structure and enhance our corporate environmental, social and governance performance, we have already established an ESG and Sustainability Committee.

The ESG and Sustainability Committee is a special committee of our Board, whose members will be appointed by our Board, and is mainly responsible for formulating our ESG and sustainability vision, objectives, strategies and management systems, advising our Board on related work, identifying important stakeholders of our Group and important ESG issues, studying and making recommendations on sustainable development related business with our stakeholders. In addition, the ESG and Sustainability Committee will review the key trends in ESG and related risks and

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opportunities, follow up on the implementation of our ESG and sustainability efforts and ensure that our position and performance on ESG and sustainability issues are in compliance with relevant regulations and standards. The ESG and Sustainability Committee will hold regular meetings and report to the Board on relevant motions so as to ensure that the Board is kept regularly informed of the assessments of environmental, social and governance issues by the ESG and Sustainability Committee. In addition, as members of the committee are also members of the Board, the Board is kept fully informed of the environmental, social and governance issues being undertaken by the Company accordingly. The ESG and Sustainability Committee is also supported by representatives from various internal departments with relevant ESG functions. External ESG consultants have also been engaged to provide the necessary ESG expertise to support the deliberations of the committee during its regular meetings.

Our ESG materiality assessment

We believe that the conduct of materiality assessments is critical to the long-term development of the Company, as they allow the Company to properly analyse and consider important environmental, social and governance-related issues. Therefore, we attach great importance to our interactions with our stakeholders and are committed to developing a regular communication mechanism with them in the future, and will conduct materiality assessments to better understand their needs and expectations. We have engaged an independent ESG consultant to assist the Company in conducting a materiality assessment in accordance with Appendix 27 of the Main Board Listing Rules of the Stock Exchange to collect, analyse and summarise stakeholders' concerns in order to identify, assess and manage significant environmental, social and governance issues. We have developed a materiality assessment process as follows:

1. identify potentially significant environmental, social and governance issues that may have an impact on the Group's business or related parties based on the Group's development, Sustainability Accounting Standards Board (SASB) standards and peer industry references;
2. inviting stakeholders (directors, shareholders, investors, senior management, employees, suppliers and partners, government and regulatory bodies) to participate in questionnaires to express their concerns on each potentially significant issue;
3. analysis of the questionnaires collected and prioritisation of potential material issues; and
4. management and the Board reviewing and determining the material issues for the Company and making disclosures.

We hope that this will provide us with a more comprehensive understanding of stakeholder expectations and suggestions in the future, as well as insight into how these expectations and suggestions are reflected in management decisions, providing a basis for the development of our long-term environmental, social and governance strategy and a reference for the effective allocation of resources in the future.

Our ESG risk management

To manage our ESG risks, we have established comprehensive risk and opportunities management procedures which clarified the operational requirements for risk response measures including risk avoidance, risk reduction and risk acceptance, and enhanced risk response capabilities.

In order to comprehensively identify and respond to risks faced by our business divisions, we require each division to identify the risks that exist, establish methods to identify and respond to them, and record the results of the assessment in assessment forms to ensure that the process of risk identification and assessment by each division is conducted through effective analysis and judgment.

With reference to Appendix 27 of the Main Board Listing Rules and Appendix 2 of the ESG Reporting Guide, we have engaged an ESG consultant and started to identify, assess and manage climate-related topics that are relevant and important to our business, identify the covered climate-related risks that are applicable to our Group's business, and consider their potential impact on the industry and its response.

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We have identified climate change risks and opportunities related to our business and operations in accordance with the TCFD framework. We have identified the following short-term (within 5 year), medium-term (5-15 years), and long-term (over 15 years) climate-related risks and their potential impacts on our business and financial aspect.

Risk type	Climate-related risks assessed	Risk level	Timeframe	Potential impacts on business, strategy and financial reporting	Countermeasures
Physical risks	Extreme heat	Low	Short term	The escalation of operational costs arises from heightened energy consumption and increased electricity usage, leading to regional power supply limitations and subsequent disruptions to our operations.	<p>To minimize the impact of extremely hot weather on our business, we have implemented various measures. We have formulated the Heat Stroke Personal Accident Emergency Plan (《高溫中暑人身事故應急預案》) and undertaken the following actions:</p> <ul style="list-style-type: none"> • Promoting awareness of high-temperature heat stroke among workers, ensuring they have a solid understanding of heat stroke prevention and cooling techniques. • Adjusting production shifts, increasing night shifts and reducing day shifts as necessary, to avoid working in hot environments during daytime. • In the event of high temperature and heat stroke incidents among employees, we will arrange for other personnel to take over the tasks of affected individuals.

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Risk type	Climate-related risks assessed	Risk level	Timeframe	Potential impacts on business, strategy and financial reporting	Countermeasures
	Flooding	Low	Medium term	No records indicate any instances of flooding in the vicinity of the production sites; therefore, the risk of flooding has been assessed as reasonably low. In the event of a flood, the infrastructure offices and assembly locations (i.e. indoor factories) will undergo damage, resulting in increased maintenance and operational costs.	<p>In response to the potential impact of flooding on the production sites, we have devised a contingency plan to ensure the continuity of operations. This entails the flexible adjustment of production shifts, as well as the relocation of production lines and warehouses to alternative sites, thereby mitigating the workload disruptions caused by the affected areas and maintaining the production schedule. Furthermore, we have developed the Flood Mitigation Emergency Plan (《抗洪減災應急預案》) and have implemented the following measures:</p> <ul style="list-style-type: none"> • Promptly informing all workers at the production sites about the situation. • Deploying personnel to the production sites to provide assistance in flood relief efforts. • Conducting a comprehensive review of the emergency actions undertaken following the occurrence of the flooding hazard.

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Risk type	Climate-related risks assessed		Risk level	Timeframe	Potential impacts on business, strategy and financial reporting	Countermeasures
	wildfire		Low	Long term	Based on the geographic location of the production sites, which is characterized as far from forests, a relatively low risk of wildfires was assessed for the business operations. In the case of frequent wildfires, road traffic may adversely affect the punctuality of product transportation.	<p>In order to mitigate the risk of wildfires spreading to the production sites, we have devised the Fire Services Emergency Plan (《消防事故應急預案》) aimed at enhancing production safety and establishing a comprehensive management system. This plan encompasses the following measures:</p> <ul style="list-style-type: none"> • Ensuring an ample supply of fire-fighting equipment, both in terms of quantity and appropriate types. • Strengthening the inspection and monitoring of critical fire safety workplaces and areas. • Delivering comprehensive fire safety education to workers, with the objective of augmenting their awareness of fire safety and fostering self-rescue capabilities.
Transition risks	Policy and regulation	Tighter regulation by the Chinese government	Low	Short term Medium term Long term	<p>Strict government regulations have resulted in increased compliance costs for enterprises. Throughout the 14th Five-Year Plan period, China will continue to develop policies and regulations addressing climate change. Modifications to these laws and regulations may entail additional expenses as we strive to comply with more stringent rules. Moreover, regulators are expected to impose stricter environmental requirements on us.</p>	<ul style="list-style-type: none"> • Continuously prioritizing awareness and understanding of China’s regulatory landscape to mitigate potential regulatory risks. • Implementing the use of energy-efficient electrical equipment and production facilities, and enforcing the Environmental/Occupational Health Safety Operation Control Procedures (《環境/職業健康安全運行控制程序》) to enhance staff awareness of energy conservation and emission reduction. Reducing emissions and resource consumption to prevent additional compliance costs resulting from exceeding emission standards.

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Risk type	Climate-related risks assessed	Risk level	Timeframe	Potential impacts on business, strategy and financial reporting	Countermeasures
	Strengthening greenhouse gas emissions reporting obligations	Low	Short term	The regulatory authorities are gradually strengthening the requirements for listed companies to disclose climate risk information, imposing more stringent obligations on information disclosure. As a result, operational costs will increase in order to meet these requirements.	We have enlisted the services of third-party ESG consultants to monitor updates regarding ESG and climate-related reporting guidelines, laws, and regulations. Additionally, they will assist us in implementing greenhouse gas emission calculations.
	Implementing carbon pricing regulations	Low	Medium term	Carbon pricing is gaining popularity as a policy tool to encourage low-carbon investments and curb energy consumption. We can expect the adoption of more carbon pricing regulations, such as carbon taxes, and market-based mechanisms like cap-and-trade. However, implementing a carbon price or tax would result in additional financial costs.	By strictly adhering to the latest laws and regulations governing local and regional carbon markets, as well as implementing rigorous control and monitoring measures for our carbon emissions, we can mitigate the additional financial costs associated with carbon pricing or tax.
Market	Changes in customers' preferences	Low	Short term	The preference of customers for environmental/low-carbon products may necessitate the development of a green supply chain by our Group. Failure to meet customers' expectations with regards to these products may lead to a decline in orders, thereby resulting in lower revenue.	To align with users' preference for environmentally-friendly products, we have implemented a Sustainable Procurement Policy (《可持續採購政策》). This policy aims to foster a green supply chain and prioritize the utilization of environmentally-friendly products.

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Risk type	Climate-related risks assessed	Risk level	Timeframe	Potential impacts on business, strategy and financial reporting	Countermeasures
	Reputation Carbon emissions are closely concerned by various stakeholders	Low	Medium term Long term	Our carbon emissions are of significant concern to various stakeholders. In the context of the global low-carbon transition, any non-compliance or excessive emissions from our Group would have a negative impact on the brand image and reputation. This could result in additional costs associated with preserving the brand image and reputation.	We are committed to strict compliance with national and industry laws and regulations pertaining to carbon emissions. This includes the rigorous implementation of environmental systems such as the Environmental/Occupational Health Safety Operation Control Procedure (《環境/職業健康安全運行控制程式》) and the Corrective Measures Process Procedure (《糾正預防措施流程》). We closely monitor our carbon emissions and take proactive measures to address any issues that arise.
	Technology Failure to keep up with new technology trends	Low	Short term Medium term	To effectively control the carbon emissions of our products, it is essential to enhance the development of environmental protection processes, optimize the utilization of new technologies, and upgrade clean production equipment to meet the demand for low-emission products. However, these efforts may lead to increased operating costs.	We shall closely monitor the latest technological advancements from equipment manufacturers and proactively explore and implement a new energy development strategy driven by artificial intelligence. We will also address any technical risks that may arise. As an example, we have recently conducted a feasibility study on utilizing hydrogen, a clean energy source, as a power supply for robots.

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Climate-related opportunities assessed	Timeframe	Potential impacts on business, strategy and financial	Countermeasures
Accessing new markets . . .	Short term Medium term	<p>In April 2022, the National Development and Reform Commission, along with the National Energy Administration, released the Long-term and Medium-term Plan 2021-2035 for the Development of Hydrogen Energy Industries. This plan emphasizes that hydrogen energy is a crucial component of the future national energy system and a key area for development (《氢能產業發展中長期規劃 2021-2035》).</p> <p>Additionally, Artificial Intelligence (AI), as the technological core of the Fourth Industrial Revolution, has a profound and extensive impact on economic development and social progress.</p>	<p>We are actively exploring the incorporation of new energy sources, such as hydrogen energy, into our products. Hydrogen energy offers the advantage of zero carbon emissions during consumption. By embracing this approach, we align ourselves with China’s objective of achieving “carbon peaking and carbon neutrality” while promoting green and high-quality economic development.</p>
Resource efficiency	Short term	<p>Enhancing the efficiency of resource utilization, including energy, water, and other resources, while minimizing consumption, can significantly assist companies in reducing operating costs.</p>	<ul style="list-style-type: none"> • Actively implementing green office and operational measures. • Strengthening water conservation measures as outlined in the “Environmental Protection — Resource Consumption Management” guidelines.

BUSINESS

Quantitative indicators

We have engaged an ESG consultant to support us in building an ESG database, collecting ESG data and conducting reviews and we follow ISO 14064 standards.

Set forth below are the environmental quantitative indicators of our Group’s offices and operating production facilities at Xiamen, Wuxi, Shenzhen, Guizhou and Kunming during the Track Record Period:-

	FY2020	FY2021	FY2022 ⁽¹⁾	6M2023
Resources consumption				
Electricity consumption (kWh) . . .	1,890,511.94	2,446,013.53	2,595,567.27	1,386,820.91
Electricity consumption intensity (kWh/million revenue)				
	2,553.96	2,993.05	2,574.27	5,310.66⁽²⁾
Water consumption (m ³)	13,436.60	16,133.57	16,084.26	9,958.22
Water consumption intensity (m³/million revenue)				
	18.15	19.74	15.95	38.13⁽²⁾
GHG emissions				
Total GHG emissions (scope 2) (tons of CO ₂ or equivalent) . . .	1,153.40	1,421.13	1,508.02	790.90
GHG emissions intensity (scope 2) (tons of CO₂ or equivalent/million revenue) . . .				
	1.56	1.74	1.50	3.03⁽²⁾

Notes:

- (1) The environmental quantitative indicators for FY2022 also cover our offices and operating production facilities in Liuzhou, Jiujiang, and Shijiazhuang which were newly-added in 2022.
- (2) The consumption intensity for 6M2023 was higher than that of FY2022 due to the lower average monthly revenue for 6M2023 as compared with that of FY2022. The water and electricity consumption of 6M2023 remained stable as compared with the previous year.

Our ESG goals

Our business is still in a phase of rapid development, for example, with the completion of new plants, it is difficult to predict changes in our environmental performance data. Although our quantitative environmental, social and governance indicators are currently on an upward trend, we aim to “drive down energy consumption” so that our quantitative indicators will be lower in the future. To better control these quantitative targets, we will set quantitative energy efficiency targets and water efficiency targets with the assistance of our ESG consultant after [REDACTED], as follows:

- *Energy efficiency target:* We aim to achieve a target of reducing the growth rate of energy consumption by approximately 5-10% below the growth rate of production by 2025. More information on the measures taken to achieve this target can be found in the section “Use of Resources”.
- *Water efficiency target:* We intend to reduce water consumption by approximately 7% by 2025 and raise awareness of water use among our employees in the future. For more information on the measures taken to achieve this target, please refer to the section on “Use of Resources”.

In order to achieve the energy efficiency target, we have formulated various environmental management plans, such as Energy Saving and Electricity Management Plan (《節能用電管理方案》), Environmental/ Occupational Health and Safety Target Indicators and Management Plan (《環境/職業健康安全目標指標及管理方案》) and implemented various energy saving measures. We arrange the production schedule of each factory according to the sales plan and supply plan to ensure continuous production operation without interruption, which is conducive to reducing the factory’s electricity consumption. For defective equipment, we fill in the defect form and handle it promptly to maintain the best operating condition of the equipment. We also regularly replace equipment when needed.

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Based on the change of environment temperature, air-conditioners in workspace are not in use from November to April of the following year. Air-conditioning temperature is kept at 26°C at office area. We use LED lighting in all production sites for higher energy efficiency. The street lights in Shijiazhuang Factory are powered by solar energy. We also plan to do this in the second phase of Jiujiang factory and Liuzhou factory. For different production sites, we control the number of lights turned on based on local weather conditions. Lighting in different lines can be controlled separately to avoid unnecessary lighting. After work in offices and workshops, dedicated personnel are responsible for checking and shutting down all electrical equipment (except for products that require continuous testing).

We are planning to establish smart energy saving plans in the newly established smart factory at Liuzhou. We plan to carry out real-time energy monitoring of each production line by adding energy sensors to production equipment and various workshops. According to the equipment condition and production plan, the energy consumption plan will be adjusted in real time, and at the same time, the operation of the equipment will be reversely controlled by the energy control system to achieve energy conservation. The above plan will be implemented in the factory at Liuzhou, and will be extended to other factories after the operation is stable.

In long term, we continue to explore the use of new energy sources with zero carbon emissions in our products, such as hydrogen energy, and cooperate with industry partners on low-carbon/ clean energy solutions.

In order to achieve the water efficiency target, we cultivate employees' environmental awareness by posting water-saving signs in prominent locations in washrooms, pantries, and employee dormitories, thereby reducing water consumption. We check water pipes and faucets from time to time, and repair hidden or leaking faucets as soon as possible. Besides, dedicated personnel regularly check the water meter readings and compares the water usage over the same period to check whether there is any hidden water leakage. We are going to relocate to a new office building in Shenzhen. This building is equipped with modern water-saving devices and features a scientifically and rationally designed water supply and drainage system. Furthermore, we will widely implement water-saving measures to effectively achieve water conservation and reduction. We are also developing reasonable water management measures to efficiently save and utilize water resources. Additionally, we have plans to install water-saving devices and measures for rainwater reuse in our other production facilities with the aim of effectively reducing water consumption.

The goals will be implemented through various departments including the human resources and operation departments (manufacturing & quality centres). Based on the data collected and calculated by our ESG consultant and us, the ESG and Sustainability Committee will regularly review the establishment of the goals and progress of achievement, and report to the Board as well as make adjustments and conduct follow-up work at the appropriate time.

We recognize the impact and risk that climate change poses to our business. We are committed to mitigating the impact of climate change by continuing to comply with local environmental laws and regulations, promoting energy saving and consumption reduction measures, continuing to closely monitor our resource consumption to minimize our impact on the environment, and practicing our low carbon operations through our own practical actions.

BUSINESS

Environmental protection

Environmental protection and management

Our approach to the environment is to “achieve pollution prevention, comply with laws and regulations, and protect the global environment”. We consider the impact of our business on climate and the environment and have taken appropriate measures in our operations to comply with all applicable requirements. We strictly comply with applicable laws and regulations as required by the Quality, Environment and Safety (QES) management system in China including but not limited to the Environmental Protection Law of the People’s Republic of China, the Air Pollution Prevention and Control Law of the People’s Republic of China and the Energy Conservation Law of the People’s Republic of China. In addition, we have put in place internal policies which set out the details of environmental impact evaluation and control, target, and program implementation for fire, noise emission, electric power consumption, hazardous waste transfer, and exhaust gas emission. Considering the nature of our operations, which are primarily in the smart service robotic products and services industry, our expenses on water and electricity consumption in our production facilities for 6M2023 did not represent more than 0.5% of our revenue in 6M2023. Therefore, we do not consider that we are exposed to significant risks related to environmental issues.

We are committed to fulfilling our corporate environmental protection responsibilities and creating a sustainable society in which people and nature live in harmony by following these laws, regulations and internal policies. Our environmental management system has obtained ISO14001 certification. We have also put in place an environmental identification and assessment control process to assess the environmental impact of our activities and services. In addition, we have an environmental occupational health and safety operational control process to effectively identify and monitor safety conditions, and regularly monitor and engage qualified third party organisations to conduct various tests such as effluent, exhaust, noise, etc.

Emissions

Our Group has established a comprehensive quality, environmental, and health & safety management system, and has adopted the Environmental/Occupational Health and Safety Operational Control Procedures to ensure compliance with relevant laws and regulations. The system details the roles and responsibilities, the control procedures and the necessary reporting. We have established an environmental laws and regulations register to ensure all the applicable laws and regulations are included. We also follow the ISO 14064 standard for determining Scope 2 greenhouse gas (GHG) emissions. We engaged third party consultant to support us in ESG data collection and verification.

Use of resources

We are committed to environmental protection and have adopted and implemented measures to ensure compliance with the ISO14001:2015 environmental management certification standard. We have also set out environmental factor identification and assessment control procedures and environmental occupational health and safety operational control procedures for effective identification and monitoring. In the early stage of our product development, we must meet the requirements of environmental protection regulations, such as ROHS\REACH\WEEE of the European Union. From the product design process and purchased items, the impact on the environment especially on the resource consumption is considered. The design process minimizes the use of materials, and the materials used are also environmentally friendly and meet the requirements.

We are considerate of the impacts of our business on climate and the environment and we are committed to operating our business in compliance with applicable laws and regulations relating to climate and the environment. We have taken appropriate measures in the operation of our business to comply with all applicable requirements. Given the nature of our operations, it is believed that we are not exposed to significant risks related to environmental issues.

BUSINESS

Waste management

We are mindful of the importance of waste reduction and we strive to reduce the amount of waste generated to minimize the impact on the environment. In terms of waste management, hazardous waste generated from our operations will be handed over to qualified third party recycling companies for disposal or sent back to the original company for disposal. We strictly examine the qualifications of our waste disposers and sign contracts with them, requiring them to dispose of waste legally, and we review their qualifications annually. On the other hand, the general waste generated by us is categorized into recyclable and non-recyclable waste. Recyclable waste is disposed of by take-away or outsourced processing and recycling, while non-recyclable waste is disposed of by outsourcing. We strive to reduce, recycle and dispose of waste properly to minimize the environmental impact caused by our operations.

In accordance with the Quality, Environment, Occupational Health and Safety (QES) Management Manual, we consider the product lifecycle and possible environmental and occupational health and safety risks during the design and development of our products and services to ensure that there is no adverse impact on product compliance. The materials we use must also comply with environmental requirements such as the EU ROHS, REACH and WEEE regulations, taking into account the impact on the environment and in particular the impact on resource consumption. We take into account the environmental impact of our products when they are disposed of in accordance with the WEEE requirements, using designs that are easily recyclable and environmentally friendly, and taking responsibility for the cost of recycling. Our PLM System Material Qualification Management Specification (PLM系統物料認證屬性管理規範) specifies that we have a dedicated SQE engineer to review the environmental information provided by our suppliers to ensure that the materials we purchase also meet the relevant environmental requirements. At the same time, we try to minimise the use of materials, thereby reducing the amount of waste generated.

In addition, our Group adopts environmentally friendly office practices. We also encourage our staff to separate recyclable materials for recycling and disposal through various publicity, education and guidelines on waste separation, with banners, posters and notices placed at prominent locations. In addition, in order to reduce the use of paper, we promote the secondary use of office paper, office information technology and paperless. We regularly check and monitor waste generation and resource usage, and implement appropriate improvement measures to reduce waste generation.

Resources consumption management

We are always mindful of the need to save energy effectively. Electricity is a major source of energy consumption in our operations, and reducing electricity consumption is a key focus of energy management. We manage our resource usage by implementing internal operational control procedures and are committed to energy efficiency and conservation in our daily operations. We actively introduce power saving devices and strive to promote energy conservation in our daily operations to reduce domestic electricity consumption and turn off unused electrical devices. We provide regular training to our staff on energy saving. We regularly check electricity usage as a basis for resource saving.

Water is a precious resource on earth and we are aware of the need to cherish water resources, therefore, we will try to reduce our water consumption and improve our water efficiency to avoid wasting potable water during our operation. We always keep in mind the effective practice of water management and water conservation. We will educate our staff on water conservation. To ensure that our water supply facilities are in the best working condition, we will strengthen the repair of our water supply facilities to reduce leakage. The relevant departments of our group will collect statistics on water usage calculations, analyze and regulate water conservation.

BUSINESS

Social responsibility

Employment

Our Group strives to provide employees with a favorable working environment, promote their professional development, and ensure their well-being. We strictly comply with applicable PRC labor laws and regulations including but not limited to the Labor Law of the People’s Republic of China and the Labor Contract Law of the People’s Republic of China, so as to create a fair, healthy and safe working environment. For more applicable laws and regulations, please refer to the section of “Laws and Regulations — Laws and Regulations in Relation to Labor Protection, Social Insurance and Housing Provident Funds.”

Recruitment, Dismissal and Employee Rights

We have developed the Recruitment Management Measures (《招聘管理辦法》), which specify the division of responsibilities among human resources department, hiring departments and related departments. We also emphasize that we have always adhered to the principles of equal competition, information disclosure and two-way selection in the open recruitment process. Whether it is in written examination, interview or recruitment conditions, we shall adhere to the principle of equal competition, ensure that recruitment information is disclosed transparently and communicate equally with candidates. At the same time, we adhere to the relevant laws, regulations, and policies on equal employment and anti-employment discrimination in various countries and regions. We provide equal employment opportunities to employees in recruitment, career development, promotion, and other aspects. We do not differentiate in the treatment of employees based on gender, age, or marital status. The main recruitment channels are campus recruitment, internal recruitment, social recruitment, referral by headhunters, internal staff recommendation (also through the open recruitment process) and on-site recruitment.

When an employee is formally employed, our Group enters into Employment Contracts (《僱傭合同》) with our employees in strict accordance with the relevant laws and regulations to establish labor relations with the employee. Our Group’s Employee Handbook (《員工手冊》) clearly sets out the working hours and attendance, overtime and transfer, employee benefits, training, dismissal management, leave, and protection of rights and interests of employees. Our Group has also established the Offboarding Management Process (《離職管理流程》) which outlines appropriate procedures for resignation, termination of employment and dismissal, and clearly states the procedures from submitting resignation/termination/dismissal application, conducting exit interviews, approving related application, handling resignation handover procedures, to issuing an offboarding certificate. This can regulate and ensure proper dismissal/termination of employees in order to effectively safeguard the legitimate rights and interests of both labor and capital. When employees request to resign, the relevant personnel will conduct exit interviews with them to understand the reasons for their resignation.

In the event of unilateral termination or dismissal, we will notify the labor union in advance to ensure that the termination or dismissal is complied with relevant laws and regulations. In addition, we have established a Employee Rights Protection Group in order to protect the legitimate rights and interests of our employees. If employees have opinions on their rights and interests, they can contact the Employee Rights Protection Group, which will communicate, investigate and verify the employees’ opinions with relevant parties.

Our Group prohibits the employment of child labor and forced labor in accordance with the relevant laws and regulations. Our Employee Handbook (《員工手冊》) explicitly states that employees have the right to refuse to comply with instructions that violate the provisions of the handbook and have the responsibility and right to report to their supervisors. Employees have the right to complain to the management of our company about any irregularities and any infringement of their personal interests in order to obtain fair treatment.

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Remuneration, Promotion and Benefits

In terms of remuneration, we have developed the Payroll Calculation and Disbursement Process (《薪資核算及發放流程》) in accordance with relevant laws and regulations. Our remuneration package includes base salary, performance-based salary, short-term incentives and various allowances. In general, we determine the remuneration based on the qualifications, experience and position of each employee. The Payroll Calculation and Disbursement Process clearly states the basis and time on delivering bonuses to ensure proper and timely payment of bonuses. There are various short term incentive schemes which provide different types of timely incentives to departments and employees according to various dimensions, such as business results, process control, and cross-department collaboration, in order to incentivize the performance of departments and employees. In addition, we provide favourable promotion treatment to our employees and formulated the Employee Promotion Management Process (《員工晉升管理流程》). This process is designed to provide employees with a good career path to attract and retain talent, and strictly adhere to the principles of fairness and impartiality, ensuring equality of opportunity and uniform standards. As stated in the Employee Handbook (《員工手冊》), we offer a variety of employee benefits to increase their sense of belonging. The benefits are broadly classified into basic welfare, leave and other benefits. On basic welfare, we provide social insurance for those employees who meet the requirements, including basic pension insurance, work injury insurance, maternity insurance, basic medical insurance, unemployment insurance and housing provident fund schemes.

To ensure proper and timely payment of bonuses to our employees, we will update the template of our employment contract, which shall include a payment schedule of the guaranteed bonuses. On the Board level, the amount and timing of payment of bonuses shall be submitted to our Remuneration Committee for consideration and review periodically. We will assign designated personnel in our human resources department to monitor our bonus payment obligations to employees and communicate with our internal accounts department in order to ensure that the guaranteed and discretionary bonuses, if any, will be duly paid. Such designated personnel is required to update the relevant information into our internal human resources system on an annual basis upon when such bonus payment obligations arise to keep track of the latest status of our fulfilment of bonus payment obligations, and conduct the review of the bonuses paid every six months after each year end. Such designated personnel is also required to report to our chief financial officer the implementation plan and progress of the distribution of bonuses every six months. Our chief financial officer is required to ensure that the payments of such bonuses are made within the stipulated timeframe pursuant to the employment contracts with our employees. Employees are also entitled to statutory leave, annual leave, compensatory leave and other vacation benefits, and they have corresponding rights. In addition, we provide other benefits including meal allowances for working days, bereavement benefits, wedding gifts, birthday gifts and annual medical check-ups.

Development and Training

We offer a wide range of training programs to our employees and make clear in the Human Resources Control Procedures (《人力資源控制程序》) that the Personnel Center will develop an annual training schedule each year based on the needs of our employees. Internal training covers topics such as robotics, product knowledge, intellectual property, job skills, product manager training, financial management and people-to-people communication skills to develop them into talents in various fields. We also provide induction training for new employees, employee code of conduct, business code of conduct, office etiquette, compliance basics, laws and regulations to be followed, robotics and AI knowledge, and introduce new employees to our corporate culture and values to enhance their understanding of our company, industry trends, business and compliance. Trainees are assessed comprehensively to assess the effectiveness of the training. For individuals who do not meet the standards, we will conduct interviews and adopt corrective action to them.

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In addition, we provide talents with a wide space for career development, and have developed UBtech Talent Development Framework (《優必選人才發展框架》). The framework provides two development paths: management talent sequence and professional talent sequence, which covers the whole cycle of management, including the introduction period, the growth period and the maturity period. We also provide a wide range of talent development projects, such as high-level officer training, mid-level officer training, reserve officer training and professional talents training. These projects are based on a variety of systems and knowledge systems. We will arrange corresponding development sequences for our employees based on the circumstances of both employees and our Company.

As of June 30, 2023, we have a total of 1,769 employees as follows:-

	Number
Total number of employees	1,769
By gender	
Male	1,142
Female	627
By age-group	
Below 30	574
30 to 50	1,180
Above 50	15
By academic background	
Undergraduate degree below	460
Undergraduate degree and/or above	1,309

Occupational health and safety

We are committed to providing a safe working environment for our employees, and our occupational health and safety management system has obtained ISO:45001 certification. In order to further improve safety management and eliminate production safety accidents, we strictly comply with the Safety Production Law of the People’s Republic of China, and have developed a safety production management system to create a good safe working environment for our Group.

We allocate sufficient resources and energy to strengthen and improve safety management, and have a number of measures to protect the health and safety of employees, such as increasing the unit’s safety investment, setting up special funds for safety production, arranging funds for scientific research on safety production, ensuring there are necessary funds and equipment for safety supervision, regularly conduct safe production training for our employees to improve their safety awareness and skills, establish safety production and emergency rescue plan and conduct regular drills to strengthen our emergency rescue capabilities, strengthen the routine maintenance of our facilities and equipment, and develop a maintenance plan for facilities and equipment to ensure safe operation, and establish and improve the safety rules and regulations and safety operating procedures, and educate and urge employees to strictly comply with them. We attach great importance to the health and safety of our employees and provide them with various occupational health and safety training to enhance their knowledge and protect their health and safety.

In addition, we have established a production safety accident investigation, analysis and treatment system to regulate the reporting and investigation of production safety accidents, timely investigation and analysis of the causes of accidents, and prevention and reduction of production safety accidents. If any accident happens to employees during work, we will thoroughly investigate, record and deal with it. At the same time, the safety leadership team will conduct statistical analysis of accidents and implement good preventive and countermeasures to prevent accidents from happening again. During the Track Record Period and up to the Latest Practicable Date, we have complied in all material respects with the PRC laws and regulations relating to workplace safety and have not identified any incidents that have had a material adverse effect on our operations.

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Anti-corruption and Anti-bribery

Our Group is committed to complying with all applicable anti-bribery and corruption laws, rules and regulations and conducting business in an ethical and transparent manner. We have formulated the Anti-bribery management system (《反賄賂管理制度》), the Bribery risk identification, evaluation and control procedure (《賄賂風險識別、評價控制程式》), Anti-bribery compliance evaluation and control procedure (《反賄賂合規性評價控制程式》), Bribery incident reporting and investigation procedure (《賄賂事件舉報及調查程式》), Commercial contract and procurement standardized control procedure (《商業、合同、採購規範控制程式》) and Anti-money laundering internal control system (《反洗錢內控制度》). To this end, we have adopted an anti-bribery and corruption policy which describes the code of business conduct for employees, which strictly prohibits any form of bribery, and incorporating the relevant provisions of the code into the employment contracts. Our anti-bribery and corruption policy also specifies our internal prevention and investigation procedures and measures. We provide anti-bribery training to each new employee.

We have established a scientific and systematic process for assessing bribery risks, which involves regular identification, analysis, evaluation, and mitigation of bribery risks within the organization. Based on the assessed levels of bribery risks, we implement appropriate improvement measures. Each department actively identifies and stays updated on anti-bribery laws and regulations relevant to their respective activities. Furthermore, they assess compliance with these laws and regulations based on changes in their work. If any violations are found, they are promptly reported, and appropriate corrective actions are taken.

We require all senior management and key employees to sign an anti-corruption practice commitment to indicate that each of them is aware of and voluntarily abides by our anti-corruption requirements. Our human resources department performs background checks in relation to senior management or key employees during hiring or promotion process to check their backgrounds and for any criminal records. We have established a whistle-blowing program and reporting channel for employees and external third parties to report acts of corruption and to encourage anonymous and real-name whistle blowing by awarding those that provide valuable leads. We have established a whistle-blower hotline and email address and strictly protect the identity of anonymous whistle-blowers and prohibit disclosure of real-name whistle-blowers. In addition, we require our business partners, including distributors and suppliers, to sign an anti-commercial bribery undertaking. We establish a compliance committee to ensure effective operation of the Company’s anti-bribery compliance mechanisms, which is entitled to veto any transaction suspected of violating anti-bribery laws and regulations.

To promote our anti-bribery culture, our Group has joined the Enterprise Anti-Fraud Alliance committee (企業反舞弊聯盟工作委員會) and Trust and Integrity Enterprise Alliance (陽光誠信聯盟), which comprise prominent enterprises in the PRC with the aim to combat commercial bribery and fraud. Employees who violate our policies are subject to penalties, including termination of employment. The Group has also been awarded a Anti-Bribery Management Certificate for the compliance of its anti-bribery management system with the standard ISO37001:2016 by the China Quality Certification Centre in August 2023.

Supply chain

Our Group adopts a transparent procurement process and selects suitable suppliers under the principle of fairness and impartiality. We have formulated different policies to regulate the process of supplier selection, introduction, evaluation and change of suppliers to ensure orderly daily management of suppliers after their introduction, and to categorize and manage supplier resources. The evaluation process includes assessing the environmental and social responsibilities and commitment to anti-corruption of new suppliers. When evaluating environmental protection criteria, for suppliers of material categories that are prone to environmental impacts, we conduct audits to evaluate whether they have obtained internationally recognized certifications for quality and environmental management systems. We also evaluate whether they have established RoHS and REACH management procedures or hazardous substance management systems, as well as whether they provide environmental management training for their employees.

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Our Group’s procurement considerations include, but are not limited to, research and development capabilities, quality management, supply capacity, product competitiveness, reputation, pricing and overall service, with a view to reducing procurement risks. It is mandatory for our key production category suppliers to adhere to these quality standards, as well as comply with the environmental laws and regulations enforced by the PRC and the RoHS and REACH regulations imposed by the EU. To enhance our supply chain management for environmental protection, we have further developed the Sustainable Procurement Policy 《可持續採購政策》. This policy enables us to identify and assess the environmental risks associated with our key suppliers. We give priority to products that meet environmental protection requirements and regularly evaluate suppliers’ environmental and social performance. We are dedicated to maintaining sustainable and mutually beneficial relationship with our suppliers to ensure continuous improvement in their environmental practices. If suppliers do not meet our requirements, we take a proactive approach by proposing corrective actions and providing suggestions for improvement to support their remedial efforts.

During the Track Record Period, we have over 3,000 suppliers, around 90% of which are based in China and the remaining are based overseas, primarily including (i) providers of raw materials and hardware for the development, assemble and production of our smart service robotic products and services, and (ii) subcontractors in relation to services.

PROPERTIES

Our headquarters is located in Shenzhen. As of the Latest Practicable Date, we owned the land use right to nine parcels of land and leased 34 properties in the PRC. These properties are used for non-property activities as defined under Rule 5.01(2) of the Listing Rules. They mainly include premises for our research and development, assembly, production and offices.

The property valuation report from International Valuation Limited, an independent property valuer, set out in Appendix III of this document, sets out details of the properties held by our Group as of August 31, 2023. For details, see “Appendix III — Property Valuation Report”.

Owned Land

As of the Latest Practicable Date, we held land use rights for nine parcels of land in the PRC with an aggregate site area of 248,150.36 sq.m. The table below shows the details of our owned land interests in the PRC as of the Latest Practicable Date:

Owner	Location	Land Usage (sq.m.)	Approximate Gross Site Area
Kunming UBTECH Technology Investment Co., Limited (昆明市優必選科技投資有限公司)* (“ Kunming UBTECH ”)	Kunming	Industrial	53,333.60
Kunming UBTECH	Kunming	Industrial	34,486.2 ^(Note 1)
Shenzhen UBTECH Technology Industrial Co., Ltd.* (深圳市優必選科技實業有限公司) (“ Shenzhen UBTECH ”)	Shenzhen	New Industry (including research and development, commercial, catering, dormitory, etc.)	5,919.26
Hangzhou UBTECH Industrial Co., Ltd.* (杭州優必選實業有限公司) (“ Hangzhou UBTECH ”)	Hangzhou	Industrial	19,438.00 ^(Note 2)
UBTECH (Hebei) Technology Co., Ltd.* 優必選(河北)科技有限公司	Hebei	Industrial	22,467.35
UBTECH Shanhu (Hangzhou) Industrial Co., Ltd.* 優必選山湖(杭州)實業有限公司	Hangzhou	Industrial	29,556.00

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Owner	Location	Land Usage (sq.m.)	Approximate Gross Site Area
Jiujiang Youbixing Technology Co., Ltd.* (九江優必行科技有限公司)	Jiujiang	Industrial	16,527.40
Jiujiang Youye Technology Co., Ltd.* (九江優耶科技有限公司)	Jiujiang	Industrial	16,895.45
Liuzhou UBTECH Intelligent Industry Co., Ltd. (柳州優必選智能實業有限公司)	Liuzhou	Industrial	49,527.10

Note 1: In June 2022, Kunming UBTECH entered into an agreement with an Independent Third Party, pursuant to which Kunming UBTECH conditionally agreed to transfer the land use right of this property (“**Kunming Owned Property 2**”) to the Independent Third Party. For further details, please see “Financial Information — Other Losses and Gains, Net”.

Note 2: This property has been sealed by the Hangzhou Linping District People’s Court in relation to a legal proceeding which Hangzhou UBTECH is being involved in. For further details, see “Business — Legal Proceedings”.

As advised by our PRC Legal Adviser, save as disclosed in the paragraphs under “Non-compliance Matters” and “Risk Factors” section, our ownership of the land use rights is in compliance with the applicable PRC laws and regulations in all material respects.

Leased Properties in the PRC

As of the Latest Practicable Date, we leased 34 properties with an aggregate gross floor area of approximately 67,139.73 sq.m in the PRC. The properties are mainly used for research and development, assembly, production and offices.

Use of Property	Approximate Gross Site Area (sq.m.)
Office (including research and development)	14,565.68
Assembly, storage and production	52,574.05
Total:	67,139.73

As advised by our PRC Legal Adviser, save as disclosed in “Title Defects” and “Non-compliance Matters” and “Risk Factors” sections, our PRC leased properties are in compliance with the applicable laws and regulations in all material respects.

Leased Properties in the United States

As of the Latest Practicable Date, we leased properties of approximately 12,192 square feet in the United States, primarily for general office use.

As advised by our Special U.S. Legal Advisers, our leases in respect of the U.S. properties are in compliance with applicable U.S. laws and regulations in all material respects.

Title Defects of Leased Properties

Background

As of the Latest Practicable Date, ownership certificates had been obtained by the lessors for 30 out of the 34 leased properties. For the remaining four properties, the lessors had not obtained the ownership certificates (the “**Title Defects**” and each a “**Title Defect**”).

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Our PRC Legal Adviser has advised us that (i) it is the property owner’s responsibility to obtain the relevant ownership certificates, and we as a tenant do not have the authority nor responsibility to apply for any ownership certificate for such properties; and (ii) the absence of ownership certificates for these four leased properties did not directly come about as a result of non-compliance of any relevant PRC laws or regulations on the part of our Group.

Legal consequences and potential liabilities

Pursuant to the PRC Land Management Law (《中華人民共和國土地管理法》) and Regulations for the Implementation of the PRC Land Management Law (《中華人民共和國土地管理法實施條例》), where state-owned land is not used in accordance with the approved usage, the relevant government authority may impose a fine of not less than RMB100 but not more than RMB500 per square meter of illegally occupied land, and order withdrawal of the land. Pursuant to the PRC Civil Law Code (《中華人民共和國民法典》), a civil legal act that violates the compulsory provisions of laws and administrative regulations is invalid. Pursuant to the PRC Urban and Rural Planning Law (2019 Amendments) (《中華人民共和國城鄉規劃法(2019修正)》), where construction is carried out without obtaining permit or not in accordance with the permit, depending on the circumstances, the competent authority may suspend the construction, impose fines, request rectification of non-compliance or order demolition of the construction. As advised by our PRC Legal Adviser, as a result of the Title Defects, (i) in case the relevant lessors do not own the leased properties or have the consent from the owner of the leased properties, we may be unable to continue to use such leased properties; (ii) we may be unable to prove that the construction of the leased properties has been approved by the relevant competent authorities, as such the relevant lease agreements may be deemed invalid and we may be ordered to vacate from such leased properties; and (iii) there is a risk that the usage of the leased properties may be inconsistent with the permitted usage, and we may be unable to continue using the leased properties if the lessors are ordered to return the properties by the relevant competent authorities. The aggregate maximum penalties which may be imposed on us for the potential inconsistency with permitted usage is RMB1.23 million.

Current Status and Remedial Actions

As at the Latest Practicable Date, we had not received any material claim by third-party rights holder nor been subject to any administrative penalties by the relevant competent authorities in relation to the Title Defects.

In respect of the four leased properties with the Title Defects, as they are currently mainly used as office (including research and development) or product testing premises, our Directors consider that such leased properties are replaceable and the relevant equipment can be relocated. In the event that we cannot continue to lease and use such leased properties as a result of the Title Defects, we will be able to identify alternative properties for leasing in the relevant area, and the relocation will not have any material adverse effect on our operation.

We have devised contingency relocation plans for the leased properties subject to the Title Defects. For further details, see “Contingency relocation plans of defective leased properties”.

Views of our Directors

Our Directors are of the view, and our PRC Legal Adviser concurs, that the Title Defects would not have a material and adverse effect on our business and results of operations, taking into consideration (i) in respect of the four leased properties with Title Defects, as they are mainly used as office (including research and development) or product testing premises, such leased properties are replaceable and the relevant equipment can be relocated, and the relocation will not have any material adverse effect on our operation; and (ii) Mr. Zhou Jian, Ms. Wang Lin and Mr. Xiong Youjun have agreed to indemnify us for the economic losses we may incur as a result of the Title Defects.

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LEGAL PROCEEDINGS

We may be involved, from time to time, in legal proceedings arising from the ordinary course of our operations.

One of the wholly owned subsidiaries of our Company, Hangzhou UBTECH, was involved in a legal proceeding brought by Zhejiang Hualin Construction Group Company Limited* (浙江華臨建設集團有限公司) (“**Zhejiang Hualin**”), which is an Independent Third Party principally engaged in building construction in the PRC. Hangzhou UBTECH entered into a construction contract (the “**Construction Contract**”) with Zhejiang Hualin on November 16, 2021, pursuant to which Hangzhou UBTECH engaged Zhejiang Hualin as the principal contractor for construction works on the land located in Hangzhou with a gross floor area of 70,747 sq.m. for a total provisional contract price of RMB150 million (subject to adjustments). Pursuant to the Construction Contract, the construction works shall commence in December 2021 and be completed in August 2023.

The construction works commenced in December 2021, however, the construction works on the land had been discontinued since June 2022 mainly due to COVID-19. After considering our latest business needs, we commenced our negotiation with the local government and in December 2022, Hangzhou UBTECH and the relevant Hangzhou governmental authority entered into an agreement for surrender of the land use rights to the local government. Hence, the construction works were terminated and Hangzhou UBTECH had to negotiate with Zhejiang Hualin as to the outstanding amount payable to Zhejiang Hualin in relation to the discontinuation of construction works on such land (including the outstanding construction fees for the completed construction works and relevant compensations). After consultation with an independent construction consultant engaged by Hangzhou UBTECH, Hangzhou UBTECH offered to Zhejiang Hualin that the amount of outstanding amount payable to Zhejiang Hualin was approximately RMB23 million. As Zhejiang Hualin did not agree with such assessment, in May 2023, Zhejiang Hualin has commenced legal proceedings against our Company and Hangzhou UBTECH for an order:

- (i) to terminate the construction contract signed between the construction company and Hangzhou UBTECH on November 16, 2021 in relation to construction works on the land located at Wanchen Community and Qianyan Community, Linping Street, Yuhang District, Hangzhou City, Zhejiang Province, the PRC;
- (ii) for Hangzhou UBTECH Industry to pay to the construction company approximately RMB26.57 million for construction work already carried out by the construction company for Hangzhou UBTECH and interest levied on such an amount based on the 1-year loan prime rate announced by the National Interbank Funding Center from July 1, 2022 until the date of settlement of such amount by Hangzhou UBTECH;
- (iii) for Hangzhou UBTECH to pay to the construction company damages of approximately RMB2.87 million for losses sustained by the construction company from the suspension of construction work up to February 28, 2023;
- (iv) for Hangzhou UBTECH to pay to the construction company damages of approximately RMB11.69 million for losses sustained by the construction company from the termination of the aforementioned construction contract;
- (v) that the construction company shall have the right of priority in payment for the cost of the construction work carried out or the auction price of the construction work carried out, interest levied on the construction work carried out, losses sustained from the suspension of construction work and losses sustained from the termination of the aforementioned construction contract; and
- (vi) for litigations costs to be paid to the construction company.

The total amount claimed by the construction company against Hangzhou UBTECH under the aforementioned legal processing amounted to approximately RMB41.14 million, of which RMB26.57 million was for construction cost and RMB14.56 million was for suspension of work and termination of construction contracts. The full amount was recognized under other payables of the

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Group. The amount for construction work already carried out by the construction company of RMB26.57 million was recognized as other payables and other receivables as the amount will be recovered by the disposal consideration paid from the relevant local government. The amount of losses sustained by the construction company of RMB14.56 million, including (i) the loss due to the suspension of construction work of RMB2.87 million; and (ii) the loss due to the termination of the construction contract of RMB11.69 million, were recognized as other payables and other losses.

On 6 May 2023, Hangzhou Linping District People’s Court issued a summons in relation to the aforementioned legal proceeding to our Company.

Representatives of our Company, Hangzhou UBTECH and the construction company entered into pre-litigation mediation in relation to the aforementioned legal proceedings at the Hangzhou Linping District People’s Court on 20 June 2023, and the parties agreed to defer to the court’s determination regarding the construction work fees to be paid to and damages sustained by the construction company.

The relevant parties have undergone mediation under the direction of a judge on November 10, 2023 and have reached a settlement arrangement after the mediation process, pursuant to which Hangzhou UBTECH has agreed to pay a sum of approximately RMB30 million to Zhejiang Hualin as a settlement (the “**Settlement Arrangement**”). As of the Latest Practicable Date, the Settlement Arrangement has been formalized and recognized in a civil judgment issued by the Hangzhou Linping District People’s Court.

Save for the aforementioned legal proceeding, as of the Latest Practicable Date, our Group was not involved in any litigation, arbitration, administrative proceeding or claim of material importance pending or threatened by or against our Group or any of our Directors, that would have a material adverse effect on our results of operations or financial conditions.

NON-COMPLIANCE MATTERS

We are subject to a wide range of PRC laws and regulations in the ordinary course of business. For details, see “Laws and Regulations” in this document. We have been advised by our PRC Legal Adviser that during the Track Record Period and up to the Latest Practicable Date, save as disclosed under “Non-compliance Matters” and “Risk Factors” section, we have complied with the relevant PRC laws and regulations in all material respects that are material to our operations in the PRC, and there were no material breaches or violations of laws or regulations applicable to us that would have a material adverse effect on our business or results of operations.

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Set forth below are summaries of certain incidents of non-compliance with the PRC applicable laws and regulations during the Track Record Period and up to the Latest Practicable Date, which our Directors believe will not have a material adverse impact on our business or results of operations.

Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
1. Inconsistency with permitted usage of certain leased properties	During the Track Record Period and up to the Latest Practicable Date, (i) in respect of five of our leased properties in the PRC located in Chongqing, Guizhou, Liuzhou, Xiamen and Kunming respectively (“ Chongqing Leased Property ”, “ Guizhou Leased Property ”, “ Liuzhou Leased Property ”, “ Xiamen Leased Property ” and “ Kunming Leased Property ”), we had used them as our production facilities; and (ii) in respect of one of our leased properties in the PRC located in Hubei (“ Hubei Leased Property ”), we had used it as our office premise, which are inconsistent with their permitted usage prescribed under the relevant property ownership certificates, permits or licenses (the	Pursuant to the PRC Land Management Law (《中華人民共和國土地管理法》) and Regulations for the Implementation of the PRC Land Management Law (《中華人民共和國土地管理法實施條例》), where state-owned land is not used in accordance with the approved usage, the relevant government authority may impose a fine of not less than RMB100 but not more than RMB500 per square meter of illegally occupied land, and order withdrawal of the land. Pursuant to the PRC Urban and Rural Planning Law (2019 Amendments) (《中華人民共和國城鄉規劃法(2019修正)》), where construction is carried out without obtaining permit or not in accordance with the permit, depending on the circumstances, the competent authority may suspend the construction, impose fines, request rectification of non-compliance or order demolition of the construction. Pursuant to the PRC Administrative Penalty Law (2021 Amendments) (《中	During the Track Record Period and up to the Latest Practicable Date, we have not been subject to any administrative penalties or ordered to vacate the leased properties by the relevant competent authorities because of the Usage Defects. In respect of the Liuzhou Leased Property, we have obtained a written confirmation from the Liuzhou Northern Ecological New Area Management Committee that, among other things, (i) it was aware of the Usage Defect of the Liuzhou Leased Property; (ii) it would not impose any administrative penalty on us, including but not limited to ordering demolition or relocation, cessation of use of leased property, or fines, nor order the relevant lessor to return the property; and (iii) the Liuzhou Leased Property was a legal construction approved by the competent authority. As advised by our PRC Legal Adviser, Liuzhou	Our Directors are of the view, and our PRC Legal Adviser concurs, that the Usage Defects would not have a material and adverse effect on our business and results of operations or financial conditions, taking into consideration (i) in respect of the Liuzhou Leased Property and Xiamen Leased Property, the risk of us being subject to any administrative penalties or being ordered to vacate the properties is remote based on the written confirmation from or interview with the relevant competent authorities; (ii) in respect of the Kunming Leased Property, the risk of us being subject to any fine is remote based on the written confirmation from the relevant competent authority; (iii) in respect of the Chongqing	To address and minimize defects in relation to our leased properties, we have adopted the following enhanced internal control measures: (i) designate responsible personnel to carry out overall monitoring and management of the leased property defects, which includes following up with the progress of rectifying the defects; (ii) compile a register to record and document the details and status of leased properties with legal defects. Designated staff will follow up with the status of such

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
	<p>“Usage Defects”). The permitted usage of: (a) Chongqing Leased Property is office premise; (b) Guizhou Leased Property is pharmaceutical manufacturing; (c) Liuzhou Leased Property is research and development, and office premise; (d) Xiamen Leased Property is storage; (e) Kunming Leased Property is commercial use; and (f) Hubei Leased Property is industrial, transportation and storage. The reason of the non-compliance was that our employees responsible for handling the leases did not fully understand the relevant regulatory requirements and did not check the permitted usage of the properties when we entered into the leases.</p> <p>As of the Latest Practicable Date, (i) the lease of Chongqing Leased Property and Guizhou Leased</p>	<p>華人民共和國行政處罰法》(2021修訂)), where an illegal act has not been found within two years, administrative penalty shall be exempted. The period of time prescribed shall be counted from the date on which the illegal act is committed; if the act is of a continual or continuous non-compliance matter, it shall be counted from the date on which the act is terminated. As advised by our PRC Legal Adviser, the Usage Defects may affect the validity or enforceability of the relevant lease agreements, and we may be subject to administrative penalties by the relevant competent authorities, including fines and being ordered to vacate the leased properties. As advised by our PRC Legal Adviser, the default provisions of the relevant lease agreements have not stated which party shall be liable for the administrative penalties. If we were punished by the relevant authorities, we, as the lessor would be liable for penalties.</p> <p>Even though we no longer lease the Chongqing Leased Property and Guizhou Leased Property,</p>	<p>Northern Ecological New Area Management Committee is the competent authority for land management matters in respect of the Liuzhou Leased Property. Based on the above, our PRC Legal Adviser is of the view that the risk of us being subject to administrative penalty by the relevant competent authority or being ordered to vacate the Liuzhou Leased Property due to the Usage Defect is remote.</p> <p>In respect of the Xiamen Leased Property, (a) as confirmed by Xiamen Huli District Construction Bureau through an interview, it would not impose any administrative penalty on us due to the Usage Defect; and (b) as confirmed by Xiamen Natural Resources and Planning Bureau Zhishu Branch Office through an interview, (i) it would not impose any administrative penalty on us; and (ii) it would not order the owner of the land on which the Xiamen Leased Property is located to return such land; and (iii) we can continue to use Xiamen Leased Property for production. As advised by</p>	<p>Leased Property, Guizhou Leased Property and the Kunming Leased Property, we have rectified the defects by ceasing the production and lease of the Chongqing Leased Property and Guizhou Leased Property and converting the usage of the Kunming Leased Property to office (including research and development) premise which is a permitted use; (iv) in respect of Hubei Leased Property, as it is used as office premise, such leased property is replaceable and the relevant equipment can be relocated, and the relocation will not have any material adverse effect on our operation; and (v) Mr. Zhou Jian, Ms. Wang Lin and Mr. Xiong Youjun have agreed to indemnify us for the economic losses we may incur as a result of the Usage Defects.</p>	<p>defects and will make regular reports to our senior management; and (iii) maintain a compliance checklist stipulating the necessary certificates, licenses or permits which should be obtained from the lessors for our leased properties. Such checklist will be reviewed by our PRC Legal Adviser. Before entering into new leases, we will request the relevant lessors to provide all the necessary documents, and if the necessary documents cannot be provided we will consult our legal advisers to evaluate the relevant legal risks.</p>

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
	<p>Property expired and we no longer leased such properties; (ii) the lease of Liuzhou Leased Property and Xiamen Leased Property are subsisting and we are continuing to use them as production facilities; (iii) the lease of Kunming Leased Property is subsisting but we have already converted its use to office (including research and development) premise; and (iv) the lease of Hubei Leased Property is subsisting and we are continuing to use it as office premise.</p>	<p>and have converted the use of the Kunming Leased Property into permitted usage, considering the rectifications of the relevant Usage Defects were carried out within the two-year period prior to the Latest Practicable Date, we are still subject to the risk of administrative penalties in respect of such historical defects. Under the PRC laws and regulations, the aggregate maximum fine which our Group may be subject to in respect of all the Usage Defects is approximately RMB7.0 million.</p>	<p>our PRC Legal Adviser, Xiamen Huli District Construction Bureau and Xiamen Natural Resources and Planning Bureau Zhishu Branch Office are the competent authorities for the construction and land compliance matters in respect of Xiamen Leased Property respectively. Based on the above, our PRC Legal Adviser is of the view that the risk of us being subject to administrative penalty by the relevant competent authority or being ordered to vacate the Xiamen Leased Property is remote.</p>		
	<p>The company-level revenue of our subsidiaries which leased the Chongqing Leased Property, Guizhou Leased Property, Liuzhou Leased Property, Xiamen Leased Property and Kunming Leased Property, which had been used as production facilities, amounted to</p>		<p>In respect of Kunming Leased Property, we have obtained a written confirmation from the Kunming Chenggong District Natural Resource Bureau that it would not impose fines or other administrative penalties on us due to the Usage Defect. As advised by our PRC Legal Adviser, Kunming Chenggong District Natural Resource Bureau is the competent authority for land management matters in respect of the Kunming Leased Property. Based on the above, our PRC</p>		

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
	<p>RMB452.8 million, RMB264.0 million, RMB243.7 million, and RMB120.2 million during FY2020, FY2021, FY2022 and 6M2023 respectively. The company-level revenue of our subsidiaries which leased the Liuzhou Leased Property and Xiamen Leased Property, being the leased properties with subsisting defects, amounted to RMB368.6 million, RMB225.2 million, RMB210.9 million and RMB118.0 million during FY2020, FY2021, FY2022 and 6M2023 respectively.</p> <p>The expiry dates of Liuzhou Leased Property, Xiamen Leased Property, Kunming Leased Property and Hubei Leased Property are August 31, 2025, May 31, 2028, July 31, 2022, December 31, 2023 respectively. We are continuing to use the</p>	<p>Legal consequences and liabilities</p>	<p>Legal Adviser is of the view that the risk of us being subject to fine by the relevant competent authority due to the Usage Defect is remote. Further, in respect of the Chongqing Leased Property, Guizhou Leased Property and the Kunming Leased Property, we have rectified the defects by (i) ceasing the production of Chongqing Leased Property in October 2021; (ii) completing the relocation of the production line of Guizhou Leased Property in November 2022; and (iii) converting the usage of the Kunming Leased Property to office (including research and development) premise which is a permitted use since November 2022.</p> <p>In respect of Hubei Leased Property, as it is currently used as office premise, our Directors consider that such leased property is replaceable and the relevant equipment can be relocated. In the event that we cannot continue to lease and use such leased property as a result of the Usage Defect, we will be able to identify alternative property for leasing in the relevant</p>	<p>Views of our Directors</p>	<p>Enhanced internal control measures</p>

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
<p>2. Delays in commencement of constructions on certain owned properties</p>	<p>Kunming Leased Property as agreed with the relevant lessor and in the process of negotiating with the relevant lessor to enter into a renewed lease agreement.</p>	<p>In accordance with PRC Urban Real Estate Administration Law (《中華人民共和國城市房地產管理法》), where land use right is granted for land development, such land development must be conducted in accordance with the land usage and development period agreed under the land use right grant contracts. If the development does not commence within one year after the agreed date, a land idle fee equivalent to less than twenty percent of the land use right grant price may be levied; if the development does not commence within two years after the agreed date, the land use right may be withdrawn without compensation. In</p>	<p>area, and the relocation will not have any material adverse effect on our operation.</p> <p>We have devised contingency relocation plans for the Liuzhou Leased Property, the Xiamen Leased Property and the Hubei Leased Property. For further details, see “Contingency relocation plans of defective leased properties”.</p>	<p>Our Directors are of the view, and our PRC Legal Adviser concurs, that the Construction Delays would not have a material and adverse effect on our business and results of operations, taking into consideration (i) as of the Latest Practicable Date, we had not been subject to any penalty by the relevant competent authorities in relation to the Construction Delays.</p>	<p>Not applicable as the Construction Delays were primarily caused by the adverse impact of the COVID-19 pandemic on the construction progress, which was not within our control. We already have in place, and will continue to implement, appropriate internal control measures including (i) when we enter into new land use right grant contracts in the future, we will review and evaluate the terms of the contracts to ensure that the terms, such as the stipulated dates for commencing and</p>
	<p>During the Track Record Period and up to the Latest Practicable Date, in respect of four of our owned properties in the PRC, we had failed to commence constructions on such owned properties before the date prescribed under the relevant land use right grant contracts (the “Construction Delays”) primarily due to adverse impact of the COVID-19 pandemic on the development progress.</p>	<p>(i) Kunming Natural Resources and Planning Bureau has confirmed in writing, in respect of Kunming Owned Property 1 and Kunming Owned Property 2 respectively; (ii) Bureau of National Land Planning and Construction of Qingshanhu Science and Technology Management Committee of Hangzhou, Zhejiang has confirmed in writing, in respect of the Hangzhou Owned Property; and (iii)</p>	<p>As of the Latest Practicable Date, we had not been subject to any penalty by the relevant competent authorities in relation to the Construction Delays.</p>	<p>Our Directors are of the view, and our PRC Legal Adviser concurs, that the Construction Delays would not have a material and adverse effect on our business and results of operations, taking into consideration (i) as of the Latest Practicable Date, we had not been subject to any penalty by the relevant competent authorities in relation to the Construction Delays; (ii) the risk of the relevant competent authorities imposing any administrative penalties on us is remote in</p>	

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
		<p>accordance with the Interim Regulations of the PRC on Grant and Assignment of the Use Right of State-owned Urban Land (《中華人民共和國城鎮國有土地使用權出讓和轉讓暫行條例》), failure to develop and use the land in accordance with the terms and conditions of the relevant contract, the relevant government authorities may order rectification, and according to the circumstances, may issue warning, fines or order withdrawal of the land use right without compensation.</p>	<p>Nanshan Administrative Bureau of Shenzhen Planning and Land Resources Commission has confirmed through an interview in respect of the Shenzhen Owned Property that, among other things, they were aware of, and would not impose administrative penalty on us due to, the Construction Delays. As advised by our PRC Legal Adviser, (a) Kunming Chenggong Natural Resources Bureau; (b) Nanshan Administrative Bureau of Shenzhen Planning and Land Resources Commission; and (c) Bureau of National Land Planning and Construction of Qingshanhu Science and Technology Management Committee of Hangzhou, Zhejiang are the competent authorities for land management matters in respect of the relevant owned properties.</p>	<p>respect of each of the owned properties subject to the Construction Delays, based on the confirmations from the relevant competent authorities; and (iii) Mr. Zhou Jian, Ms. Wang Lin and Mr. Xiong Youjun have agreed to indemnify us for the economic losses we may incur as a result of the Construction Delays.</p>	<p>completing the constructions, are reasonable and feasible; and (ii) our construction management department will hold regular meetings with the relevant constructors and construction supervision companies to monitor and discuss the status of the constructions and the construction supervision companies will make monthly reports to ensure that we comply with relevant requirements under the contracts.</p>
	<p>As advised by our PRC Legal Adviser, (i) in respect of three of the owned properties located in Kunming, Shenzhen and Hangzhou respectively (“Kunming Owned Property 1”, “Shenzhen Owned Property”, and “Hangzhou Owned Property”), as we have commenced constructions within one year after the prescribed dates, we may be subject to warning and fines; and (ii) in respect of the other owned property located in Kunming (being the Kunming Owned Property 2), as we have commenced construction more</p>	<p>Based on the above, our PRC Legal Adviser is of the view that the risk of the relevant competent authorities issuing warning or fines on us as a result of the Construction Delays of the Shenzhen</p>	<p>Based on the above, our PRC Legal Adviser is of the view that the risk of the relevant competent authorities issuing warning or fines on us as a result of the Construction Delays of the Shenzhen</p>	<p>Based on the above, our PRC Legal Adviser is of the view that the risk of the relevant competent authorities issuing warning or fines on us as a result of the Construction Delays of the Shenzhen</p>	<p>Based on the above, our PRC Legal Adviser is of the view that the risk of the relevant competent authorities issuing warning or fines on us as a result of the Construction Delays of the Shenzhen</p>

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
		<p>than two years after the prescribed date, we may be subject to warning, land idle fee of up to RMB6.1 million and fines.</p>	<p>Owned Property, Hangzhou Owned Property and the Kunming Owned Property 1 is remote; and (ii) the risk of the relevant competent authority imposing warning, fines or land idle fee as a result of the Construction Delay on the Kunming Owned Property 2 is remote.</p>		
			<p>We plan to develop (i) Kunming Owned Property 1 and Hangzhou Owned Property into production facilities and office premises; and (ii) Shenzhen Owned Property into research and development facilities and our new headquarters, and have obtained the permits required for commencing, and have commenced, development work for each of such owned properties. We entered into an agreement in June 2022 with an Independent Third Party to transfer the land use right of Kunming Owned Property 2 to such Independent Third Party subject to the fulfilment of certain conditions. The permits required for commencing development work for Kunming Owned Property 2 have been obtained, and the</p>		

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
<p>3. Failure to Make Full Contributions to Social Insurance and Housing Provident Funds and the Use of Third Parties to Pay the Contributions</p>	<p>During the Track Record Period, social security insurance and housing provident fund contributions for some of our employees were not made timely or in full by our Company and some of our subsidiaries in accordance with the relevant PRC laws and regulations because (i) we had not taken into account the performance</p>	<p>According to the PRC Social Insurance Law (《中華人民共和國社會保險法》), we may be required by the relevant government authority to make up the outstanding social insurance contribution with an additional late payment fee at a daily rate of 0.05% of the outstanding contribution from the due date within a given period, and if we fail to do so, we may be subject to a fine ranging from one to three times</p>	<p>development work has commenced in May 2023. As at the Latest Practicable Date, one condition under the aforesaid agreement has yet to be fulfilled, namely, the condition that the Independent Third Party must have (i) invested at least RMB50 million in the Kunming Owned Property 2 or (ii) obtained approval from the Kunming Municipal Government for the early registration of the transfer of the land use right of Kunming Owned Property 2 despite not having invested at least RMB50 million in the Kunming Owned Property 2.</p>	<p>Our Directors are of the view that such non-compliance would not have a material adverse effect on our business and results of operations, considering that: (i) we had not been subject to any administrative penalties during the Track Record Period and up to the Latest Practicable Date; (ii) we were neither</p>	<p>In order to prevent future potential non-compliance incidents in relation to social insurance and housing provident fund contributions, we have enhanced our internal control measures, including:</p> <p>(i) reviewing and monitoring the status of our social</p>

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
	<p>bonus and overtime payment when calculating our social insurance and housing provident funds contributions; and (ii) we had engaged third parties to pay social insurance and housing provident funds contribution on our behalf, which is not compliant with the relevant PRC laws and regulations, as some of our employees worked at cities where we have not established branches or subsidiaries or where the employing entities are not located.</p>	<p>of the total amount of the outstanding contribution. According to Regulations on Management of Housing Provident Fund (《住房公積金管理條例》), we may be ordered by the relevant government authority to make up the outstanding contributions within the prescribed time limit, and failing which we may be subject to a fine from RMB10,000 to RMB50,000.</p>	<p>and housing provident fund contributions. We have made full provisions for the outstanding contributions in our consolidated financial statements in the amount of RMB3.0 million, RMB3.9 million, RMB4.1 million and RMB0.8 million for FY2020, FY2021, FY2022 and 6M2023 respectively.</p>	<p>aware of any employee complaints filed against us nor involved in any labor disputes with our employees with respect to social insurance and housing provident funds during the Track Record Period and up to the Latest Practicable Date; (iii) as of the Latest Practicable Date, we had not received any notification from the relevant PRC authorities requiring us to pay for the shortfalls or any overdue charges with respect to social insurance and housing provident funds; (iv) as advised by our PRC Legal Adviser, the risk of us being ordered to make up the contributions or being penalized by the relevant authorities is remote; (v) we have made full provisions for the outstanding contributions in our consolidated financial statement during the Track Record Period; and (vi) the</p>	<p>insurance and housing provident fund contributions on a regular basis; (ii) monitoring closely and maintaining close communication with the government authorities as to any updates of the laws, regulations and policies from time to time so as to ensure that we can respond to any changes with respect to social insurance and housing provident fund requirements; and (iii) consulting our PRC legal counsel on a regular basis for advice on relevant PRC laws and regulations.</p>
	<p>In FY2020, FY2021 and FY2022, contributions made through third-party agencies amounted to RMB1.4 million, RMB1.8 million and RMB1.6 million, representing approximately 1.83%, 1.67%, and 1.44% of our total social insurance and housing provident funds contributions in PRC during the same periods. As of June 30, 2023, the</p>	<p>amount of the social security insurance and housing provident funds contributions for these affected employees, the relevant competent government authorities may determine that our use of such agency arrangements does not satisfy the requirements under the relevant PRC laws and regulations, and thus we may be subject to additional contributions, late payment fees and/or penalties imposed by the relevant PRC authorities for failing to discharge our obligations in relation to</p>	<p>We have obtained written confirmation from the relevant competent authorities that we had not been subject any administrative penalties due to any breach of the applicable laws and regulations, in relation to outstanding contribution of social insurance and housing provident funds. Through an interview with Shenzhen Social Insurance Fund Administration and Shenzhen Housing Provident Fund Management Center, the competent authorities for matters relating to social insurance and housing provident fund regarding our Company and subsidiaries located in Shenzhen, our</p>	<p>relevant PRC authorities may determine that our use of such agency arrangements does not satisfy the requirements under the relevant PRC laws and regulations, and thus we may be subject to additional contributions, late payment fees and/or penalties imposed by the relevant PRC authorities for failing to discharge our obligations in relation to</p>	<p>insurance and housing provident fund contributions on a regular basis; (ii) monitoring closely and maintaining close communication with the government authorities as to any updates of the laws, regulations and policies from time to time so as to ensure that we can respond to any changes with respect to social insurance and housing provident fund requirements; and (iii) consulting our PRC legal counsel on a regular basis for advice on relevant PRC laws and regulations.</p>

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
	<p>number of employees for which we engaged third-party agencies for paying social insurance or housing provident funds was 54, representing 3.05% of the total number of our employees employed in the PRC as of June 30, 2023.</p>	<p>payment of social insurance and housing provident funds as an employer or be ordered to rectify.</p> <p>As of June 30, 2023, (a) in respect of the outstanding social insurance and housing provident fund contributions, the potential late payment fees that we may be liable for amounted to RMB9.9 million. If we are ordered by the competent government authorities to pay the outstanding contributions and potential late payment fees, our Directors confirmed that we would do so within the prescribed period. In the event we fail to make such payment within the period as requested by the relevant government authority, we may be liable for a maximum fine of RMB48.7 million in addition to the late payments fees of RMB9.9 million; and (b) in respect of the use of third parties to pay the social insurance and housing provident contributions, if we are ordered by the competent government authorities to pay additional contributions, our Directors confirmed that we would do so within the prescribed period. In</p>	<p>actual status in relation to social insurance and housing provident fund contributions was disclosed to the authorities, which had not imposed any penalty on us after being informed of the non-compliance. Based on the above, our PRC Legal Adviser are of the view that the risk of us being ordered to make up the contributions or being penalized by the relevant authorities for our outstanding contribution of social insurance and housing provident funds is remote.</p>	<p>contributions made through third-party agencies only represented a relatively low proportion of our total contributions in PRC during the Track Record Period, and the number of employees for which we engaged third-party agencies for paying the contributions was relatively small.</p>	
			<p>Since 2023, we have been in the process of adjusting the contribution base of social insurance and housing provident funds for our employees with a view to fully comply with the relevant PRC laws and regulations. As advised by our PRC Legal Adviser, the adjustment of the contribution base is usually made during a designated time period each year and such time period varies in different regions pursuant to the local requirements. We will adjust the contribution base as soon as the administrative windows</p>		

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Non-compliance	Background	Legal consequences and liabilities	Current Status and Remedial Actions	Views of our Directors	Enhanced internal control measures
		<p>the event we fail to make such payment within the period as requested by the relevant government authority, the maximum fine that we may be liable for amounted to RMB2.2 million. As advised by our PRC Legal Adviser, we do not expect to incur fines arising from the outstanding amounts of social insurance and housing provident funds contributions and use of third parties to pay the social insurance and housing provident funds contributions if we make such payment within the prescribed time period when we are ordered to do so by competent government authorities.</p>	<p>open for our applications for the adjustment of the contribution base. We have completed adjustments of contribution base of social insurance and housing provident funds for our employees in Shenzhen and expect to complete such adjustments for our employees in other cities by next year’s opening of administrative windows around July 2024.</p>		

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Contingency relocation plans of defective leased properties

Leased properties used as production facilities

In respect of the Liuzhou Leased Property and Xiamen Leased Property which are used as production facilities, although the risk of us being ordered to vacate such properties is remote, we have devised contingency relocation plans in the event that we are ordered by the relevant competent authorities to vacate from those leased properties.

Relocation cost and time

The relocation cost mainly comprises the logistics expenses, renovation expenses, and installation and testing fees for the new sites, which will be funded by our internal resources. The relocation process includes, among other things, identifying and entering into lease agreement for the new sites, renovation of the new sites, and moving of the production machines from the existing to new location. The table below set out the breakdown of the estimated relocation cost and estimated time required to complete the relocation for each of the affected production facilities:

<u>Leased property</u>	<u>Estimated relocation cost</u>	<u>Estimated time required to complete relocation</u>
Liuzhou Leased Property	RMB10.1 million	not more than 6 months
Xiamen Leased Property	RMB8.6 million	not more than 6 months

Estimated impact on our revenue

Our Xiamen production plant has a designed annual production capacity of 960,000 units of servo actuators, 110,000 units of small-size education smart robots and 11,000 units of humanoid education smart robots, and in FY2022 321,919 units servo actuators, 41,260 units of small education smart robots and 4,738 units of humanoid education smart robots were produced. We estimate that the time of stoppage of production for the Xiamen production plant due to the relocation will be approximately one month during the moving of the production machines from the existing to new location. Our production plant in Shijiazhuang has a similar designed annual production capacity as compared to the Xiamen production plant. Based on the designed annual production capacity of our Shijiazhuang production plant and the expected production volume of the Xiamen production facility, we anticipate that the production of the Xiamen production facility can be substantially taken up by our Shijiazhuang production plant during the relocation period. Therefore, our Directors are of the view that there will not be any material loss of revenue resulting from the relocation of our Xiamen production facility.

Our Liuzhou production plant is in operation for the production of vacuum cleaning robots since May 2023, and is expected to produce wellness and elderly care smart robots. We estimate that the time of stoppage of production for the Liuzhou production plant due to the relocation will be approximately one month during the moving of the production machines from the existing to new location. Our production plant in Shenzhen has production capacity of vacuum cleaning robots and wellness and elderly care smart robots, and our production plant in Anqing, which is under construction, is expected to have production capacity of vacuum cleaning robots. Based on the designed production capacity of our production plants in Shenzhen and Anqing and the expected production volume of the Liuzhou production facility, we anticipate that the production of the Liuzhou production facility can be substantially taken up by our Shenzhen and Anqing production plants during the relocation period. Therefore, our Directors are of the view that there will not be any material loss of revenue resulting from the relocation of our Liuzhou production facility.

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Leased properties used as office premises for testing

In respect of five leased properties (including the Hubei Leased Property) which are used as office (including research and development) or product testing premises and subject to Title Defects and/or Usage Defects, we have devised contingency relocation plans in the event that we are ordered by the relevant competent authorities to vacate from those leased properties.

Relocation cost and time

The relocation cost mainly comprises the logistics expenses and renovation expenses, which will be funded by our internal resources. The total estimated relocation cost for all the six leased properties will be approximately RMB2.0 million. The estimated time required to complete the relocation of each of the leased property will range from approximately two weeks to three months, subject to the renovation work required.

Estimated impact on our revenue

As these lease properties are used as office or product testing premises, our Directors consider that during the period of relocation, the relevant office or testing functions can be performed at our other office or product testing premises. Therefore, our Directors are of the view that there will not be any material loss of revenue resulting from the relocation of such leased properties.

GOVERNMENT COOPERATION PROJECTS

As of the Latest Practicable Date, we failed or are expected to fail to fulfill certain conditions under the agreements, which include realizing a production value or cumulative revenues value of no less than a fixed amount over a fixed period, or operating the project company for no fewer than a fixed period, in relation to 15 government cooperation projects. Regarding seven of such agreements entered into prior to the Track Record Period, despite our Group’s best efforts to fulfil them, we failed or are expected to fail to fulfil certain conditions contained therein mainly because the targets set out in such conditions were overly optimistic, since (a) the New Generation of Artificial Intelligence Development Plan (《新一代人工智能發展規劃》) was newly released in 2017 when implementation plans had not yet been released and (b) the education smart robotic products of our Group were newly launched in 2017 and the parties to such agreements lacked previous track record to evaluate whether such conditions in relation to education smart robotic products and services were realistic or not. On the other hand, regarding eight of such agreements entered into during the Track Record Period, we failed or are expected to fail to fulfil certain conditions contained therein mainly due to the outbreak of COVID-19 in the PRC, which prevented our Group from negotiating with and implementing measures for education bureaus and schools of such relevant local governments and management committees in order to achieve such targets and conditions, as such education bureaus and schools had to prioritize their resources to tackle the outbreak of COVID-19 during the Track Record Period. As of the Latest Practicable Date, we received (i) government grants of RMB126.5 million with a total of five government cooperation projects, RMB125.6 million of which were recorded as other payables and accruals as we had failed or are expected to fail to fulfil certain conditions applicable to the grant of such government grants, with RMB8.0 million returned to the relevant local government in October 2023; and (ii) leasing concessions of RMB7.9 million with a total of seven government cooperation projects.

As advised by our PRC Legal Adviser, we are in breach of the respective agreements in relation to such government cooperation projects. In view of such breach of agreements, we had engaged a PRC litigation legal adviser (“**PRC Litigation Legal Adviser**”), namely Guangdong Sun Law Firm (廣東國暉律師事務所), to review all the relevant agreements, and were advised that (i) for those government cooperation projects (being nine out of the 15 projects mentioned above) which our Group received subsidies (i.e. government grants and/or leasing concessions) from the relevant local government and/or management committee, in the case of (a) (being two out of such nine projects) we had either entered into a termination agreement with the relevant local government, under which both parties would not be subject to any liabilities which may arise from any breach of such government cooperation agreement or obtained confirmation from the local government which confirmed that the government cooperation agreement had been terminated and both parties

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will not make any claims against each others in relation to the breach of contract; in the case of (b) (being six out of such nine projects) we had received written confirmations from the relevant local governments and/or management committees which confirmed, among others, there is no breach of contract or other circumstances under which we may be held liable for breach of contract nor is there any withdrawal by the counterparty of any subsidies to our Group or subsidiaries or there is no failure to fulfil obligations under the agreements or they will not make any claims in relation to the breaches against our Group, hence the likelihood for the relevant local governments and/or management committees commencing legal proceedings against our Group is very low; and in the case of (c) (being one out of such nine projects) since our Group and the relevant local government and/or management committee failed to reach a consensus, there is a chance that the relevant local government and/or management committee may commence legal proceedings against our Group for breach of contract. As advised by the PRC Litigation Legal Adviser, notwithstanding that the counterparties had not commenced any legal actions against our Group as of the Latest Practicable Date, save as the aforementioned case (a), our Group is subject to potential liabilities of breach of the relevant agreements, and the maximum amounts and liabilities that may be claimed by the local governments and/or management committees against our Group are the return of the relevant government grants and leasing concessions under the relevant agreements, which amounted to government grants of RMB118.5 million and leasing concessions of RMB7.3 million. As over 90% of the government grants received by our Group under the aforementioned agreements in relation to the relevant government cooperation projects had already been recognized as other payables and accruals in the consolidated audited accounts of our Group as of December 31, 2020, 2021 or 2022 and June 30, 2023, and the leasing concessions received by our Group under the aforementioned agreements in relation to the relevant government cooperation projects are immaterial for which no provisions were made, our Directors consider that the breaches of these agreements will not have any material adverse legal and financial impact on our Group; and (ii) for those government cooperation projects (being six out of the 15 projects mentioned above) which our Group has not received any subsidy at all, as advised by the PRC Litigation Legal Adviser, as neither party to the agreements of such government cooperation projects has made any progress or met its obligations under the terms of the agreements in relation to the relevant government cooperation projects, the likelihood for the local governments and management committees commencing legal proceedings against our Group for breach of contract is very low. According to the PRC Litigation Legal Adviser, if any such local governments and/or management committees do commence legal proceedings against our Group for breach of contract, their chances of a successful monetary claim are very low since the relevant local governments and/or management committees have no calculable economic loss or the economic loss is immaterial. As such, our Directors consider the breaches of these agreements will not have any material adverse legal and financial impact on our Group.

As of the Latest Practicable Date, in relation to those agreements which have not been terminated, the relevant local governments and management committees have not demanded us to return the subsidies we received. In the event that our Group suffers damages as a result of breaches of any of the aforementioned agreements in relation to government cooperation projects, to the extent such damages suffered by our Group had not been recorded as other payables and accruals in the consolidated audited accounts of our Group or the audited accounts of any of the members of our Group for December 31, 2020, 2021 or 2022 or June 30, 2023, Mr. Zhou Jian has irrecoverably agreed to indemnify our Group for any liabilities and/or compensation which may arise from any such damages incurred by our Group from breaches of agreements in relation to such government cooperation projects.

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LICENSES, PERMITS AND APPROVALS

As advised by our PRC Legal Adviser, during the Track Record Period and up to the Latest Practicable Date, we had obtained all material certificates, licenses, approvals and permits from relevant authorities for our operations in all material respects. We are required to renew such certificates, licenses, approvals and permits from time to time or to obtain new certificates, licenses, approvals and permits as we will continuously develop, produce and sale new products, and we do not expect any material difficulties in such renewals so long as we comply with the applicable requirements and conditions set by the relevant laws and regulations. The following table sets forth a list of our material licenses and permits for our operation:

No.	License/permit Holder	Name of License, Permit	Issuing Authority	Term of validity/ Registration (issuing) date
1.	Our Company	Registration Certificate of Customs Declaration Entity (海關報關單位註冊登記證書)	Shenzhen Customs	2015.07.23
2.	Our Company	Operating License of Publication (出版物經營許可證)	Shenzhen Nanshan District Press and Publication Bureau (深圳市南山區新聞出版局)	2018.10.22 — 2023.12.31 ^(Note)
3.	Our Company	Record Certificate for II Medical Devices Operation (第二類醫療器械經營備案憑證)	Shenzhen Administration for Market Regulation (深圳市市場監督管理局)	2020.03.03
4.	Shanghai UBJ Education Technology Co., Ltd.* (上海優必傑教育科技有限公司) (Shanghai UBJ)	Operating License of Publication (出版物經營許可證)	Shanghai Press and Publication Bureau (上海市新聞出版局)	2021.04.07 — 2024.03.31
5.	Shanghai UBJ	High-tech Enterprise Certificate (高新技術企業證書)	Science and Technology Commission of Shanghai Municipality (上海市科學技術委員會), Shanghai Municipal Finance Bureau (上海市財政局) and Shanghai Municipal Office of the State Administration of Taxation (國家稅務局上海市稅務局)	2021.11.18 — 2024.11.18
6.	Our Company	High-tech Enterprise Certificate (高新技術企業證書)	Shenzhen Science and Technology Innovation Commission (深圳市科技創新委員會), Shenzhen Finance Bureau (深圳市財政局) and Shenzhen Provincial Office of the State Administration of Taxation (國家稅務局深圳市稅務局)	2021.12.23 — 2024.12.23

Note: We have applied to the Shenzhen Nanshan District Press and Publication Bureau (深圳市南山區新聞出版局) for the renewal of the Operating License of Publication (出版物經營許可證). To the best of our Directors' knowledge, there should not be any legal or other impediment for the renewal of this license.

RISK MANAGEMENT AND INTERNAL CONTROL

Our Board is responsible for the overall effectiveness of our risk management and establishing our internal control system and reviewing its effectiveness. We have established and we maintain risk management and internal control systems consisting of policies and procedures that are appropriate for our business operations, and we are dedicated to continuously improving and implementing these systems to ensure our policies and implementation are effective and sufficient.

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Other than the enhanced internal control measures that we adopt to address and prevent the recurrence of non-compliance incidents in relation to leased properties, construction, social insurance and housing provident funds as disclosed in “Non-compliance matters — Enhanced internal control measures”, we have also adopted and implemented comprehensive risk management policies in various aspects of our business operations such as financial reporting, information system, compliance and intellectual property, human resources and investment management.

In preparation for the [REDACTED], we have engaged an independent third party consultant (the “**Internal Control Consultant**”) to perform a review over selected areas of our internal controls over financial reporting in October 2022 (the “**Internal Control Review**”). The scope of the Internal Control Review performed by the Internal Control Consultant was agreed between us and the Internal Control Consultant. The selected areas of our internal controls over financial reporting that were reviewed by the Internal Control Consultant included entity-level controls and business process level controls, including (1) Sales, accounts receivable and collection; (2) Procurement, accounts payable and payment; (3) Inventory managements; (4) Production and costing; (5) Research and Development; (6) Human resource and payroll; (7) Fixed assets and construction management; (8) Cash and treasury management; (9) Insurance; (10) Financial reporting and disclosure controls; (11) Taxes; (12) Intangible assets and intellectual properties; (13) IT General Controls; (14) Contract management.

The Internal Control Consultant performed the follow-up reviews in December 2022 to January 2023 to review the status of the management actions taken by us to address the findings of the Internal Control Review (the “**Follow-up Review**”). The Internal Control Consultant did not have any further recommendation in the Follow-up Review.

The Internal Controls Review and the Follow-up Review were conducted based on information provided by the Group and no assurance or opinion on internal controls was expressed by the Internal Control Consultant.

Having considered the report prepared by our Internal Control Consultant, the Directors confirmed that all of the major recommendations provided by the Internal Control Consultant have been followed and corrective actions were taken accordingly to address our internal control deficiencies and weaknesses. Our Directors are of the view that our enhanced internal control measures are adequate and effective to ensure compliance with relevant laws and regulations going forward.

Financial Reporting Risk Management

Our finance department is responsible for overseeing the financial reporting risk management of our Group. We have in place a series of accounting policies in connection with our financial reporting risk management, such as financial report management policies, budget management policies, financial statements preparation policies and financial department and staff management policies. We have various procedures in place to implement accounting policies, and our financial department reviews our management accounts based on such procedures. We also provide regular training to our financial department staff to ensure that they understand our accounting policies.

Data Privacy and Security Risk Management

We have formulated IT security-related policies and management procedures in order to establish clear procedures in relation to IT-related aspects of our operations such as the operation and maintenance of our information system, personal information security management and network and database management.

We also collect certain types of data which may be considered as personal information under the applicable laws and regulations. We believe that appropriate collection, storage and protection of end user data is critical to our success. As such, we have implemented relevant internal procedures and policies to ensure our IT infrastructure is secure enough to protect the end user data and avoid unauthorized leakage or loss of such data.

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During the Track Record Period and up to the Latest Practicable Date, we did not experience any material system failure in our IT infrastructure, or any material leakage or loss of end user data. See "Data Privacy and Security" above for further details.

Our IT department is responsible for ensuring the security of our IT infrastructure and our data compliance joint work group is responsible for ensuring that the collection and protection of end user data are in compliance with our internal rules and the applicable laws and regulations.

Compliance and intellectual property rights risk management

We have designed and adopted strict internal procedures to ensure the compliance of our business operations with the relevant laws and regulations, as well as the protection of our intellectual property rights. In accordance with these procedures, our legal department is responsible for providing legal advice in relation to contracts we enter into with our customers and suppliers. Our legal department also works with our business department and examines the contract terms and reviews all relevant documents for our business operations, including licenses and permits obtained by the counterparties or us to perform contractual obligations and all the necessary underlying due diligence materials, before we enter into any contract or business arrangements.

We also have maintained detailed internal procedures to ensure that our legal department reviews our products and services, including upgrades to existing products, for regulatory compliance purpose before they are released to the public. Our legal department, business department and internal control department are also responsible for obtaining all the governmental approvals, permits and licenses for our business operations, including preparing and filing all necessary documents with relevant government authorities within the prescribed regulatory timelines, whereas our intellectual property department is responsible for making all necessary applications, renewals or filings for trademark, copyright and patent registration to the relevant authorities in time.

During the Track Record Period and up to the Latest Practicable Date, certain incidents of non-compliance with the PRC applicable laws and regulations relating to (1) our leased properties in the PRC; (2) our owned properties in the PRC; and (3) social insurance and housing provident fund contributions have occurred. In order to address, minimize and prevent the recurrence of such incidents of non-compliance, we have also enhanced our internal control measures accordingly. See "Non-compliance Matters" above for further details.

Human resource risk management

We invest in continuing education and training programs, including regular and tailor-made internal and external training, for our employees in different departments. Through these trainings arranged by our human resources department, we ensure that skill sets of our employees are updated constantly. We maintain strict standard in recruiting to ensure that the quality of the new hires and we conduct periodic performance reviews for all our employees.

We have in place an employee handbook approved by our management and distributed to all our employees, which contains internal rules and guidelines regarding best commercial practice, confidentiality, work ethics, fraud prevention mechanism, negligence and corruption.

We also have in place an anti-corruption policy to safeguard against any corruption within our Company. The policy explains potential corruption conducts and our anti-corruption measures. Our internal reporting channel is kept open and available for our staff to report any corruption acts on an anonymous basis. Our business, finance, legal and internal control departments are responsible for overseeing the implementation of the anti-corruption policy and investigating the reported incidents in order to take appropriate measures.

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BUSINESS ACTIVITIES IN RESPECT OF COUNTRIES WITH INTERNATIONAL SANCTIONS EXPOSURE

During the Track Record Period, we sold consumer-level robots and other hardware devices to customers located in Belarus, Egypt, Hong Kong, Iraq, Russia, Serbia, Turkey and Ukraine (excluding Crimea, Luhansk, Donetsk, Zaporizhzhia and Kherson regions) and purchased certain promotional service from a service provider in Turkey. All of these countries are subject to certain forms of International Sanctions programmes administered by the Relevant Sanctions Authorities. In particular, as advised by our International Sanctions Legal Advisers, Russia has been subject to sweeping sanctions by the Western countries since its military aggressions in Ukraine in February 2022. In addition, Belarus has also been subject to various sanctions measures imposed by many Western countries due to human rights violations, public corruption and its active support of Russia’s military aggression in Ukraine. We did not sell any products to the Crimea, Luhansk, Donetsk, Zaporizhzhia and Kherson regions of Ukraine during the Track Record Period. As such, even though these regions are currently subject to various sanctions measures due to their annexation to Russia, they are not relevant to our sanctions risks assessment and thus are being excluded from the Relevant Countries. With respect to Ukraine, we have had business dealing with a customer located in Kyiv, Ukraine, during the Track Record Period. According to our International Sanctions Legal Advisers, there are certain forms of sanctions measures related to Ukraine. Therefore, Ukraine is included in “Relevant Countries” for the purposes of assessing our sanctions risks.

To the best knowledge of our Directors, for FY2020, FY2021, FY2022 and 6M2023, our revenue derived from the sales to the Relevant Countries amounted to approximately RMB2.99 million, RMB5.13 million, RMB13.20 million and RMB3.00 million, respectively, representing approximately 0.40%, 0.63%, 1.31% and 1.15% of our total revenue for the same periods, respectively.

Our sales to Russia are mostly AiRROBO vacuum cleaner and accessories, and Jimu series used in family education, STEAM training and competition settings. Our revenue generated from the sales to customers located in Russia amounted to RMB0.81 million, RMB1.88 million, RMB3.06 million and RMB2.42 million, representing approximately 0.11%, 0.23%, 0.30% and 0.93% of our total revenue for FY2020, FY2021, FY2022 and 6M2023, respectively. We only recorded a negligible amount of revenue from sales to Belarus customers in FY2021 and did not have any sales to Belarus in FY2020, FY2022 and 6M2023. In addition, we paid a very small amount of fee (i.e., approximately RMB20,000) for certain promotional services rendered to us by a Turkey service provider in FY2021, representing no more than 0.01% of the selling and marketing expenses of the Group in 2021. Other than such fee paid in 2021, there was no other transaction with this Turkey service provider during the Track Record Period, and we have ceased business dealings with this service provider since the end of FY2021.

Our sales to Russia during the Track Record Period were carried out both through online sales via self-operated stores on third-party e-commerce platforms and offline sales to six customers (who resell our products to end users in Russia). In respect of online sales to Russia during the Track Record Period, a substantial portion was made through a platform operated by a PRC company, while an insignificant portion was made through a platform operated by a Latvian company. The payments for these online sales are conducted through online payment systems designated by the platforms. The PRC company has its own payment platform system and since January 2023, our sales made through this PRC platform are all settled in RMB. The payments from the Latvian company are conducted via a U.S. financial services provider and we ceased the business dealing with the Latvian platform since January 2023. With respect to Russian offline sales, starting from March 2022 and as of the Latest Practicable Date, such payments have either been switched to RMB or made in USD from the accounts of non-sanctioned banks of the Russian customers or their designated paying agents.

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In order to ensure timely delivery, the PRC online platform requires us to engage a logistic service provider (“**Service Provider**”) to transport relevant products to Russia. The Service Provider is a PRC supply chain management company unaffiliated with us. The Service Provider is responsible for cross border transportation of the goods to Russia and the associated customs clearance and declaration, as well as storage service of the goods in Russia. We are responsible for packing the goods and transporting them to the Service Provider in the PRC. The Service Provider subsequently (i) verifies the quantity of the goods before accepting them, (ii) transfers the goods from the PRC to Russia, and (iii) stores the goods in Russia before they are delivered to purchasers in Russia. The PRC platform itself is responsible for domestic delivery of our products to purchasers in Russia. In terms of offline sales to customers in Russia, we normally transport the goods to carriers in China and have practically no relationship with Russian local logistics or other providers.

As part of our sanctions and export control compliance measures, during any new customers, new suppliers and new service providers onboarding process, we typically create profile of these new entities, and carry out screening of such entities against the various sanctions and export control lists maintained by the OFAC and BIS. Such screenings are first conducted by the relevant business team, and then the legal and compliance team will perform a second check. Only after it is confirmed that the entity is not from a Comprehensively Sanctions Country, nor on the BIS Lists or the SDN List, will the entity be cleared to have business with our Group.

International Sanctions Law Analysis

Application of U.S. Economic Sanctions Law to Our Relevant Activities

Our International Sanctions Legal Advisers have advised us that, based on the due diligence procedures that have been carried out to assess the sanctions risk, as well as the factors set out below, (i) none of our Group nor any of our counterparty customers, suppliers or service providers during the Track Record Period and up to the Latest Practicable Date was a Sanctioned Target listed on the SDN List or other restricted parties lists maintained by OFAC; and (ii) our Group’s business dealings with our counterparty customers and service providers during the Track Record Period and up to the Latest Practicable Date did not constitute Primary Sanctioned Activities or give rise to Secondary Sanctionable Activities:

1. our Company is incorporated in the PRC, and except for a few subsidiaries incorporated in Hong Kong and the U.S., all of our subsidiaries are incorporated in the PRC; thus, none of our group companies are located, incorporated, organized, or domiciled in the Sanctioned Countries or Relevant Countries;
2. neither of our Company nor any of our subsidiaries is designated as a Sanctioned Target;
3. we have conducted screening as part of our shareholder admitting process to ensure none of our shareholders is located in Sanctioned Countries or is on the SDN List or other restricted parties lists maintained by OFAC;
4. none of the Directors or senior management of our Company are U.S. Persons;
5. our Company is not owned 50% or more, or controlled by one or more U.S. Persons;
6. although our U.S. subsidiaries have employed U.S. Persons, none of these U.S. employees have been involved in any way (either directly or indirectly) in any sales of our products to the Relevant Countries (including the negotiation, approval or on-going performance of these sales); in addition, no financing or financial assistance has been received by our Group, either directly or indirectly, from any entity, body or corporation incorporated or located in the U.S. (except for indirect minority equity investment in our Company);
7. we have conducted screening as part of our new customers, new suppliers and new service providers onboarding process to ensure, which is confirmed by our International Sanctions Legal Advisers, that none of our counterparties in relation to sales to the Relevant Countries (including the paying agents designated by the customers and banks involved for the Russian offline sales, and the two platform operators and the online payment system operators for the Russian online sales) are on the SDN List or other restricted parties lists maintained by OFAC;

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8. in respect of the Russian sales, since March 2022 when Russia started to be subject to sweeping sanctions imposed by the U.S. and as of the Latest Practicable Date, the payments of such sales have either been switched to RMB or made in USD from non-Russian financial service providers or from the accounts of non-sanctioned banks of the Russian counterparties and their designated paying agents, and thus such sales did not give rise to a U.S. Primary Sanctioned Activity;
9. our business activities with the Relevant Countries during the Track Record Period are in low volume as revenue from customers in the Relevant Countries was no more than 1.31% of our total revenue in each year, in particular, with respect to Russian sales, each transaction is in low value with sales amount ranging from USD0.13 to no more than USD394 for online sales, and USD140 to no more than USD157,329 for offline sales. Therefore, such transactions are unlikely to rise to the level of “significant” or “material” for purpose of relevant U.S. secondary sanctions regimes, and, thus, should not amount to a Secondary Sanctionable Activity; and
10. we generally deliver our goods to carriers in China in respect of our transactions with customers in the Relevant Countries and we do not have direct involvement with shipping arrangement, warehousing maintenance, goods delivery, insurance or other operations in the Relevant Countries which may give rise to a Secondary Sanctionable Activity.

Application of U.S. Export Controls Rules to Our Business

The BIS controls exports, re-exports and transfers (in-country) of commercial and dual-use products, software and technology. U.S. export controls measures are implemented by the United States Export Administration Regulations (the “EAR”). The EAR applies to exports of commodities, software and technology from the U.S. to foreign countries, to re-exports from one foreign country to another, and to in-country transfer from one person to another person that occurs outside the United States within a single foreign country.

We are committed to high standard of export control compliance:

1. On 30 December 2019, our board of directors has reviewed and unanimously passed the “Proposal on the Statement and Commitment of the Company’s Board of Directors to Support Compliance of the Company”. Our chairman of the Board, Mr. Zhou, has signed the Management Commitment Statement of Export Control Compliance dated 25 February 2021. In the above-mentioned Proposal and the Statement, our management undertakes to abide by all relevant export control laws and regulations in connection with our business activities and establish and implement export control compliance mechanism based on the “full control principle”;
2. We have also established the Export Control Compliance Rules. When we purchase items (including services) from suppliers and service providers, we will create an internal profile for each supplier and and service provider collect the information of the supplier and service provider (such as incorporation certificate, qualification, financial information of the supplier and service provider) and items (such as whether the items are export controlled items, and if so, the ECCN codes of the items, and the actual and potential usage of the items);
3. Before any purchase transaction, according to our internal Export Control Compliance Rules, the suppliers and service providers should be screened against various OFAC sanctions lists and BIS Lists. The purchasing department shall further check the proposed purchase items against (i) the Catalogue of Dual-use Items and Technologies Subject to the Administration of Import and Export Licenses jointly issued by the PRC Ministry of Commerce and the PRC General Administration of Customs and (ii) the Commerce Control List issued by the BIS. If the purchased items are subject to export control, the suppliers will be required to execute an export control compliance confirmation letter which includes confirmation of ECCN codes and provide export licenses of the items if applicable or confirmation from the supplier that the sales of the items will not violate U.S. export control regulations.

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Under the robust compliance measures we have adopted and implemented, our Group does not: (i) import technology, software, parts or components that are subject to EAR export control directly from the United States into the PRC; (ii) sell our products to customers on the BIS Lists; (iii) incorporate 10% or more controlled U.S.-origin technology, software, parts or components into our products, or (iv) sell a direct product of U.S.-origin technology or software classified under any ECCN on the CCL (or produced by a plant or “major component” of a plant that is itself a direct product of such U.S. technologies and software). In addition, none of our products are sold to military end-users or are intended for military use. All of our Group’s manufacturing facilities are located in the PRC and all of our Group’s products are manufactured in the PRC. Therefore, our International Sanctions Legal Advisers have advised us that our business activities and sales in China and our sales to the Relevant Countries during the Track Record Period and up to the Latest Practicable Date are not subject to material risk in respect of U.S. export/re-export controls.

Application of Sanctions Laws and Export Control Rules of other Relevant Sanctions Authorities to Our Relevant Activities

Our Company is incorporated in the PRC; except with a few subsidiaries incorporated in Hong Kong and the U.S., all of our subsidiaries are incorporated in the PRC. Therefore, neither our Company nor any of our subsidiaries are incorporated in the E.U., U.K. and Australia. In addition, none of our Directors and senior management is nationals of the E.U., U.K. and Australia. Our International Sanctions Legal Advisers have therefore advised us that E.U., U.K. and Australian sanctions do not apply to our Group due to lack of jurisdiction.

In addition, none of our counterparties from the Relevant Countries is listed as designated persons or entities in the sanctions list of the U.N., E.U., U.K. or Australia. Further, our business activities in the Relevant Countries are limited to sale of consumer-level robots and other hardware devices for household and educational use and purchase of promotional service, which do not involve export-controlled products. We also do not directly import any products, technology, software, part or components from the E.U., U.K. or Australia. Therefore, our International Sanctions Legal Advisers have advised us that, our activities with the Relevant Countries during the Track Record Period and up to the Latest Practicable Date did not implicate the prohibitions or wider restrictions under International Sanctions measures administered and enforced by the E.U., U.K., U.N. and Australia.

Analysis Conclusion

In summary, our International Sanctions Legal Advisers have advised us that, the Relevant Activities of our Group during the Track Record Period and up to the Latest Practicable Date did not result in and are not subject to any material sanctions risk to the Relevant Persons in respect of the International Sanctions of the U.S., E.U., U.K., U.N. and Australia.

In respect of our sales to Russia during the Track Record Period, as advised by our International Sanctions Legal Advisers, Russia is not a Comprehensively Sanctioned Country as at the Latest Practicable Date. The sales of our consumer-level robots and other hardware devices to Russia during the Track Record Period, subject to the strict compliance with our internal control measures regarding International Sanctions, do not implicate violations of International Sanctions. Therefore, while we do not intend to increase the levels of our business dealings in respect of the Relevant Countries, ensuring our continued compliance with our internal control measures regarding International Sanctions, we would still be able to conduct business with the Relevant Countries, including Russia in spite of (but in compliance with) the recent International Sanctions on Russia as a result of the war in Ukraine. Even if the complete cessation of business with Russia is required in the future to comply with International Sanctions, given the immaterial transaction amount to Russia, our Directors are of the view that any such cessation will not have any material impact on our Group’s financial position and business operations.

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Sanctions and Export Control Compliance Measures

We will continue to implement our internal control measures with respect to sanctions and export control which were established prior to or during the Track Record Period:

- Continue to commit to a compliance culture and continue to adhere to the principle set out under the Management Commitment Statement of Export Control Compliance;
- In respect of governance structure, we have established a compliance committee and a compliance center on 15 July 2020. The center consists of one director and four staff members from our compliance and internal audit departments. The team of the compliance center possesses professional knowledge and experience regarding sanctions and export control compliance. According to our internal Export Control Compliance Rules, relevant business departments and the compliance team are both responsible for monitoring our exposure to sanctions and export control risks. The relevant business departments should conduct the first round of screening when onboarding the potential counterparties, and the compliance center will inspect the business dealings again later;
- We will continue to evaluate the sanctions and export control risks prior to determining whether we should embark on any business and investment opportunities subject to International Sanctions and Export Control risks.
 - o In particular, we will continue to review the information of the customers and set up an internal profile for each customer. The relevant business team and the compliance center will screen the customer against the various lists of restricted parties and countries maintained by the United States. No purchase order would be accepted and no product delivery will proceed unless and until the checking is cleared;
 - o Similarly, when we purchase items or procure services from suppliers and service providers, we will continue to adhere to the supplier and service provider onboarding process and the internal Export Control Compliance Rules as described above; and
 - o Before any new investor becomes the shareholder of the Company, we review and evaluate the sanctions risks of such new shareholders and their beneficial owners by screening them against various sanctions lists;
- Including compliance clauses in contracts with our customers, suppliers and service providers or request a separate commitment letter from them.
 - o We request customers to undertake that (i) any export, re-export, sale or transfer to a third party is carried out in compliance with applicable export control laws and regulations; (ii) products will not be exported, re-exported, sold or transferred directly or indirectly, to any embargoed or sanctioned countries or regions; (iii) products shall not be used in prohibition activities and should be used for civil end-users and purposes; and
 - o We request suppliers and service providers to undertake that (i) they will comply with all applicable sanctions and export control laws and regulations; (ii) the purchased products are currently not subject to export control restrictions, and (iii) the suppliers shall give timely notice to us if the purchased products may become subject to any sanctions or export control and shall assist us to obtain export licenses or other required qualifications;
- Our compliance center regularly collects updates of recent legal development in the fields of International Sanctions and export control from public information in order to have an intimate knowledge of changes in relevant rules and policies, assist our management with our business decision and prevent relevant compliance risks;
- The compliance and legal departments are tasked to organize multi-level and all-round training lessons for each of our managements and employees to enhance their relevant knowledge. For example, there are training lessons targeting executives, new employees, staffs in the purchasing department, the sales department, the functional department and the research and development department. These training lessons are designed to ensure (i) awareness of sanctions risk, (ii) timely and effective identification of actual and potential

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violations of sanctions and periodic sanctions alerts; and (iii) timely reporting of such sanctions violations and, in case of a major escalation of sanctions which might affect our business operations, timely reporting of such sanctions escalation to our management;

- We also have an internal daily learning platform from which the managements and employees can learn the latest news and updates of laws and regulations regarding sanctions and export control; and
- According to our internal Export Control Compliance Rules, we will assess employee's compliance of export control and the assessment will be taken into account for staff evaluation and promotion.

In addition, we have adopted the following enhanced internal control and risk management measures to minimise sanctions risks which may arise from our continuous overseas sales to the Relevant Countries:

- We have conducted periodic refreshed screening of existing customers, suppliers and service providers from high-risk countries or regions;
- We have screened counterparties against the various lists of restricted parties and countries maintained by the European Union, the United Nations or Australia (in addition to the U.S.), including, without limitation, any government, individual or entity that is the subject of any sanctions and export control of which the lists are publicly available; and
- We have included sanctions compliance clause in sales contracts and purchase orders with the counterparties, requesting them to undertake: (i) to comply with all sanctions imposed by the U.S., the E.U., the U.N., the U.K., Australia and other economic sanctions applicable to them or our operations; (ii) not to sell, distribute or deliver our products to any Sanctioned Target, and (iii) not to take any actions which could cause them or any of our companies/individuals to violate any applicable sanctions.

In order to further minimise our International Sanctions risks that may arise from our business dealings with counterparties in overseas countries and protect the interest of our Group and our Shareholders, we plan to adopt the following enhanced internal control and risk management measures:

- identifying key employees, senior management and Board members with overseas nationality to advise them of their potential International Sanctions implications under their national sanctions regimes;
- carrying out additional due diligence on counterparties that are from countries or regions with relatively high sanctions risk to confirm that they are not owned or controlled as to 50% or more by persons who are on the SDN List or listed as the subject of any sanctions by the Relevant Jurisdictions.
- our Directors will continuously monitor the [REDACTED] we receive from the [REDACTED], as well as any other funds raised through the Stock Exchange, to ensure that such funds will not be used to finance or facilitate, directly or indirectly, activities or business with, or for the benefit of, Sanctioned Countries or Sanctioned Targets where this would be in breach of International Sanctions.

View of the Internal Control Consultant

The Internal Control Consultant has obtained and examined the Group's internal policies in relation to export control compliance and customer/supplier background search, as well as samples of relevant internal control measures. The Internal Control Consultant is of the view that, the Group's internal control measures are in line with the internal policies, and the Internal Control Consultant did not have any further recommendation in the Internal Control Review.

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BUSINESS SUSTAINABILITY AND MEASURES TO ACHIEVE PROFITABILITY

	FY2020	FY2021	FY2022	6M2022	6M2023
				(Unaudited)	
Revenue (RMB'000)	740,226	817,230	1,008.3	283,523	261,139
Gross profit margin (%) ⁽¹⁾	44.7	31.3	29.2	13.7	20.2
Net margin (%) ⁽²⁾	(95.5)	(112.3)	(97.9)	(181.7)	(209.8)

Notes:

- (1) Gross profit margin equals to gross profit for the year/period divided by revenue for the year/period and multiplied by 100%.
- (2) Net margin equals net loss for the year/period divided by revenue for the year/period and multiplied by 100%.

Revenue growth

During the Track Record Period, we generated revenue primarily from the sales of (i) education smart robotic products and services, (ii) logistic smart robotic products and services, (iii) general service smart robotic products and services, and (iv) consumer-level robots and other hardware devices. Our revenue increased from RMB740.2 million to RMB817.2 million between FY2020 and FY2021, from RMB817.2 million to RMB1,008.3 million between FY2021 and FY2022. Our revenue decreased from RMB283.5 million to RMB261.1 million between 6M2022 and 6M2023. The majority of our revenue generated during the Track Record Period was derived from the sales of education smart robotic products and services, which accounted for 82.7%, 56.5%, 51.2%, 62.8% and 29.0% of our total revenue for FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively.

Net-loss

Despite our growth in revenue, we experienced net-loss during the Track Record Period. For FY2020, FY2021, FY2022, 6M2022 and 6M2023, we incurred net losses of RMB707.0 million, RMB917.5 million, RMB987.4 million, RMB515.2 million and RMB547.9 million, respectively. The net losses were primarily due to the decrease in gross profit margin during the Track Record Period and the substantial expenditures in relation to (i) our R&D expenses, primarily comprised of employee benefit expenses for our R&D staff, to enhance our core technologies and product and service offerings to maintain our established position in the smart service robotic products and services market, see “Research and Development” above for details on our R&D philosophy, capabilities and achievements; (ii) our selling and marketing expenses, primarily consisting of employee benefit expenses for sales staff and advertising and promotion expenses, incurred to enhance our brand reputation and expand our customer and end-user base, and (iii) our general and administrative expenses which are mainly attributable to employee benefit expenses for our administrative staff and depreciation for our right-of-use assets and property, plant and equipment and amortization of intangible assets. In particular, as a percentage of our total revenue, our R&D expenses accounted for approximately 57.9%, 63.3%, 42.5%, 72.3% and 85.9% of our total revenue in FY2020, FY2021, FY2022, 6M2022 and 6M2023, and we expect to maintain a relatively high level of R&D expenses in the future to enhance our R&D capabilities and robotic and AI technologies for our products and services. For FY2020, FY2021, FY2022, 6M2022 and 6M2023, the total employment benefit expenses in relation to our R&D, selling and marketing and general and administrative staffs amounted to RMB674.1 million, RMB866.2 million, RMB828.0 million, RMB420.5 million and RMB447.2 million, respectively.

According to Frost & Sullivan, since it is estimated that AI technologies will become increasingly common in smart service robotic products and services by introducing flexibility and learning capabilities to more applications, with the full potential of the smart service robotic products and services market yet to be realized, there is an increasing demand for smarter smart service robotic products and services offerings, which will continue to contribute to the increasing popularity and market size of the smart service robotic products and services market in China and the world. As such, we believe that continual investments in R&D in relation to AI technologies is necessary to improve the functionalities and performance of smart service robots to achieve sufficient

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human-resemblance to meet customer demands and preferences, and commercialization of core technologies utilized in humanoid robots throughout various stages in the R&D process will enable us to reap financial and reputational benefits from our R&D efforts while reinforcing our position as a humanoid robots provider.

As such, in addition to seeking to optimize our operational efficiency by reducing our expenses, we have also been focused on enhancing our R&D capabilities and robotic and AI technologies to enhance the quality of our products and services offerings and expand our customer and end-user bases.

Operating net cash outflow

We experienced net cash outflows from operating activities during the Track Record Period. For FY2020, FY2021, FY2022, 6M2022 and 6M2023, we had net cash used in operating activities of RMB602.6 million, RMB680.7 million, RMB543.5 million, RMB115.1 million and RMB526.5 million, respectively, including R&D expenses, selling and marketing expenses, general and administrative expenses to develop and promote our new products and services. Given the nature of our industry, we have been and intend to continue investing heavily on our R&D efforts which we believe are critical to our long-term success. As such, we expect to continue to have net cash outflows from operating activities in the near future. We anticipate that we will only become profitable when we can obtain sufficient purchase orders and expand our sales to take advantage of economies of scale.

Measures to achieve profitability

In order to maintain our established position in the smart service robotic products and services market and achieve profitability, we intend to enhance our financial performance by (i) continuously growing our revenue and business scale through (a) enhancing the selection and market presence of our smart service robotic products and services offerings, (b) commercializing our products and services for application in new use scenarios of different sectors, (c) expanding our sales network and market penetration; and (ii) effectively managing our cost and expenses. Despite our continued efforts to increase our business scale, create value for our customers and end-users and effectively manage our cost and expenses, we may continue to incur net losses in the near future including the financial year ending December 31, 2023, primarily due to our substantial expenditures in relation to our R&D expenses, selling and marketing expenses and general administrative expenses.

(i) Continuously growing our revenue and business scale

Throughout our R&D process of developing core technologies to improve the functionalities and performance of smart service robots to achieve sufficient human-resemblance to meet customer demands and preferences, we have commercialized such core technologies to new use scenarios in order to enhance our revenue generated from the products and services from and business scale of our existing business segments.

(a) Enhancing the selection and market presence of our smart service robotic products and services offerings

According to Frost & Sullivan, the market size of smart service robotic products and services globally and in China reached USD23.5 billion and RMB51.6 billion in 2022, respectively, growing at a CAGR of 19.8% and 27.9% between 2018 and 2022, whereas the market size of smart service robotic products and services globally and in China are expected to reach US\$62.8 billion and RMB183.2 billion in 2028, respectively, growing at a CAGR of 17.8% and 23.5%, respectively. As such, we believe that there is sufficient market demand for smart service robotic products and services and we intend to enhance the selection and market presence of our smart service robotic products and services offerings by developing and launching new and upgraded smart service robotic products and services and implementing effective marketing initiatives, details of which are as follows.

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Education smart robotic products and services

In order to enhance the selection of our smart service robotic products and services in the education sector, we intend to invest in the R&D in our education smart robotic products and services with a view to maintaining our leading position in the education smart robotic products and services industry and expand the application of humanoid robots in this sector. As supported by Frost & Sullivan, we are of the view that our education smart robotic products and services are capable of satisfying market demand of government education bureaus, business enterprises and schools as they are designed for the purpose of facilitating the teaching of AI education, which is the subject matter that the relevant government policies are seeking to promote. According to Frost & Sullivan, the current AI educational curriculum in the PRC is still in its infancy and the majority of education smart robotic products and services offerings in the market only consist of hardware tools and lack the necessary AI education software, tools and teaching resources and practical application scenarios for educational institutions to effectively implement an AI educational curriculum. In this connection, our Directors believe that we are in a competitive position as we are China’s No. 1 provider of education smart robotic products and services (in terms of revenue in 2022) and are able to offer comprehensive education smart robotic products and services to our customers by combining our education smart robots and AI education software (such as uCode — a graphical block-based visual programming tool for students aged 7 to 14 years old; and uPython — a programming tool for Python robot beginners) together with our ancillary services. As part of our products and services offerings, we also provide teaching and learning resources such as textbooks, teacher’s manuals and training modules as well as add-on components, expansion packs and ancillary hardware that complement our education smart robotic products and enrich the use scenarios of our education smart robotic products. This also allows schools to adjust the teaching of AI education in accordance with their changing needs and policy requirements on an ongoing basis. Our Directors also believe that we are able to capture future market demand because our product portfolio has transformed from predominantly education smart robotic products and other hardware accessories to a complete education smart robotic products and services offering which consist of hardware (i.e. smart robotic products) and software (i.e. AI education platform, AI education curriculums, AI education software tools, etc.) components, which can be constantly upgraded and expanded to facilitate the teaching of different aspects of AI education, such as coding through various programming languages, in a user-friendly, convenient and cost-efficient manner.

Examples of smart robotic products and services which we may develop and launch for our education smart robotic products and services segment include, but are not limited to, (i) uSim (an easy to use and accessible simulation creation platform), (ii) next generation education platform (upgraded version to achieve digital teaching management to enhance teaching and learning efficiency), (iii) uKit Explore 3 (upgrade with enhanced AI computational power and multimodal configurations) and (iv) next generation humanoid robot for education (upgraded version with increased AI and motor capabilities) in conjunction with our existing education smart robotic products and services offerings to enhance accessibility to AI education and user experience of our education smart robotic products and services. Our products and services are designed for students to learn the basics of programming language through a user-friendly and visualized platform. In particular, our *uSim* is designed to lower the entry barrier of AI education as it provides a simulation creation platform for learners to apply their programming skills without purchasing physical devices. See “Our Business Strategies – Further advance our R&D capabilities to enhance our core technologies and products and services offerings – (ii) Our smart service robotic products and services for application in different sectors – (a) Education smart robotic products and services” above for details. We intend to sell such new and upgraded education smart robotic products and services to (i) our existing customers and (ii) new PRC and overseas customers, which may include government and non-government educational bureaus and SOEs.

Since government educational bureaus were our major customers during the Track Record Period, we adopted multi-level marketing initiatives which we believe have brought us tender and business opportunities and facilitated the building up of our reputation in the education sector and business relationship with government educational bureaus. During the Track Record Period, we participated in 17, 16, six and six educational events and exhibitions, and participated in 13, 46, 40 and 39

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educational competitions. Our Directors consider that following the lifting of lockdown measures in the PRC, we will be able to participate in more industry events, exhibitions and competitions to enhance our exposure and reach out to more potential customers. See “Marketing – Multi-level marketing initiatives in the education sector” for details. We believe that our continuing marketing efforts will enable us to enhance our access to tender opportunities and put us in a competitive market position and give us tender opportunities in order to enhance the market presence of our education smart robotic products and services.

We generally source new education smart robotic products and services business through direct engagement or tendering from new customers such as government educational bureaus based on opportunities which we acquired through our marketing initiatives.

The following table shows the details of our tendering for education smart robotic products and services projects during the Track Record Period:

	FY2020	FY2021	FY2022	6M2023
Number of tenders submitted	13	23	12	2
Number of tenders awarded	11	20	6	2
Success rate (<i>Note</i>)	84.6%	87.0%	50.0%	100.0%

Note: Tender success is calculated by dividing the number of tenders awarded in respect of the tenders submitted during the stated financial year by the number of tenders submitted during the same financial year.

Government educational bureaus in the PRC in each province and/or city generally conduct tenders at irregular intervals with no fixed or periodic schedule based on the government policies and the relevant financial budget at different levels of the PRC Government in different provinces and/or cities according to the experience of our Directors.

Based on our tender submissions during the Track Record Period, criteria and considerations required or taken into account in the tenders by tenderers typically include (i) technical specifications of the products and services offerings, (ii) pricing, (iii) ancillary services such as after-sale services, technical support and staff training, (iv) product demonstration performance, (v) accreditations and recognitions obtained from government authorities and international authoritative certification organizations and (vi) past performance and experience in similar education smart robotic products and services projects. In particular, our Directors are of the view that we have historically performed well in relation to criteria (i) and (v) primarily because we can offer comprehensive education smart robotic products and services to customers by combining education smart robots which utilize our full-stack core technologies and AI education software (such as uCode — a graphical block-based visual programming tool for students aged 7 to 14 years old; and uPython — a programming tool for Python robot beginners) together with ancillary services, and have won more than 140 technology awards, honorary qualifications and recognitions during the Track Record Period. See “Awards and Recognition” below for further details. Given our proven track record in the education smart robotic products and services industry in the PRC, our Directors believe such historical performance in fulfilling customer orders strengthens our chances of obtaining tenders.

During the Track Record Period, our number of tenders submitted and awarded for education smart robotic products and services projects varied across financial years. The number of tenders submitted and awarded in FY2020 and FY2022 were lower than that in FY2021, which were attributed to the relatively severe outbreak of COVID-19 and the enhanced restricted social distancing policies imposed in China in both FY2020 and FY2022. These policies resulted in the temporary closure of schools in certain provinces of China in the relevant years/period. Our tender success rate remained relatively stable at 84.6% and 87.0% in FY2020 and FY2021, respectively, but decreased to 50.0% in FY2022 primarily since we were awarded tenders which have a relatively larger contractual value with our tendering efforts being focused on tenders with a relatively larger

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contractual value in FY2022 instead of equally among all tenders that we have submitted. In FY2022, the total contractual value of the six tenders that we obtained were approximately RMB158.2 million whereas the total contractual value of four out of the six tenders that we failed to obtain were approximately RMB5.2 million. Our tender success rate for education smart robotic products and services projects then increased to 100.0% in 6M2023. In order to make more tendering submissions to obtain more business opportunities for our education smart robotic products and services, we intend to (i) organize and participate in more industry and educational seminars, exhibitions and demonstrations in order to establish UBTECH as a leading education smart robotic products and services provider, raise the general awareness of AI education and better inform the general public of the importance of AI education; and (ii) follow closely the latest policy developments in relation to AI education in the PRC to ensure that our education smart robotic products and services are tailor-made to enable our customers to fully understand and localize the policy requirements and needs in relation to AI education and teach AI education in accordance with such policies in an effective and efficient manner. We also have a history of cooperation with government educational bureaus, significant R&D efforts on new education smart robotic products and services, enhanced after-sales services, and marketing initiatives to enhance our market exposure. By continuing these efforts, building stronger relationships with existing and potential customers, and participating in domestic and overseas exhibitions, major national events and industry events to demonstrate our products’ capabilities, we believe we can secure more contracts for our education smart robotic products and services.

Furthermore, in order to increase the business scale of our education smart robotic products and services in the PRC, we intend to target government educational bureaus from certain provinces that we did not have significant transaction volumes during the Track Record Period to promote our products and services and STEAM education. Leveraging on our Group being China’s No. 1 provider of education smart robotic products and services (in terms of revenue in 2022) according to Frost & Sullivan, we believe that we are capable of tapping into the market potential in the PRC and expand our geographical coverage to more customers (in particular government educational bureaus overseeing over 30 cities of 15 provinces in the PRC, such as (i) Ganzhou City and Jiujiang City of Jiangxi Province, (ii) Qingyang City and Lanzhou City of Gansu Province, and (iii) Dongguan City and Jiangmen City of Guangdong Province, where we do not have existing customers). We plan to undergo negotiations with such government educational bureaus to explore potential business opportunities and enter into government cooperation agreements with them. The growth potential for demand in education smart robotic products and services in these cities is expected to be relatively high since these cities have a large base of school-age population in primary and secondary schools according to Frost & Sullivan.

According to Frost & Sullivan, (i) with the promotion of artificial intelligence education by the government and the expansion of artificial intelligence laboratories and programming laboratories in schools, the market base for education smart robotic products and services will continue to expand, and it is expected the market size will reach RMB7.0 billion by 2028 representing a CAGR of 20.4% from 2022 to 2028; and (ii) the education smart robotic products and services industry will continue to be driven by government policy support, the prevalence of innovation in the teaching process and the increased willingness of institutional customers to spend in the field of education.

Logistics smart robotic products and services

Leveraging on the successful commercialization of our education smart robotic products and services, we applied the robotic and AI technologies (e.g. our SLAM technology) and have extended our footprint into the logistics sector since late FY2020 with a view to capture the growing market of the logistics industry, in particular warehouse logistics. Although our logistics smart robotic products and services segment was only established in late FY2020, our number of customers had increased from two customers in FY2020 to 12 customers in FY2021, and to nine customers in FY2022, and increased from seven customers in 6M2022 to nine customers in 6M2023. Furthermore, we were awarded with 17, 62, 71 and 30 projects and we have completed two, 43, 22 and 24 projects in FY2020, FY2021, FY2022 and 6M2023, respectively. Furthermore, the increase of our revenue from logistics smart robotic products and services from RMB12.7 million for

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FY2020 to RMB190.8 million for FY2021 was driven by the increase in number of projects completed from two in FY2020 to 43 in FY2021, whereas the increase of our revenue from RMB190.8 million for FY2021 to RMB263.4 million for FY2022 was driven by the completion of certain projects of higher revenue during the year for a sizeable end-user in automobile industry despite the decrease in number of projects completed, from 43 projects in FY2021 to 22 projects in FY2022. Our revenue from logistics smart robotic products and services increased from RMB41.1 million for 6M2022 to RMB76.8 million in 6M2023, primarily due to the increase in revenue-generating projects from nine in 6M2022 to 24 in 6M2023. Examples of smart robotic products and services which we may develop and launch for our logistics smart robotic products and services segment include, but are not limited to, (i) next generation unmanned forklift AMR (unmanned forklift AMR capable of point-to-point materials handling), (ii) outdoor driverless logistics vehicles (capable of transportation of components, semi-finished products and finished products in outdoor scenarios) and (iii) next generation AMR robot (with improved performance, reliability and stability). See “Our Business Strategies – Further advance our R&D capabilities to enhance our core technologies and products and services offerings – (ii) Our smart service robotic products and services for application in different sectors – (b) Logistics smart robotic products and services” above for details. We intend to sell such new and upgraded logistics smart robotic products and services to our existing and new customers, which include new energy vehicle and component manufacturers, e-commerce platforms, logistics service providers that need to enhance their operational efficiency.

According to Frost & Sullivan, the demand of logistics and mobile smart robotic products and services will continue to grow at a high speed in the future. It is expected that the market size will reach RMB58.9 billion by 2028 at a CAGR of 30.4% from 2022 to 2028. The logistics and mobile smart robotic products and services industry will continue to be driven by the transformation of the manufacturing industry in China, the rise of the new retail and e-commerce industry, and increasing demands due to the shortage of labor.

Our logistics smart robotic products and services are currently generally targeted towards new energy vehicle manufacturers. Looking forward, we intend to capture the growth of various manufacturing industries as a result for rising demand for intelligent manufacturing processes and enhanced manufacturing efficiency and leverage on our success and experience in the new energy vehicle manufacturing industry to expand into other manufacturing industries.

Other sector-tailored smart robotic products and services

In order to address the challenges faced by elderly care facilities, we began to launch our wellness and elderly care smart robotic products and services in small batches and began to sell in the second half of 2022. Examples of smart robotic products and services which we may develop and launch for our wellness and elderly care smart robotic products and services segment include, but are not limited to, (i) next generation wellness and elderly care smart cloud-based platform (improve speed of information feedback from platform, management of emergency situations for the elderly), (ii) next generation walking assistance smart robot (with more rehabilitation functions for walking assistance and improved hardware design and algorithms) and (iii) next generation companion smart robot (further improved responsiveness to provide more interactions with users). We also intend to develop and launch (i) next generation general service smart robotic products and services, which consist of universal chassis that can be equipped with different upper bodies to perform different functions; and (ii) next generation inspection smart robot, which enables indoor and outdoor inspection and security monitoring. See “Our Business Strategies – Further advance our R&D capabilities to enhance our core technologies and products and services offerings – (ii) Our smart service robotic products and services for application in different sectors – (c) Other sector-tailored smart robotic products and services” above for details. We intend to sell such new and upgraded wellness and elderly care smart robotic products and services to new customers mainly comprising of local governments, SOEs, wellness service providers and overseas elderly care service providers; whereas we intend to sell such new and upgraded general services robotic products and services to new and existing customers to be used for various commercial purposes, such as meal delivery, hotel delivery, automatic cleaning and safety inspection.

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According to Frost & Sullivan, driven by the advancement of technologies and iteration of sensors, wellness and elderly care smart robots look to be commercialized, with there being much room for growth in the wellness and elderly care smart robotic products and services market, and the market size will reach RMB6.5 billion by 2028 representing a CAGR of 32.5% between 2022 and 2028. According to Frost & Sullivan, there remains substantial areas of innovation and opportunities for disruption in the wellness and elderly care smart robotic products and services industry as there are currently limited players with mature and leading core technologies in this field to address these market potentials.

We have newly expanded our presence in the smart service robotic products and services market into various use scenarios in different sectors, such as the logistics smart robotic products and services industry in late FY2020 and the wellness and elderly care smart robotic products and services industry in the second half of 2022. We believe based on our experience in the commercialization of smart service robotic products and services for the application in different use scenarios across different sectors, we are capable of continuously growing our revenue and business scale by enhancing the selection and market presence of our logistics smart robotic products and services and wellness and elderly care smart robotic products and services.

Consumer-level robots and other hardware devices

According to Frost & Sullivan, driven by the continuous upgrades of appearance and functionality of personal/domestic use smart service robots for non-commercial tasks as well as the compelling application at a competitive price, it is expected that the market size of personal/domestic smart service robotic products and services would reach RMB57.4 billion in 2028, representing a CAGR of 18.8% between 2022 and 2028. In particular, according to Frost & Sullivan, it is expected that the prevalence of “lazy economy” and the enhancement in core technologies and quality of components will continue to drive the demand for user-friendly household devices such as vacuum cleaners in the future.

Against such favorable trends, we intend to enhance our existing offerings of consumer-level robots and other hardware devices upon the advancement of our R&D capabilities, examples of which include (i) next generation vacuum cleaner (increased strong suction to effectively and efficiently pick up debris, pet hair and food crumbs), (ii) pool cleaning robot (with simple and easy-to-use wireless design with AI intelligent algorithm) and (iii) lawn mower (allow effective hands-free outdoor lawn moving with autonomous navigation and route planning outdoors). See “Our Business Strategies – Further advance our R&D capabilities to enhance our core technologies and products and services offerings – (ii) Our smart service robotic products and services for application in different sectors – (d) Consumer-level robots and other hardware devices” above for details.

We intend to sell the aforementioned robotic products with coordination among our sales partners, which consist of our sales channels including distributors and self-operated online stores, and believe that the combination of our business strategy to enhance our brand awareness and market penetration with our existing marketing initiatives will enable us to offer our robotic products to a larger number of PRC and overseas customers. See “Our Business Strategies – Enhance brand awareness and market penetration”, “Sales – Our sales networks” and “Marketing” above for details.

Furthermore, we intend to enhance our brand awareness and market penetration in the PRC and overseas by establishing more regional offices, branch offices and showrooms across the PRC and overseas to enhance our accessibility to end-users and receive feedback from potential customers. In particular, we plan to expand our market presence in the overseas markets of the smart service robotic products and services industry to further elevate our brand awareness and market penetration and establish ourselves as a domestic and overseas provider of smart service robotic products and services. See “Our Business Strategies – Enhance brand awareness and market penetration” above for details.

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Life-sized humanoid service robots

In order to continuously grow our revenue and business scale, we intend to (i) upgrade our existing core technologies that can be applied to our humanoid robots and (ii) develop and utilize new core technologies in relation to our humanoid robots upon the advancement of our R&D capabilities to further enhance the functionalities and performance of our human robots to launch humanoid robots with sufficient human-resemblance to meet future market demands, customer preferences and technology requirements. See “Our Business Strategies – Further advance our R&D capabilities to enhance our core technologies and products and services offerings – (i) Core technologies utilized in our humanoid robots” above for details.

During the Track Record Period, we have sold (i) a life-sized humanoid robot Walker-2 for educational purposes in FY2021, (ii) (a) a Walker, a Walker-1, a Walker-2 and two units of Walker X for educational purposes, (b) a Walker-2 for general commercial purposes such as greeting and display and (c) two units of Walker X for general commercial purposes such as greeting and guiding in FY2022 and (iii) a Walker-2 for educational purposes in 6M2023. Moving forwards, we intend to continue to sell our life-sized humanoid robots primarily for educational and general commercial purposes.

With the advancement of our R&D capabilities in relation to the core technologies utilized in our humanoid robots to enhance the functionalities and performance of our humanoid robots, we believe that it would also induce a spill-over effect on the functionalities and specifications of our core technologies which can be utilized in other use scenarios and the proliferation of the application of human robots in different use scenarios of different sectors.

(b) Commercializing our products and services for application in new use scenarios of different sectors

We are dedicated to creating value for customers and end-users by commercializing our products and services for application in new use scenarios of different sectors in order to achieve bringing UBTECH service robots to every home and industry.

We believe that the smart service robotic products and services market will continue to mature as consumer preferences and demand in the smart service robotic products and services industry further develop upon the proliferation of smart service robotic products and services offerings while technological advancements enhance the operational and production efficiencies in the industry. According to Frost & Sullivan, the continuous decrease in the costs of robotic parts due to breakthroughs in manufacturing technologies is expected to facilitate easier commercialization of products and services in the smart service robotic products and services industry.

According to Frost & Sullivan, as stated in Implementation Plan for “Robotics+” Application Action 《“机器人+”应用行动方案》 issued by the MIIT and various other PRC governmental departments in January 2023, it is proposed that the depth and breadth of application of service robots and special robots in the industry is expected to significantly increase, which would benefit various industry such as manufacturing, agricultural, construction, energy, logistics, etc.; and that the ability of robots to promote high-quality economic and social development would be significantly enhanced. As such, against such market backdrop and demand for quality smart service robotic products and services in various sectors in the future, we believe we can strengthen our market share in the smart service robotic products and services industry by leveraging on our commercialization capabilities in the smart service robotic products and services industry and track record in continuously developing smart service robotic products and services that can be used in various key industries.

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(c) *Expanding our sales network and market penetration*

In order to diversify our revenue stream both in the PRC and overseas markets, we intend to leverage on our direct sales force and enhance our brand awareness and market penetration in the PRC and overseas by establishing a total of 12 showrooms and 19 branch offices and regional offices across the PRC and overseas to enhance our accessibility to end-users and receive feedback from potential customers. In particular, we plan to expand our market presence in the overseas markets of the smart service robotic products and services industry to further elevate our brand awareness and market penetration and establish ourselves as a domestic and overseas provider of smart service robotic products and services. See “Our Business Strategies – Enhance brand awareness and market penetration” for details.

Our Directors believe that we are well-positioned to generate sustainable revenue and our above mentioned strategies, namely (a) enhancing the selection and market presence of our smart service robotic products and services offerings; (b) commercializing our products and services for application in new use scenarios of different sectors; and (c) expanding our sales network and market penetration are realistic and achievable due to the following reasons:

- ***Education smart robotic products and services.*** During the Track Record Period, we provided our education smart robotic products and services to seven major customers who are government educational bureaus (such as provincial-level departments of education and education bureaus) in the PRC, respectively, which allocated our education smart robotic products and services to over 240 schools in the PRC for educational purposes. We believe that demand from government educational bureaus, which are responsible for allocating teaching materials and equipment to schools for educational purposes in different regions of the PRC, will continue to be one of our major drivers for our education smart robotic products and services, enable us to expand the geographic coverage of our education smart robotic products and services in accordance with the locations of such institutions and there are business opportunities for us to grow our business.

According to Frost & Sullivan, there were approximately 227,000 schools (such as public and private compulsory education, high school and higher education level schools) in the PRC as of December 31, 2022 and the education smart robotic products and services industry has benefited, and will continue to benefit, from a number of policies and initiatives of the PRC government such as (i) Opinions on Strengthening Scientific Education in Primary and Secondary Schools in the New Era (關於加強新時代中小學科學教育工作的意見) issued in 2023 which requires the improvement of school teaching and services through utilizing AI, virtual reality and other related technologies; (ii) Implementation Plan for “Robotics+” Application Action (《“機器人+”應用行動實施方案》) issued in 2023 which seeks to cultivate and introduce high end R&D talents and standardized talents for robot application, strengthen international exchange of talents, and build leading talents and innovation teams; (iii) Guidance on Accelerating Scene Innovation to Promote High-level Application of Artificial Intelligence for High-quality Economic Development (關於加快場景創新以人工智能高水平應用促進經濟高質量發展的指導意見) issued in 2022 which sets scenario innovation as the development goal of both AI technology upgrades and new paths for industrial growth and puts forward specific measures to improve innovation capabilities and strengthening the supply of innovation elements for AI scenarios in the field of education; and (iv) The 14th Five Year Plan for National Informatization (十四五國家信息化計劃) issued in 2021 which proposed to develop education and training related to digital skills by providing diversified digital skills training programs for the public and promoting and popularize digital skills education for all.

According to Frost & Sullivan, as the State Council only released the relevant policy in 2017, namely the New Generation of Artificial Intelligence Development Plan (《新一代人工智能發展規劃》), which (i) requires primary and secondary schools to gradually promote AI programming education and (ii) encourages the community to participate in developing and promoting educational and entertaining AI programming teaching software, the PRC

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Government gradually provided funds and support to primary and secondary schools to set-up AI-related courses since 2017. However, only a limited number of the governments, such as the governments in the following provinces or cities, have announced relevant policies as of the Latest Practicable Date according to Frost & Sullivan:

Province/City	Details of policy	Implementation timeline	Number of schools in the province/city (Note)
Zhejiang Province	Zhejiang Digital Education Conference held in 2023 stated that AI will become a basic and compulsory course in primary and secondary schools.	According to the policy, it is expected that 1,000 AI experimental schools will be established by 2025.	Around 6,000
Shenzhen City	The “Arrangements and Requirements for the Popularization of Artificial Intelligence Teaching in Primary and Secondary Schools of Nanshan District” was published during the AI-education promotion and exchange meeting held in Nanshan District, Shenzhen City in March 2021, which stipulates that the teaching of AI should be arranged in the mandatory courses of the fifth year of primary school, the first year of junior high school, and senior high school, and that five class hours of learning per semester should be guaranteed for senior high school.	According to the policy, every student will be able to access AI education by the end of 2023.	Around 900

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Province/City	Details of policy	Implementation timeline	Number of schools in the province/city (Note)
	<p>The “Implementation Plan for Promoting Artificial Intelligence Education in Primary and Secondary Schools in Longhua District (for Trial Implementation)” officially issued by the Bureau of Education of Shenzhen Municipality of Longhua District requires that AI education should be gradually incorporated into the compulsory curriculum for primary and secondary school students in the entire district from September 2023.</p>	<p>According to the policy, it is expected that the popularization of AI education in grades 4 to 8 will be achieved in Longhua District in 2025, with the establishment of 50 AI experimental schools and 20 AI education demonstration schools.</p>	
Beijing City	<p>In 2019, the Beijing Municipal Education Commission released the Action Plan for Promoting the Integration of Artificial Intelligence and Education in Beijing (《北京促進人工智能與教育融合發展行動計劃》), which aims to support the construction of AI innovation centers, promote the integration of AI into practical activities, and support the offering of AI disciplines in universities.</p>	<p>The Action Plan proposes that the quality of talent training and the capabilities of innovation in the field of AI will be significantly improved by 2025. Moreover, AI and education will be mutually and efficiently empowered in Beijing to provide talent guarantee and scientific and technological support for China to be in the forefront of innovative countries by 2035.</p>	Around 1,600

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Province/City	Details of policy	Implementation timeline	Number of schools in the province/city (Note)
Shanghai City	The Shanghai Municipal Education Commission has also introduced policies to encourage primary and secondary schools to include AI in their education curriculum. In addition, Shanghai has established the Shanghai Artificial Intelligence Education Alliance in 2019, which aims to promote the application of AI in the field of education.	According to Frost & Sullivan, the relevant government authority did not specify the implementation timeline for the policy.	Around 1,700
Guangdong Province	The Guangdong Provincial Department of Education has released the “Information Technology Curriculum Standards for Primary and Secondary Schools in Guangdong Province (2019 Edition)” (《廣東省中小學資訊技術課程標準(2019年版)》), which incorporates artificial intelligence into the compulsory content of the primary and secondary school IT curriculum.	According to Frost & Sullivan, the relevant government authority did not specify the implementation timeline for the policy.	Around 16,000

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Province/City	Details of policy	Implementation timeline	Number of schools in the province/city (Note)
Hunan Province	<p>The “Notice on the Issuance of the Standard of Fees for Primary and Secondary Schools in Changsha City in the Spring of Year 2021” (《關於印發長沙市2021年春季中小學收費標準的通知》) states that the city is adding “artificial intelligence education” activity books for grades 3 to 6 and “programme writing education” activity books for grades 7 to 9.</p> <p>The Hunan Provincial Department of Education has released the “Information Technology Curriculum Standards for Primary and Secondary Schools in Hunan Province (2019 Edition)” (《湖南省中小學資訊技術課程標準(2019年版)》), which includes artificial intelligence as a compulsory part of the primary and secondary school IT curriculum.</p>	According to Frost & Sullivan, the relevant government authority did not specify the implementation timeline for the policy.	Around 11,000

Note: The number of schools in the province/city is estimated according to publicly available information by Frost & Sullivan.

As the number of local governments which have announced policies to promote AI-related courses remain relatively low, the penetration rates of smart robotic products and services in the education smart robotic products and services industry in the PRC were approximately nil, 1%, 3%, 4%, 6% and 8% in the years ended December 31, 2017 to 2022, respectively, according to Frost & Sullivan. Such penetration rates remained low during the aforementioned period according to Frost & Sullivan primarily because (i) while the State Council released the first AI education related policy, namely the New Generation of Artificial Intelligence Development Plan in 2017, local governments of provinces and cities such as Zhejiang Province and Shenzhen City only gradually announced its policies to promote or include AI education as a compulsory part of school curriculum in the past two to three years, which resulted in a low penetration rate of smart robotic products and services in the education smart robotic products and services industry in the PRC; and (ii) the adoption of education smart robotic products and services requires relatively high investment from local governments and schools which resulted in the overall slow application in the educational scenario.

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Looking forward, the penetration rate of smart robotic products and services in the education smart robotic products and services industry in the PRC is expected to rise and reach approximately 46% by 2028 by facilitating the teaching of AI education in schools according to Frost & Sullivan primarily due to the (i) decreasing investment cost of AI education as more market players will engage in providing related products and services which will lower the overall price of education smart robotic products and services; (ii) advancement of technologies in the design of smart service robots which enhances the functionalities and performance of smart service robots and their capabilities in accommodating the needs of various application scenarios in the education smart robotic products and services industry; and (iii) increase in demand for AI education taught in a user-friendly and cost-efficient manner, due to increasing awareness of the general public of the application of AI technologies in day-to-day scenarios such as AI-empowered programmes such as ChatGPT which can facilitate the completion of complex tasks in a manner with high human-resemblance.

Furthermore, the penetration rate of 46% by 2028 is achievable according to Frost & Sullivan as evidenced by the fact that local government or cities have gradually announced the inclusion of AI-related courses to become a basic and compulsory course in recent years. As of the Latest Practicable Date, three provinces/cities have announced plans to promulgate or have already promulgated policies which mandated AI-related courses to become a basic and compulsory course for primary and secondary schools. Such penetration rate is also supported by historical trend. In particular, the number of schools that purchased and/or applied education smart robotic products and services as the teaching tools to conduct AI-related courses increased from approximately 2,600 in 2018 to approximately 18,000 in 2022 at a CAGR of 62.21% according to Frost & Sullivan. Based on the above, according to Frost & Sullivan, under the trend of the increasing number of policies to promote the development of AI education, it is expected that schools will expend more resources to develop AI-related courses, and it is also expected that more provinces/cities will offer AI education as a basic and mandatory curriculum or elective curriculum by 2028. All such developments are expected to contribute to the expected penetration rate of education smart robotic products and services of 46%, representing approximately 82,000 schools.

Despite we only launched our education smart robotic products and services in 2017, we have developed into one of the market leaders and ranked the first and accounted for 22.5% of the China's education smart robotic products and services industry in terms of revenue in 2022. Our Directors believe that our historical success was partially due to the efforts of our direct sales force and our multi-level marketing initiatives which comprised of participation in national education exhibitions and organizing provincial and municipal AI education exhibitions and exchange sessions for primary and secondary schools. Our direct sales force built up business relationships with our customers including government educational bureaus over the years to seek business opportunities and to keep abreast to the industry information which ensure we are ahead of our competitors to any tender opportunities and other relevant information. Thus apart from continuously invest in R&D to enhance our products' functions and maintain our established position, we intend to adopt similar marketing initiatives to increase our exposure in the education sector and attract new business opportunities. In particular, we intend to set up regional offices and branch offices in various cities in the PRC which will allow us to (i) better identify potential business opportunities in the local regions and obtain up-to-date market intelligence and industry information; and (ii) provide better customer services, by more promptly reacting to our customers' requests and enquiries, and thus to maintain closer relationship with our existing and potential customers in the local regions.

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The revenue generated from our education smart robotic products and services decreased from RMB612.2 million in FY2020 to RMB461.8 million in FY2021, representing a decrease of 24.6% from FY2020 to FY2021, which underperformed against China’s education smart robotic products and services industry which decreased by 8.0% from FY2020 to FY2021, primarily due to, according to the best information and knowledge of our Directors, decrease in demand due to the emphasis of education bureaus and schools throughout China on tackling the outbreak of COVID-19 and the temporary suspension of investments in smart education projects in certain provinces in China amidst the outbreak of COVID-19 in FY2021 as the top five provinces of the PRC which had the highest contribution to the revenue generated from our education smart robotic products and services for FY2021 (namely Zhejiang Province, Jiangsu Province, Shandong Province, Hebei Province and Fujian Province) were some of the most severely affected regions of the PRC by the COVID-19 outbreak in 2021 according to Frost & Sullivan. Revenue generated from our education smart robotic products and services increased from RMB461.8 million in FY2021 to RMB516.7 million in FY2022, representing an increase of 11.9% from FY2021 to FY2022, which outperformed against China’s education smart robotic products and services industry which remained stable at RMB2.3 billion from FY2021 to FY2022, since none of the top five provinces of the PRC which had the highest contribution to the revenue generated from our education smart robotic products and services for FY2022 (namely Hebei Province, Hunan Province, Zhejiang Province, Guangxi Province and Jiangsu Province) were one of the top five provinces/municipalities that were most affected by the COVID-19 pandemic in China in FY2022 according to Frost & Sullivan.

To maintain our market position, we will continue to seek for business opportunities by entering into more government cooperation agreements. Since January 1, 2023 and up to the Latest Practicable Date, we have entered into 10 cooperation agreements with local government authorities and SOEs which set out commitments of such government authorities and SOEs such as (i) strategic cooperation to facilitate the promotion of AI education or (ii) prioritising purchasing education smart robotic products and services from our Group within a specified period with actual purchase orders being subsequently formalized through purchase orders, which is not uncommon market practice according to Frost & Sullivan. Among these cooperation agreements, we have entered into one framework sales contract under one of the government cooperation agreements, pursuant to which the counterparty shall purchase robotic products from our Group and the procurement amount for the three years from April 2023 shall be RMB450 million (of which RMB80 million is in relation to education smart robotic products and services), the details of which are subject to the placing of purchase order. Based on the above, our Directors believe that we are capable of converting such government cooperation agreements into actual demand for our smart service robotic products and services and we expect there will be continuous and sufficient demand for our education smart robotic products and services going forward.

- **Logistics smart robotic products and services.** Replicating our experience in commercializing education smart robotic products and services, we launched our logistics smart robotic products and services in late 2020, recorded revenue of RMB12.7 million, RMB190.8 million, RMB263.4 million, RMB41.1 million and RMB76.8 million for FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively.

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We provided our logistics smart robotic products and services on a project-by-project basis and we primarily received our logistics smart robotic products and services projects through tender and direct engagement. The following table shows the details of our tendering for logistics smart robotic products and services projects during the Track Record Period:

	FY2020	FY2021	FY2022
Number of tenders submitted	Nil	3	5
Number of tenders awarded	Nil	0	2
Success rate (<i>Note</i>)	Nil	0	40.0%

Note: Tender success is calculated by dividing the number of tenders awarded in respect of the tenders submitted during the stated financial year by the number of tenders submitted during the same financial year. We did not submit any tenders for logistics smart robotic products and services projects in 6M2023.

We only launched our logistics smart robotic products and services in late FY2020 and those contracts attributable to our logistics smart robotic products and services revenue in FY2020 were obtained mainly through MAE. It is our strategy to lower our pricing to compete with existing established market players to penetrate the market and gain market shares in a short period of time. We intend to continue to adopt a similar pricing strategy to gain market shares in the near term. In the future our Directors are of the view that as we continue to expand our market shares and presence in the industry, we will be able to increase our price to normal industry level. Furthermore, as (i) we have established relationships and gained project experience with well-known companies during the Track Record Period due to our pricing strategy; and (ii) our logistics smart robotic products and services have been utilized by large companies such as vehicle manufacturers, this can be regarded as credit to our ability to offer quality products and services and satisfy requirements of well-known and large companies, which in turn allow us to combine our experience in the industry with our core technologies to launch our new products such as next generation unmanned forklift AMR and AMR robot and outdoor driverless logistics vehicles, thus attract more tender opportunities and secure more potential projects in the long term.

The following table shows the details on the number of logistics smart robotic products and services projects awarded to us and completed during the Track Record Period:

	FY2020	FY2021	FY2022	6M2023
Number of projects as at the beginning of year/period (<i>Note 1</i>)	Nil	15	34	83
Number of new projects (<i>Note 2</i>)	17	62	71	30
Number of projects completed (<i>Note 3</i>)	2	43	22	24
Number of projects as at the end of year/period (<i>Note 4</i>)	15	34	83	89

Notes:

1. “Number of projects as at the beginning of year/period” means the number of new projects carried forward from the previous year/period.
2. “Number of new projects” means the number of new projects awarded to our Group during the relevant year/period indicated.
3. “Number of projects completed” means the number of projects where the percentage of completion reached 100% during the relevant year/period.
4. “Number of projects as at the end of year/period” means the number of projects as at the beginning of year/period plus number of new projects minus number of projects completed during the relevant year/period indicated.

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The following table shows the details on the contract value of logistics smart robotic products and services projects awarded to us and completed during the Track Record Period:

	FY2020	FY2021	FY2022	6M2023
	RMB'000	RMB'000	RMB'000	RMB'000
Contract value as at the beginning of year/period (Note 1)	Nil	109,368	129,323	250,500
Contract value of new projects (Note 2)	122,058	210,741	384,615	119,898
Revenue recognized (Note 3)	12,690	190,786	263,437	76,801
Contract value as at the end of year/period (Note 4)	109,368	129,323	250,500	293,598
Average value per new project	7,180	3,399	5,417	3,997
Average revenue per project	6,345	4,437	11,974	3,200

Notes:

1. “Contract value as at the beginning of year/period” means the total contract value carried forward from the previous year/period.
2. “Contract value of new projects” means the total contract value of new projects awarded to our Group during the relevant year/period.
3. “Revenue recognised” means the total revenue recognised from projects during the relevant year/period.
4. “Contract value as at the end of year/period” means the contract value as at the beginning of year/period plus the total contract value of new projects awarded to our Group minus total revenue recognised during the relevant year/period.

Our contract value as at the end of year/period increased by 18.2% from RMB109.4 million as at December 31, 2020 to RMB129.3 million as at December 31, 2021, further increased by 93.7% to RMB250.5 million as at December 31, 2022, and further increased by 17.2% to RMB293.6 million as at June 30, 2023. This is in line with our marketing efforts in logistics smart robotic products and services during the Track Record Period. Our number of projects as at the end of year/period increased from 15 as at December 31, 2020 to 34 as at December 31, 2021 and further to 83 as at December 31, 2022 and to 89 as at June 30, 2023.

It is our strategy to lower our pricing to compete with existing established market players to penetrate the market and gain market shares in a short period of time. While such pricing strategy may inevitably put pressure to our gross profit margin, our Directors believe that it allows us to penetrate the market and gain market shares within a short period of time. This allowed us to rank seventh and accounted for 2.2% of China’s logistics and mobile smart robotic products and services industry in terms of revenue in 2022 according to Frost & Sullivan. We intend to continue to adopt similar pricing strategy to gain market shares in the near term. Our Directors believe that as we continue to expand our market shares and presence in the industry, we will be able to increase our price to normal industry level. Since FY2021, our weighted average gross profit margin for new logistics smart robotic products and services projects obtained in the relevant financial year recorded an increasing trend. We will continue to obtain new projects with higher gross profit margin through tendering and direct engagement in order to improve our gross profit margin of logistics smart robotic products and services.

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For FY2020, FY2021, FY2022 and 6M2023, one, six, 11 and 11 end users who are vehicle manufacturers utilized our logistics smart robotic products and services, which included both traditional and new energy vehicle manufacturers. We believe vehicle manufacturers, in particular new energy vehicle manufacturers, will be one of the drivers for the demand of our logistics smart robotic products and services, as according to Frost & Sullivan there is an increasing trend for vehicle manufacturers to incorporate logistics smart robotic products and services into its warehousing and production process as traditional labor may not be able to provide consistent and safe handling of vehicle components, semi-finished products and finished products due to their heavy and fragile nature. In particular, according to Frost & Sullivan, with the rising demand of new energy vehicles such as electric vehicles, there are 17 new energy vehicle manufacturers with new energy vehicles production qualifications in the PRC as of December 31, 2022, and it is expected that the market size will reach RMB58.9 billion by 2028, with a CAGR of 30.4% from 2022 to 2028. According to Frost & Sullivan, it is expected that the market size of logistics and mobile smart robotic products and services in new energy vehicle-related manufacturing industries, measured by revenue, will reach RMB2.3 billion by 2028, with a CAGR of 36.8% from 2022 to 2027. Meanwhile, the annual sales volume of new energy vehicles is expected to reach 12.7 million units by 2028 according to Frost & Sullivan, representing a CAGR of 18.2% from 2022 to 2028. Therefore, fuelled by the development of new energy vehicle-related manufacturing industries and the annual sales volume of new energy vehicles, the market demand for logistics and mobile smart robotic products and services from customers in new energy vehicle-related manufacturing industries is expected to continue to climb in the future according to Frost & Sullivan.

While we face competition with existing established market players, our Directors believe we are able to capture further market shares as we can offer products with comparable functions at competitive prices. Furthermore, our Directors believe that (i) our project experience during the Track Record Period; and (ii) our ability to offer quality products and services and satisfy requirements of well-known and large companies, as evidenced by our logistics smart robotic products and services being utilized by different companies including one of the largest China-based new energy vehicle manufacturer during the Track Record Period, allow us to further attract more tender opportunities and secure more potential projects in the long term.

As of the Latest Practicable Date, we had 62 logistics smart robotic products and services projects, contracts of which were secured and signed during the Track Record Period and up to the Latest Practicable Date but revenue of which were not at all and/or fully recognized during the Track Record Period, among which (i) 89 projects were obtained during the Track Record Period, and (ii) 19 and 46 projects were obtained and completed, respectively, subsequent to June 30, 2023 and up to the Latest Practicable Date. It is expected that 53 of the aforementioned projects will be completed in FY2023 with contract value of not less than RMB175.0 million and the remaining 9 projects with contract value of RMB65.0 million will be completed after FY2023. Our customers of the aforementioned projects consists of enterprises in various industries mainly including, but not limited to, new energy vehicle manufacturing, vehicle manufacturing, battery manufacturing, tyre manufacturing and other logistics services, and the types of these customers include large-scale enterprise listed on reputable stock exchange(s), state-owned enterprises, renowned foreign-owned enterprises and private enterprises.

- ***Other sector-tailored smart robotic products and services.*** The major types of use scenarios of our other sector-tailored smart robotic products and services include (i) general service smart robotic products and services (which mainly cover (a) inspection smart robotic products and services and (b) reception smart robotic products and services); (ii) wellness and elderly care smart robotic products and services; and (iii) life-sized humanoid service robots.

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Our other sector-tailored smart robotic products and services are targeted to fulfil the various business needs of our enterprise-level customers in different use scenarios. For FY2020, FY2021, FY2022 and 6M2023, 118, 123, 103 and 39 enterprise-level customers purchased our other sector-tailored smart robotic products and services. According to Frost & Sullivan, in the PRC, certain industries of our other sector-tailored smart robotic products and services, including inspection smart robotic products and services industry, reception smart robotic products and services industry, and wellness and elderly care smart robotic products and services industry, are either at its early stage of commercialization or fragmented (i.e. there are limited products and services providers at this stage), as such there remains substantial areas of innovation and opportunities for disruption as there is currently limited players with mature and leading core technologies in these sectors to address the market potentials. We will continue to develop and launch products with quality and functionalities to capture market shares and set the selling prices at a level so as to achieve optimal gross profit margins. In this connection, we intend to continue to invest in R&D to launch new products including next generation general service smart robotic products and services such as commercial cleaning smart robots, delivery smart robots and next generation walking assistance smart robot.

(i) General service smart robotic products and services

According to Frost & Sullivan, with the adoption of IoT, AI and cloud computing, the market size of the inspection smart robotic products and services industry in China is anticipated to reach RMB30.9 billion by 2028, representing a CAGR of 20.9%. Our inspection smart robots such as AIMBOT series and ATRIS Series are designed to perform inspection tasks such as safety and security patrol, monitoring environmental conditions and equipment inspection. They can be deployed in various outdoor environments such as industrial parks as well as dangerous or harsh environments such as electrical substations and data and equipment centre. Due to the harsh environment conditions such as noise and temperature, enterprises are more willing to deploy inspection smart robots to perform day-to-day inspection and monitoring tasks with better consistency and to minimize the involvement of labor to perform dangerous tasks onsite. To address such rising demand, with our technology accumulation in outdoor 3D mapping and positioning technologies, motion planning and control technologies, and visual recognition, we intend to upgrade the functions and performance of our inspection smart robots (such as model G100 of ATRIS Series) to enable unmanned operations and provide them with sufficient battery-life and other capabilities in order to meet indoor and outdoor inspection and security monitoring needs.

Furthermore, we intend to develop next generation general service smart robotic products such as commercial cleaning smart robots and delivery smart robots. The general service smart robots will consist of universal chassis that can be equipped with different upper bodies to perform different functions. As a reflection of our R&D capabilities, in June 2023, our delivery smart robots had been used for trial application in a resort in Zhuhai City. Furthermore, we also intend to enhance the delivery and after-sales service of our delivery smart robots. We intend to simplify the map building and editing functions so that our engineers can guide the customer through the delivery process remotely which can enhance overall efficiency.

(ii) Wellness and elderly care smart robotic products and services

We only launched our wellness and elderly care smart robotic products and services in the second half of 2022 and recorded insignificant revenue during the Track Record Period, which underperformed compared to the industry since it contained market players with more established track records in relation to wellness and elderly care smart robotic products and services compared to us. According to Frost & Sullivan, the number of elderly population aged 60 and over is expected to continue to grow from 2022 to 2035 and will reach 400 million in 2035, accounting for more than 30% of China’s total population in 2035. Therefore, China is facing challenges in the shortage of long term care workers and an increasing trend in an aging population. Given the increasing labor costs and expected relatively slow growth of the

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supply of long term care workers, Frost & Sullivan is of the view that there will be demand for wellness and elderly care smart robots that have the capabilities of performing laborious and repetitive rehabilitation tasks to ensure the accuracy and consistency of services. Furthermore, according to Frost & Sullivan, talking robots that interact with the elderly could be introduced into elderly care facilities to help fight loneliness and mental illnesses. Thus, we intend to launch new products that can minimize the need for care-workers such as (i) next generation wellness and elderly care smart cloud-based platform, (ii) next generation walking assistance smart robot and (iii) next generation companion smart robot. See “Our Business Strategies – Further advance our R&D capabilities to enhance our core technologies and products and services offerings – (ii) Our smart service robotic products and services for application in different sectors – (c) Other sector-tailored smart robotic products and services” above for details. We also intend to actively cooperate with established companies that have built-up business relationships with hospitals and elderly care facilities to tap into the wellness and elderly care smart robotic products and services market as we believe their customer networks will promote our market presence in a short period of time. To this end, we have established a health-tech joint venture company, namely Youdi Health Technology (Shenzhen) Co., Ltd.* (優邸健康科技(深圳)有限公司) on June 16, 2023, with a leading elderly care service provider group in Japan established in 1999, which operates over 300 elderly care facilities in Japan and also has business operations in relation to elderly care consulting business and co-operation of elderly care facilities in China, for the cooperation in relation to wellness and elderly care products and services. The business scope of the joint venture company includes provision of elderly care related services, smart elderly products, AI system and elderly care consulting. The Japanese company has business presence in relation to elderly care services across Shanghai, the Yangtze River Delta, the Pearl River Delta and the Beijing-Tianjin-Hebei region. Moreover, we also entered into a sales contract with a company controlled by an established elderly care facilities operator in the PRC under which we agreed to provide, among others, smart companionship services, smart medicines delivery services and smart inspection services to the counterparty.

(iii) Life-sized humanoid service robots

During the Track Record Period, we sold our Walker for educational purposes and general commercial purposes such as greeting, displaying and guiding. The main functions of our life-sized humanoid robot Walker sold during the Track Record Period include demonstration, walking, greeting, shaking hands, dancing, doing yoga or Tai Chi, voice interaction, drawing, guiding, waitressing, IoT smart home control, and receptionist services. According to Frost & Sullivan, domestic demand for life-sized humanoid service robot in the PRC is expected to increase with the support of government policies, such as (i) the Action Plan for the Innovative Development of the Robot Industry in Beijing (2023-2025) (《北京市機器人產業創新發展行動方案(2023–2025年)》) published by the General Office of Beijing Municipal People’s Government in June 2023, which aimed to significantly enhance the innovative capabilities of the robotics industry in Beijing City by 2025 through means such as establishing an ecosystem consisting of humanoid robot development and technological services platforms in order to facilitate the small-scale production of 100 units of humanoid service robot prototypes with functionalities and capabilities to be applied in three to four different types of use scenarios by 2025, and (ii) the Shenzhen Action Plan for Accelerating the High Quality Development and High Level Application of Artificial Intelligence (2023-2024) (《深圳市加快推動人工智能高質量發展高水平應用行動方案(2023–2024年)》) published by the General Office of the CPC Shenzhen Municipal Committee and the General Office of the Shenzhen Municipal People’s Government in May 2023, which supports key enterprises to continuously carry out R&D and applications of embodied intelligence in robotics and aims to build more than five joint laboratories for AI research and to accelerate the formation of the Guangdong Humanoid Robot Manufacturing Innovation Centre. We were also selected by the Department of Industry and Information Technology of Guangdong Province in April 2023 to lead the establishment of the Guangdong Province Humanoid Robotics Innovation Centre, which we believe shows industry recognition of our core technologies in relation to our humanoid robots. Furthermore, our Directors are of the view that there are business opportunities for our Walker series in the

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global humanoid robotic products and services industry. According to Frost & Sullivan, with the continuous R&D focusing on humanoid robot technologies and systems as a result of the increased awareness of and investments from technological companies, the development of new technologies such as ChatGPT will bring new opportunities to the global humanoid robotic products and services industry and there will be increasing applications of humanoid robots in various fields, such as education and entertainment, wellness and elderly care, disinfection, and logistics to accomplish the complex and human-like tasks in the future. Furthermore, according to Frost & Sullivan, in the long run, not only will humanoid robots become more capable to facilitate human-robot interaction but life-sized humanoid robots can be used to take on repetitive and dangerous tasks in various use scenarios including manufacturing, logistics, inspection, healthcare, maintenance and disaster response to minimize the involvement of labors in dangerous tasks. According to Frost & Sullivan, as pilot programs, some humanoid robots are serving customer drinks and snacks at self contained kiosks in Spain while other humanoid robots are providing services in healthcare settings such as communicating patient information and measuring vital signs, which either our Walker series are also capable of fulfilling or we already possess the necessary core technologies to enable such functionalities. Our Group will from time to time promote the functions of our Walker through demonstration to potential customers to understand their needs on use scenarios. For example, we have sent our R&D staff together with our Walker, to Saudi Arabia and demonstrated the functions and possible use scenarios of our Walker at the offices of a potential customer.

According to Frost & Sullivan, the global humanoid robotic products and services industry is still at an early stage with a few market players and limited use scenarios. Our Directors believe that our Walker series will be a driving factor of our other sector-tailored smart robotic products and services. Our revenue from Walker series and others amounted to RMB2.3 million, RMB12.8 million and RMB51.9 million in FY2020, FY2021 and FY2022, respectively, representing a CAGR of 182.6%, and recorded revenue from Walker series and others which amounted to RMB0.3 million and RMB7.2 million in 6M2022 and 6M2023, respectively. Our Directors believe our success in commercializing our Walker series have demonstrated the market demand for humanoid robots and we are well-positioned to capture the growth of the market due to our full-stack of technologies accumulated throughout the years and ability to commercialize our Walker series. We will continue to invest in R&D to advance core technologies utilized in humanoid robots to stay ahead in the global humanoid robotic products and services industry.

- ***Consumer-level robots and other hardware devices.*** According to Frost & Sullivan, driven by the prevalence of “lazy economy”, the emergence of vacuum cleaners are able to liberate consumers from household chores by providing autonomous cleaning services. In this regard, China’s vacuum and floor cleaning robotic products market is anticipated to reach RMB39.2 billion by 2028, representing a CAGR of 18.4% from 2022 to 2028. Despite the vacuum and floor cleaning robotic products industry being highly concentrated, we recorded a significant increase in revenue generated from RMB12.9 million in FY2021 to RMB73.6 million in FY2022 from our AiRROBO vacuum cleaner which was launched in 2021. In light of such market growth and the sales performance of our vacuum cleaner, we intend to utilise our core technologies such as USLAM to upgrade our AiRROBO vacuum cleaner with better precision mapping and positioning functions, obstacle avoidance functions and stronger sweeping, moping and vacuuming abilities. In addition, our AiRROBO cat litter box which was launched in the 4th quarter of 2022 became our new revenue source with revenue of RMB7.1 million and RMB14.6 million in FY2022 and 6M2023, respectively. We will continue to launch more consumer-level robots and other hardware devices with comparable functions and technologies at competitive prices to compete against competitors in different consumer-level robots and other hardware devices markets in the PRC. For example, we intend to develop pool cleaning robot and lawn mower in 2023 to expand our product lines of consumer-level robots and other hardware devices. Such products are intended to capture the overseas markets such as North America. According to Frost & Sullivan, pool cleaning robots have become increasingly demanded as a result of the growing popularity of swimming pools and awareness

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of the benefits of pool maintenance, and the global pool cleaning robot market is anticipated to reach USD0.9 billion by 2028, representing a CAGR of 25.1% from 2022 to 2028. Furthermore, the growing demand for lawn maintenance and garden activities is expected to fuel the market growth of the global lawn mower market according to Frost & Sullivan, and the market size is expected to reach USD0.5 billion by 2028, representing a CAGR of 33.3% from 2022 to 2028. With (i) the simple and easy-to-use wireless design and AI algorithms that will improve cleaning efficiency and quality for our pool cleaning robot and (ii) the ability to allow effective hands-free outdoor lawn mowing and autonomous navigation, outdoor route planning, parameter identification and obstacle avoidance for our lawn mowers, our Directors believe that our competitively priced pool cleaning robots and lawn mowers will be capable of capturing market demand in the relevant industries and the revenue generated from our consumer-level robots and other hardware devices is expected to continue to grow.

To reach out to more consumers and increase accessibility of our consumer-level robots and other hardware devices, we will also enhance our brand awareness and optimize our sales channels by establishing more regional offices, branch offices and showrooms across the PRC and overseas to reach out to more consumers.

(ii) Effectively managing our costs and expenses

We believe that our ability to manage and minimize operational costs and expenses while increasing the scale of our operations is essential to the success and future of our business and profitability.

During the Track Record Period, our cost of sales amounted to RMB409.5 million, RMB561.3 million, RMB714.2 million, RMB244.7 million and RMB208.5 million for FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively. We intend to implement the following measures to reduce our cost of sales:

- We intend to continue to implement measures to reduce our cost of sales by lowering our cost of raw materials and consumables and subcontracting fees. During the Track Record Period, our cost of raw materials and consumable goods used, mainly included compliers, PCB boards, electronic parts, plastic parts and electromechanical parts, which represented the largest portion of our cost of sales, accounted for 53.1%, 62.6%, 64.2%, 54.6% and 61.0% of our total cost of sales for FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively. As a means to further enhance our sustainability and reduce cost of raw materials and consumables, we (i) pursue acquisition and/or investment opportunities in upstream suppliers of raw materials, hardware and/or services in the smart service robotic products and services industry to enhance our overall business performance, operational and cost efficiencies. Such vertical integration has proven to be effective during the Track Record Period as we were able to lower our subcontracting fees from RMB105.8 million to RMB63.8 million from FY2021 to FY2022 upon the acquisition of Shanghai UBJ, which resulted in an increase in gross profit margin from sales of education smart robotic products and services from 44.8% to 56.1% from FY2021 to FY2022; and (ii) maintain a register of alternative suppliers of raw materials and consumable goods which is updated on a regular basis in order to ensure that the cost of raw materials and consumables used in our production processes are in line with the latest market trends, minimize our production costs and safeguard against unexpected price and supply fluctuations.
- During the Track Record Period, our sales volume of robotic products were over 190,000 units, 160,000 units, 260,000 units, 90,000 units and 130,000 units in FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively, with average cost per unit of approximately RMB1,000, RMB1,300, RMB900, RMB1,100 and RMB700, respectively. Our Directors believe that as we increase the sales volume of our products, we expect to further lower our cost of sales due to improved economies of scale and operational efficiency. We intend to take advantage of the increased purchase amounts of raw materials (eg. PCB boards and electronic parts) upon achieving mass production of our smart service robotic products and services to negotiate and obtain bulk purchase discounts from our suppliers. Furthermore, we are able to leverage on the increasing sales volume of our AiRROBO vacuum cleaner and AiRROBO cat

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litter box since their launch during the Track Record Period and obtain bulk purchase discounts in relation to their raw materials (e.g. switchboards, plastic components and casings) from the relevant suppliers.

- We intend to utilize additional machineries in order to further leverage on robotic technologies to achieve automation of certain procedures throughout the assembly, testing and packaging stages of the production process of our smart service robotic products. For example, the relevant workforce stationed at certain procedures during the assembly process of our smart service robotic products which involve repetitive tasks, such as the installation of screws and transportation of materials, can be assisted or replaced by appropriate machineries. Our Directors believe that this initiative not only enables us to reduce labour costs and better manage our cost of sales, but can also enhance the precision and efficiency of our production process to ensure better quality of our smart service robotic products.

Our R&D expenses accounted for 57.9%, 63.3%, 42.5%, 72.3% and 85.9% of our total revenue for FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively. We expect to continue to evaluate and monitor the effectiveness and efficiency of our R&D expenses in order to improve our operational efficiency. Although we expect to maintain a relatively high level of R&D expense in the future to enhance our R&D capabilities and robotic and AI technologies for our products and services, we also expect our R&D expenses as a percentage to our total revenue to experience a general decreasing trend in the long term since (i) we possess a full stack of modularized robotic and AI technologies, some of which are currently not fully utilized in the commercialization for our products and services due to, according to the best information and knowledge of our Directors, the current standards of such core technologies exceeding the necessary requirements to satisfy current consumer preferences and demand in the smart service robotic products and services industry and we believe that they are capable of meeting future changes in consumer preferences and demand in the smart service robotic products and services industry upon the proliferation of smart service robotic products and services offerings resulting from the increase in demand for more advanced products and services, (ii) employee benefit expenses, which is the largest component of our R&D expenses during the Track Record Period, generally do not change proportionately with revenue growth. We have also implemented measures to remove underperforming employees, as well as to assess the organizational structure of each department on a regular basis and set headcount limits in accordance with the Group's actual business needs. We also intend to conduct regular assessments on the performance of our R&D staff and cost-benefit analysis on the relevant employee benefit expenses in order to ensure that their remuneration packages reflect their performance levels and are consistent with market standards; (iii) we expect returns from our upfront R&D investments during the Track Record Period in terms of new and upgraded core technologies, products and services, which can be commercialized and are expected to generate future revenue for us; and (iv) as we conduct more R&D projects in relation to various core technologies, products and services, our R&D capabilities and efficiencies are expected to improve due to economies scale as the results of such R&D projects are expected to lead to technological breakthroughs which can facilitate and synergize with the future R&D of additional core technologies, products and services of the Group. We also plan to continue investing in our product and services R&D capabilities, particularly with respect to our core technologies, in order to enhance our technologies utilized under our products and services and reinforce our established position in the industry. See "Our Business Strategies" above for further details.

Our selling and marketing expenses accounted for 42.3%, 43.8%, 35.8%, 60.5% and 72.7% of our total revenue for FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively. We expect to continue to evaluate and monitor the effectiveness and efficiency of our selling and marketing expenses in order to improve our operational efficiency and for our selling and marketing expenses as a percentage to our total revenue to experience a general decreasing trend in the long term due to the following reasons:

- Leveraging our commercialization capabilities in the education smart robotic products and services industry, we have been gradually and continuously developing smart service robotic products and services that can be used in various key industries, including education, logistics, general service (such as guiding assistance and security patrol smart robots), and wellness and

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elderly care. As a result, we believe that our experience in launching new products and services in different use scenarios across different sectors will enable us to strengthen our market position in the smart service robotic products and services industry and enhance our brand awareness and market penetration into existing and new industries without incurring significant selling and marketing expenses;

- During the Track Record Period, certain customers of our smart service robotic products and services were (i) governmental bodies such as education bureaus and local management committees; and (ii) SOEs which were engaged in multiple business disciplines. As such customers tend to have more financial resources available and greater needs for our products and services in terms of quantity and variety across different governmental bodies under the same local government (for governmental bodies) or across different business segments or group companies (for SOEs), we intend to improve our sales and marketing efficiency by promoting to such customers (i) the up-selling of our smart service robotic products and services by encouraging the purchase of products and services which have a higher price due to enhanced technological specifications and with additional functionalities to cater to their specific needs; and (ii) the cross-selling of our smart service robotic products and services by encouraging the purchase of products and services which (a) are complementary to or (b) are under a different business segment of our Group from their original purchase. Our Directors believe that such up-selling and cross-selling will create new business opportunities for us, foster a closer business relationship with such customers and increase the average value per purchase order and their frequency, which will in turn enhance our revenue streams in a more cost effective manner;
- We have implemented measures to remove underperforming employees, as well as to assess the organizational structure of each department on a regular basis and set headcount limits in accordance with the Group’s actual business needs. We also intend to conduct regular assessments on the performance of our sales and marketing staff and cost-benefit analysis on the relevant employee benefit expenses in order to ensure that their remuneration packages reflect their performance levels and are consistent with market standards;
- During the Track Record Period, we have participated in various major national and international events which allows us to benefit from word-of-mouth marketing and minimizes our selling and marketing expenses. Such events include (i) participation on China’s CCTV Spring Festival Gala in 2021, (ii) selected as the sole official intelligent robot partner of the Floriade China Pavilion at the World Horticultural Expo 2022 in the Netherlands in April 2022, (iii) invited to deploy nine of our humanoid Alpha Mini robots to participate in one of the opening ceremony performances of the Beijing Winter Olympic Games in 2022, and (iv) appointed as the sole official AI-robotics partner in the China Pavilion of Dubai World Expo in 2021 to 2022. Our Directors believe that the same marketing effects can also be achieved from our online social media presence, participation in exhibitions and showrooms and various sponsorships. We believe that we will be able to participate in similar events and marketing activities in the future, thus reduce our recurring selling and marketing expenses in the long term;
- According to Frost & Sullivan, we are (i) ranked 3rd in the smart service robotic products and services industry in China (in terms of revenue in 2022) with a market share of 2.8%; and (ii) China’s No. 1 provider of education smart robotic products and services (in terms of revenue in 2022) with a market share of 22.5%. As such, we expect that we are capable of utilizing our established position to attract and retain customers and end-users of our products and services and reduce expenses on marketing and promotions in the long term; and
- We plan to continue to expand our market presence in the consumer-level robots and other hardware devices segment in response to the growing popularity of smart service self-learning and smart home initiatives by focusing on consumer trends, customer needs and value-for-money, which will enable us to transact directly with end-users and improve our sales and marketing efficiency in the long term.

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Our general and administrative expenses (excluding one-off expenses for the acquisition of a subsidiary) amounted to approximately RMB212.1 million, RMB325.9 million, RMB306.1 million, RMB162.5 million and RMB177.6 million, respectively, representing for 28.6%, 39.9%, 30.4%, 57.3% and 68.0% of our total revenue for FY2020, FY2021, FY2022, 6M2022 and 6M2023, respectively. We expect to manage both the absolute number of general administration and management staff and the percentage to the total number of employees in the coming future. We intend to achieve this by continuing to evaluate and monitor the effectiveness and efficiency of our general and administrative expenses in order to improve our operational efficiency. In particular, we have implemented measures to remove underperforming employees, as well as to assess the organizational structure of each department on a regular basis and set headcount limits in accordance with the Group’s actual business needs. We also intend to conduct regular assessments on the performance of our general administration staff and cost-benefit analysis on the relevant employee benefit expenses in order to ensure that their remuneration packages reflect their performance levels and are consistent with market standards. As such, we expect our general and administrative expenses as an absolute amount and a percentage to our total revenue to experience a general decreasing trend in the long term since employee benefit expenses, which is the largest component of our general and administrative expenses during the Track Record Period, generally do not change proportionately with revenue growth.

However, we may not be able to achieve or subsequently maintain profitability in the future. We believe that our future revenue growth will depend on, among other factors, our ability to develop new technologies, enhance customer experience, establish effective commercialization strategies, compete effectively and successfully and develop new products and services. See “Risk Factors – Risks Relating to our Business – We have incurred significant operating losses and net losses during the Track Record Period, and may not be able to achieve or subsequently maintain profitability in the future.”

Awards and Recognition

The following table sets forth major awards and recognitions we received during the Track Record Period.

Award/Recognition	Award Year	Awarding Institution/Authority
The 9th Annual Capek Award for Brand Excellence (第九屆恰佩克獎年度卓越品牌獎) . . .	2023	China Mechatronics Technology Application Association
Bronze Award in the MedTech category in the “2023 Edison Awards”	2023	The Edison Awards
2022 CSR Practice Innovation Company of the Year	2022	21st Century Business Herald
“The 19th People’s Artisan Brand” Award	2022	People.cn
First Prize for our “Autonomous navigation and operation of robots based on natural interaction” project	2022	China Association of Inventions
Wassi, healthcare robot — Best Design Award . . .	2022	FORTUNE China
First Prize of Science and Technology Progress of Guangdong Province in 2021	2022	People’s Government of Guangdong Province, China
Outstanding Partner of World Robot Conference . .	2022	Chinese Institute of Electronics
WAIC2021 - Pioneer Award	2022	World Artificial Intelligence Conference

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Award/Recognition	Award Year	Awarding Institution/Authority
AI Tianma-Leadership	2021	Shenzhen Artificial Intelligence Industry Association
Service Robotic Product Innovation Award	2021	China Artificial Intelligence and Robotics Developers Conference (CAIRDC)
20 Most Socially Influential Start-ups in China ..	2021	FORTUNE China
Top 10 Robotics Companies in the World that will Gain More Prominence in 2022	2021	Analytics Insight
Walker - one of the most ground-breaking and innovative robotic inventions over the past century	2021	24/7 Tempo
The 10 Most Innovative Robotics Companies of 2020	2020	Fast Company
Leaderobot 2020 China Robotics Science Leadership Award	2020	Leaderobot Expert Review Committee
Wu Wenjun Artificial Intelligence Science and Technology Progress Award (Enterprise Technology Innovation Engineering Project) ...	2020	Chinese Association for Artificial Intelligence
International Renowned Brand Certificate	2020	United Nations Industrial Development Organization Centre for South-South Industrial Cooperation (China) and Shenzhen Top Brand Evaluation Committee

IMPACT OF COVID-19 OUTBREAK

Our business operations of the following aspects have been affected by COVID-19 since its global outbreak.

Our financials

According to Frost & Sullivan, the global smart service robotic products and services market has been witnessing constant growth over the past years, due to the rise in adoption of smart robots in various scenarios during the COVID-19. Against such shift in market demand, we launched the anti-pandemic models of Cruzr, ATRIS, ADIBOT and AIMBOT. These anti-pandemic models are added with new functionalities, including body-temperature measurement, screening, mask detection and autonomous disinfectant patrol.

Since 2020, we have also introduced a new line of smart service robots, such as the ADIBOT Series, anti-pandemic model of Cruzr and anti-pandemic model of AIMBOT with additional functionalities, including body temperature measurement, QR code scanning and disinfection screening. Thus, our revenue generated from our sale of general service smart robots increased from RMB36.3 million in FY2020 to RMB77.4 million in FY2021 primarily due to the increase in demand of these products amidst the outbreak of COVID-19. However, although the demand for our education smart robotic products and services decreased due to force majeure events such as pandemics, we believe that these events did not have any material or adverse effect on our business operations and financial performance.

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Our supply chain and production

Following the COVID-19 outbreak, we tried to minimize the impact caused by the disruption of transportation to our operations by procuring from alternative suppliers located in other cities.

Moreover, the purchases from our top five suppliers in each year/period during the Track Record Period amounted to RMB144.3 million, RMB195.0 million, RMB188.2 million and RMB105.8 million, respectively, representing 35.2%, 34.7%, 26.3% and 50.7% of our total cost of sales for the respective years/period, whereas the purchases from our largest supplier in each year/period during the Track Record Period amounted to RMB73.9 million, RMB93.7 million, RMB60.5 million and RMB44.8 million, representing 18.0%, 16.7%, 8.5% and 21.5% of our total cost of sales for the respective years/period. During the Track Record Period, the COVID-19 outbreak since the first quarter of 2020 has put extra strain on our supply chain locally and globally, causing increasing costs and more frequent delays. As a result, the delivery of (i) certain components to us and (ii) our products and services to certain customers have experienced delays of more than one month. The additional fees in relation to logistics services incurred as a result of the COVID-19 outbreak in FY2021 and FY2022 amounted to approximately RMB5.0 million. Nevertheless, our Directors consider that we did not encounter any major difficulties regarding our supply chain as we had no heavy reliance on any particular supplier during the Track Record Period.

As to our production, we temporarily suspended our production facilities in Shenzhen in FY2020 and FY2022 on a few occasions in view of COVID-19. Our Directors believe that the suspensions did not have a material impact on our overall operations and financials, as our production and inventory levels were sufficient to support our operations. As of the Latest Practicable Date, all of our production facilities have resumed operations.

Industry

According to Frost & Sullivan, the global economy was affected by the outbreak of COVID-19. However, the market demand for certain types of products such as disinfection smart robots increased temporarily. It is expected that such market trend will last for the foreseeable future as COVID-19 has affected the everyday lifestyle of people. Thus, since 2020, we introduced new line of robots, which are designed to assist our customers to implement anti-pandemic measures amidst the outbreak of COVID-19, such as our anti-pandemic model of Cruzr and AIMBOT with additional functionalities, including body temperature measurement, QR code scanning and disinfection.

Overall business prospects

Our Directors consider that although the COVID-19 pandemic had restricted our participation at industry marketing events and exhibitions, especially international events which allowed us to reach out to our international audience, and has severely affected our sales volume and revenue derived from overseas markets, the COVID-19 pandemic has brought about new opportunities to our business landscape and to explore contactless interactions in our daily lives. In particular, our wellness and elderly care smart robotic products and services can assist users who require precise and constant care-taking and our education smart robotic products and services promote learning and education without the restriction of borders and time.

Our Directors anticipate there will be a recovery of the general economic environment and rebound in market demands, and we will be able to resume participating at international marketing events and exhibitions to promote, sale and deliver our products and services overseas and thereby increase our revenue contribution from overseas countries.