

H Grace | 華虹宏力

HUA HONG SEMICONDUCTOR LIMITED
華虹半導體有限公司

(Incorporated in Hong Kong with limited liability)

(於香港註冊成立之有限公司)

(Stock Code: 1347)

(股份代號：1347)

2022 年度報告
ANNUAL
REPORT



華彩
芯未來
Empowering
the Information Age

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DEFINITIONS

In this annual report, unless otherwise required by the context, the following terms shall have the meanings set out below.

“Annual General Meeting” or “AGM”	an annual general meeting of the Company to be held on 11 May 2023;
“Audit Committee”	the audit committee of the Board;
“Board”	the Board of Directors of the Company;
“China IC Fund”	China Integrated Circuit Industry Investment Fund Co., Ltd.* (國家集成電路產業投資基金股份有限公司), a company incorporated in the PRC on 26 September 2014; its shareholders include the Ministry of Finance, the enterprises in the Integrated Circuit Industry Cluster, large-scale state-owned enterprises, certain financial institutions and private enterprises. It mainly focuses on the manufacturing of semiconductor wafers and takes into account the upstream and downstream links covering chip design, package test, equipment and materials etc;
“China IC Fund II”	China Integrated Circuit Industry Investment Fund (Phase II) Co., Ltd.* (國家集成電路產業投資基金二期股份有限公司), a company established in the PRC on 22 October 2019; its shareholders include the Ministry of Finance, the enterprises in the Integrated Circuit Industry Cluster, large-scale state-owned enterprises, certain financial institutions and private enterprises. It mainly invests in the value chain of integrated circuit industry via equity investment, primarily in integrated circuit chip manufacturing as well as chip designing, packaging test and equipment and materials. To the best of the Directors' knowledge, information and belief and having made all reasonable enquiry, China IC Fund II is not an associate of China IC Fund under Chapter 14A of the Listing Rules;
“China” or “the PRC”	the People's Republic of China, but for the purpose of this annual report and for geographical reference only and except where otherwise required by the context, references in this annual report to “China” and the “PRC” do not include Taiwan, the Macau Special Administrative Region and Hong Kong;
“Company” or “our Company”	Hua Hong Semiconductor Limited, a company incorporated in Hong Kong with limited liability on 21 January 2005 and, except where otherwise required by the context, all of its subsidiaries, or its present subsidiaries where the context refers to the time before it became the holding company of its present subsidiaries;
“Company Secretary”	the Company Secretary of the Company;
“Director(s)”	the Director(s) of the Company;
“EPS”	earnings per share;
“Executive Director(s)”	the Executive Director(s) of our Company;
“Extraordinary General Meeting” or “EGM”	an extraordinary general meeting of the Company;
“GDP”	gross domestic product;

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“Grace Cayman”	Grace Semiconductor Manufacturing Corporation, an exempted company with limited liability incorporated in the Cayman Islands on 5 October 1999 and a wholly-owned subsidiary of our Company;
“Grace Shanghai”	Shanghai Grace Semiconductor Manufacturing Corporation (上海宏力半導體製造有限公司), a company incorporated in the PRC on 20 December 2000 and a wholly-owned subsidiary of our Company. It was deregistered on 3 August 2018;
“Group”	our Company and our subsidiaries or, where required by the context, with respect to the period before our Company became the holding company of our present subsidiaries (or became such associated companies of our Company), the business operated by such subsidiaries or their predecessors (as the case may be);
“HHGrace”	Shanghai Huahong Grace Semiconductor Manufacturing Corporation (上海華虹宏力半導體製造有限公司), a company incorporated in the PRC on 24 January 2013 and a wholly-owned subsidiary of our Company;
“HHNEC”	Shanghai Hua Hong NEC Electronics Co., Ltd. (上海華虹NEC電子有限公司), a company incorporated in the PRC on 17 July 1997 and a wholly-owned subsidiary of our Company. It was deregistered on 3 August 2018;
“HK\$”	Hong Kong dollars, the lawful currency of Hong Kong;
“Hongri”	Shanghai Huahong Hongri Electronics Co., Ltd. (上海華虹虹日電子有限公司), previously known as Shanghai Hongri International Electronics Co., Ltd. until 16 December 2021, a company owned as to 51% by Huahong Group and a connected person of the Company;
“Hong Kong”	the Hong Kong Special Administrative Region of the PRC;
“Huahong Group”	Shanghai Huahong (Group) Co., Ltd. (上海華虹(集團)有限公司), a company incorporated in the PRC on 9 April 1996 as Shanghai Hua Hong Microelectronics Co., Ltd. and renamed as Shanghai Huahong (Group) Co., Ltd. in 1998, and a significant shareholder of our Company;
“Huahong Group Framework Agreement”	the framework agreement dated 31 December 2021 entered into between the Company and Huahong Group to regulate the sales and purchase transactions and provision of services between the Group and Huahong Group, its subsidiaries or associates (as defined under Chapter 14A of the Listing Rules) for the year ending 31 December 2022;
“Huahong Real Estate”	Shanghai Huahong Real Estate Co., Ltd. (上海華虹置業有限公司), a company incorporated in the PRC on 28 October 2011 and a wholly-owned subsidiary of Huahong Technology Development;
“Huahong Technology Development”	Shanghai Huahong Technology Development Co., Limited (上海華虹科技發展有限公司), a connected person, a company incorporated in the PRC on 10 May 2010, and a company 50% held by and consolidated with Huahong Group and 50% held by HHGrace;

DEFINITIONS

“Huajin Property Management”	Shanghai Huajin Property Management Co., Ltd. (上海華錦物業管理有限公司), a company incorporated in the PRC on 8 June 2012, a wholly-owned subsidiary of Huahong Technology Development and a connected person of the Company;
“Huali Integrated”	Shanghai Huali Integrated Circuit Corporation (上海華力集成電路製造有限公司), a company incorporated in the PRC on 8 August 2016. Its Shareholders include Shanghai Huali Microelectronics Corporation, Shanghai Integrated Circuit Industry Investment Fund Co., Ltd. and China Integrated Circuit Industry Investment Fund Co., Ltd.;
“Hua Hong Wuxi”	Hua Hong Semiconductor (Wuxi) Limited, a company incorporated in the PRC on 10 October 2017 and held 51% by the Group. Upon completion of the Capital Injection Agreement, the registered capital of Hua Hong Wuxi shall increase from US\$1,800 million to approximately US\$2,536.85 million and Hua Hong Wuxi remains a non-wholly owned subsidiary of the Company held as to approximately 22.22%, 28.78%, 20.00%, 20.58% and 8.42% by the Company, HHGrace, Wuxi Xi Hong Lian Xin, China IC Fund and China IC Fund II, respectively;
“ICRD”	Shanghai Integrated Circuit Research and Development Center (上海集成電路研發中心有限公司), a company incorporated in the PRC in 2002 and a connected person of the Company during the year ended 31 December 2022;
“Independent Non-Executive Director(s)”	the Independent Non-Executive Director(s) of our Company;
“INESA”	INESA (Group) Co., Ltd. (上海儀電(集團)有限公司), formerly known as INESA Holding Group (上海儀電控股(集團)有限公司), a state-owned company incorporated in the PRC in December 1993, and a controlling shareholder of our Company prior to 17 December 2020;
“Jitong”	Jitong is owned by Huahong Group as to 25.14%. To the best of the Director’s knowledge, information and belief, Huahong Group has the right to appoint four out of seven directors at the board of Jitong and thus controls the majority of Jitong’s board composition. Hence, Jitong is an associate of Huahong Group and is therefore a connected person of the Company;
“Listing Rules”	the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited, as amended or supplemented from time to time;
“Nomination Committee”	the nomination committee of the Board;
“Non-Executive Director(s)”	the Non-Executive Director(s) of our Company;
“QST”	QST Corporation (上海矽睿科技有限公司), a company incorporated in the PRC on 13 September 2012 and a connected person of the Company until 1 September 2020;
“Remuneration Committee”	the remuneration committee of the Board;

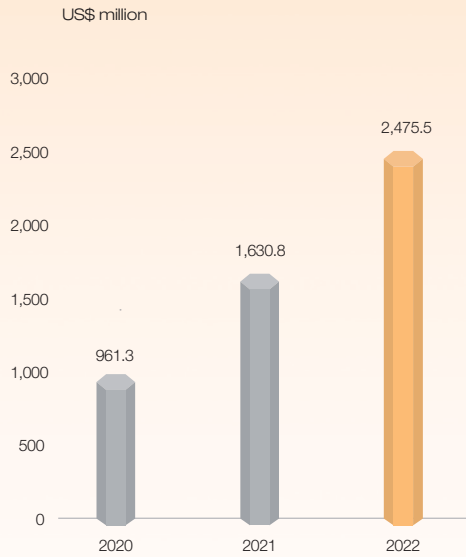
DEFINITIONS

“RMB”	Renminbi, the lawful currency of the PRC;
“SAIL”	Shanghai Alliance Investment Limited (上海聯和投資有限公司), a company incorporated in the PRC on 26 September 1994, a substantial shareholder of our Company;
“SFC”	the Securities and Futures Commission of Hong Kong;
“SFO”	the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong), as amended or supplemented from time to time;
“Shanghai Awinic”	Shanghai Awinic Technology Co., Ltd. (上海艾為電子技術股份有限公司), a company incorporated in the PRC on 18 June 2008 whose shares are listed on the STAR Market of the Shanghai Stock Exchange (stock code: 688798);
“Shanghai Huali”	Shanghai Huali Microelectronics Corporation (上海華力微電子有限公司), a company incorporated in the PRC on 18 January 2010 and a connected person;
“Shareholders”	holders of ordinary shares in the capital of the Company;
“SITRI”	Shanghai Industrial μ Technology Research Institute (上海新微技術研發中心有限公司), a company incorporated in the PRC in May 2013 and a connected person of the Company;
“Stock Exchange”	The Stock Exchange of Hong Kong Limited; and
“Wuxi Xi Hong Lian Xin”	Wuxi Xi Hong Lian Xin Investment Co., Ltd.* (無錫錫虹聯芯投資有限公司), a professional investment company incorporated in the PRC on 19 December 2017, jointly established by municipal and district-level state-owned enterprises.

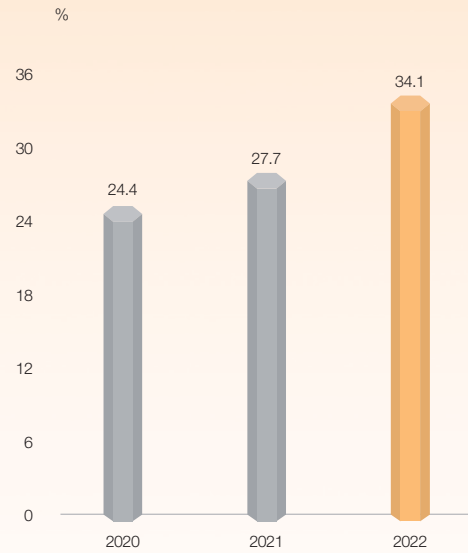
* For identification purpose only

KEY FINANCIALS

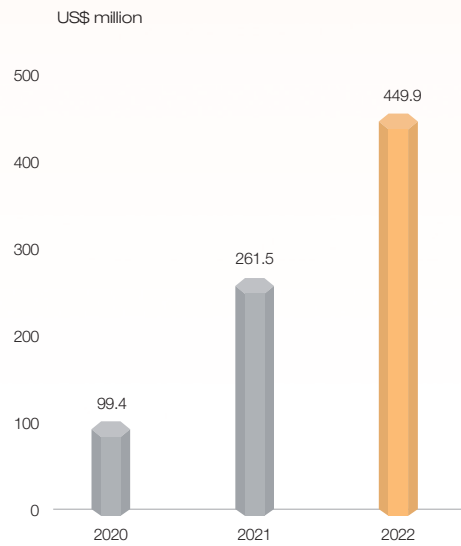
Revenue



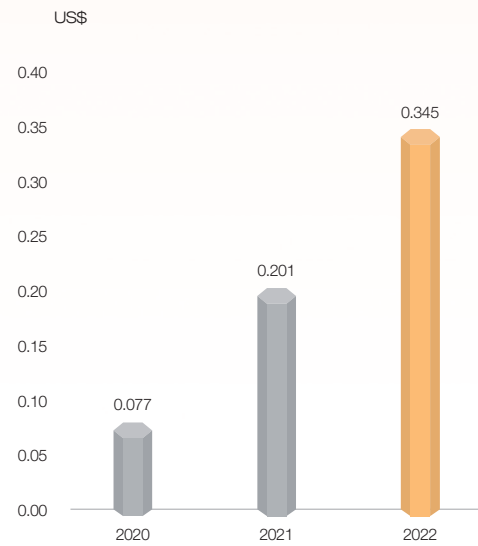
Gross Profit Margin



Profit attributable to owners of the parent



EPS



LETTER TO SHAREHOLDERS

Dear Shareholders,

In 2022, an extraordinary and challenging year, almost all the world's economies were affected by the continuous resurgence of the once-in-a-century pandemic, reshaping of the global industry supply chain, and geopolitical challenges. The semiconductor industry also entered a period of adjustment. Despite many uncertainties in the macro environment, Hua Hong Semiconductor continued to forge ahead and made continuous improvement in 2022, with its growth leading the industry. With the advantages of our "8-inch + 12-inch" strategy, the Company stayed committed to continuous innovation of specialized process technologies and developed core competitiveness of products using our specialized process platforms, including embedded/standalone non-volatile memory, power device, and analog & PM. We persisted in our advanced "Specialty IC + Power Discrete" dual-pronged strategy, rapidly penetrated downstream emerging markets, expanded our markets in automobiles, new energy, Internet of Things, data centers, etc., continuously providing excellent wafer foundry services and solutions for our global customers.

During the reporting period, the Company's revenue hit a record high of US\$2,475.5 million, representing an increase of 51.8% compared to the previous year, and regional revenues from the United States, Europe, Japan, and China increased significantly. In 2022, we experienced strong demand in our market segments. The Company achieved a year-on-year increase of more than 100% in annual revenue from automotive electronics and a continual increase in the number of new products introduced. Meanwhile, the Company made steady progress in the new energy market and played a significant role in supporting the global industry chain in the wind power/photoelectricity/energy storage field. Diversified process platforms, abundant customer resources at home and abroad, and a forward-looking and dedicated capacity arrangement enabled Hua Hong Semiconductor to maintain leading capacity utilization rate in the industry, despite the downward cycle of the industry. In the year, the overall gross profit margin of the Company reached 34.1%, representing an increase of 6.4 percentage points compared to the previous year. Profit for the year was US\$406.6 million, representing an increase of 76.0% compared to the previous year; ROE was 15.2%, representing an increase of 5.5 percentage points compared to the previous year.

As at the end of 2022, Hua Hong Semiconductor had three 8-inch fabs and one 12-inch fab. For the most recent three years, annual production capacity (8-inch wafer equivalent) increased each year from 2.4852 million to 3.2604 million and then 3.8627 million, with a CAGR of 24.67%. The existing 12-inch fab was operated at a high level with a monthly production capacity of 65,000 wafers in 2022. The Company plans to increase its monthly production capacity to 95,000 wafers in 2023 and will start construction of a new 12-inch production line in due course, continuing to improve its manufacturing capacity and technological upgrading.

As a key part of the global semiconductor industry supply chain, the Company has markets covering the whole industry, with its strong industry presence. With robust strength in semiconductor manufacturing in China, the Company won the "20-year Special Contribution Award in China Semiconductor in 2022 China IC Design Achievement Award." As a well-known enterprise in Shanghai, the Company worked judiciously in cities to promote regional economic development in the Yangtze River Delta. Its contribution was recognized by all corners of society. In the year, it won the "Outstanding Contribution Award for Scientific and Technological Innovation in Pudong New Area" again.

LETTER TO SHAREHOLDERS

Only with diligent employees will we be able to achieve success in the face of more complicated and fierce competition. We will continue to strengthen our advantages in various specialized technologies, constantly optimize product structure in close alignment with market trends, and accumulate new momentum for high-quality development. New opportunities will be identified from challenges and new prospects will be opened up in a changing environment. Hua Hong Semiconductor will unswervingly innovate with international vision to create new products for our customers all over the world and make achievements by establishing development projects in new areas of technology. We sincerely thank all our employees, shareholders, customers, and friends from all walks of life for their support for and cooperation with Hua Hong Semiconductor. Let's work together to achieve another year of splendid results.

Mr. Suxin Zhang

Chairman and Executive Director

Mr. Junjun Tang

President and Executive Director

Shanghai, PRC

30 March 2023



SOWING HOPE, HARVESTING DREAMS.

This cherry blossom tree was planted by Suxin Zhang, our Chairman, and Junjun Tang, our President, along with the management members at Hua Hong fab on 12 March 2020

CORPORATE INFORMATION

Corporate Culture

Vision

We empower our customers through continuous innovation



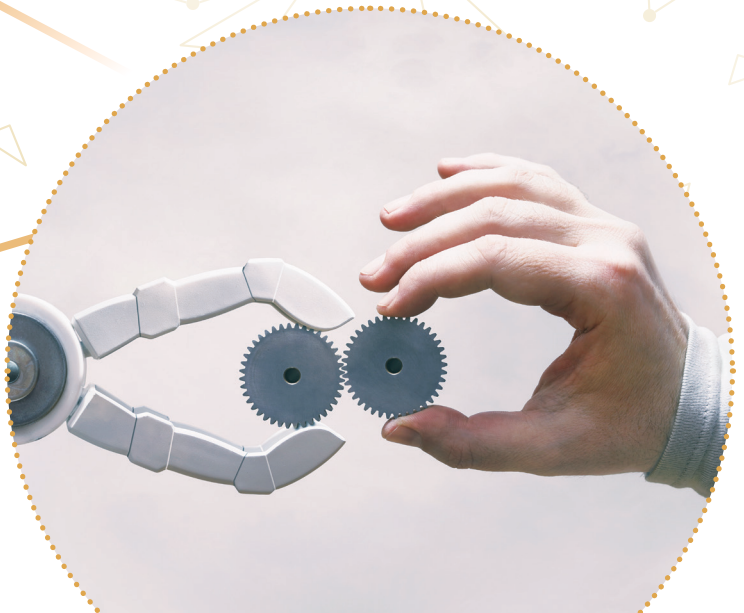
Mission

Creating value for shareholders, customers and employees through collaboration, innovation and being a good corporate citizen



Spirit

Disruptive Innovation, Confidence, Initiative and Teamwork



CORPORATE INFORMATION

Board of Directors

Executive Directors

Suxin Zhang (*Chairman*)
Junjun Tang (*President*)

Non-Executive Directors

Guodong Sun
Jing Wang
Jun Ye

Independent Non-Executive Directors

Stephen Tso Tung Chang
Kwai Huen Wong, JP
Long Fei Ye

Company Secretary

Sui Har Lee

Authorized Representatives

Junjun Tang
Sui Har Lee

Audit Committee

Stephen Tso Tung Chang (*Chairman*)
Long Fei Ye
Jun Ye

Remuneration Committee

Kwai Huen Wong, JP (*Chairman*)
Long Fei Ye
Jing Wang

Nomination Committee

Suxin Zhang (*Chairman*)
Kwai Huen Wong, JP
Long Fei Ye

Website

www.huahonggrace.com

Auditor

Ernst & Young
Certified Public Accountants
27/F, One Taikoo Place
979 King's Road
Quarry Bay, Hong Kong

Legal Advisor

Herbert Smith Freehills
23/F, Gloucester Tower
15 Queen's Road Central
Hong Kong

Principal Banks

China Construction Bank Shanghai Branch
No. 900, Lujiazui Ring Road
Pudong New Area
Shanghai, PRC

China Development Bank Shanghai Branch
No. 68, Puming Road
Shanghai, PRC

China Construction Bank Corporation Hong Kong Branch
28/F, CCB Tower, 3 Connaught Road, Central
Hong Kong

Bank of Communications Co., Ltd. Hong Kong Branch
20 Pedder Street, Central
Hong Kong

China Development Bank Jiangsu Branch
No. 232, Middle Jiangdong Road
Nanjing, Jiangsu, PRC

Agricultural Bank of China Wuxi Xinwu Subbranch
No. 26, Hefeng Road
Xinwu District
Wuxi, Jiangsu, PRC

China Construction Bank Wuxi High and
New Technology Industrial Development Zone
Subbranch
No. 26, Hefeng Road
Xinwu District
Wuxi, Jiangsu, PRC

China CITIC Bank Wuxi New District Subbranch
No. 26, Hefeng Road
Xinwu District
Wuxi, Jiangsu, PRC

Bank of China Wuxi High and New Technology Industrial
Development Zone Subbranch
No. 140, Wangzhuang Road
Xinwu District
Wuxi, Jiangsu, PRC

CORPORATE INFORMATION

Share Registrar

Tricor Investor Services Limited
17/F, Far East Finance Centre
16 Harcourt Road
Hong Kong

Registered Office

Room 2212, Bank of America Tower
12 Harcourt Road, Central
Hong Kong

Principal Places of Business

288 Halei Road
Zhangjiang Hi-Tech Park
Shanghai, PRC
Postcode: 201203

No. 30, Xinzhou Road
Xinwu District
Wuxi, Jiangsu, PRC
Postcode: 214028

Stock Code

1347

DIRECTORS AND SENIOR MANAGEMENT TEAM



Mr. Suxin Zhang, aged 59, was appointed on 11 March 2016 as the Chairman and an Executive Director of our Company as well as a member of and Chairman of the Nomination Committee. He is currently Chairman and Secretary of the Communist Party of Huahong Group, Chairman of HHGrace and Hua Hong Wuxi, Chairman of Shanghai Huali, and Director of Huali Integrated. Mr. Zhang has extensive experience in hi-tech strategic development, energy strategy research, and the power equipment industry. Mr. Zhang held various positions, including President of Shanghai Turbine Co., Ltd., Executive Vice President of Shanghai Electric Power Generation Group, Chairman of Siemens Gas Turbine Parts Co., Ltd., Executive Director of Shanghai Electric Group Company Limited, Vice President of Shanghai Electric (Group) Corporation, Secretary of the Communist Party and General Manager of Shanghai Jinqiao (Holdings) Limited, Chairman and Secretary of the Communist Party of Shanghai Jinqiao Export Processing Zone Development Co., Ltd., and Deputy Director of both the Shanghai Municipal Development and Reform Commission and the Administration Commission of Shanghai Zhangjiang Hi-Tech Industrial Development Zone. Mr. Zhang graduated from Tsinghua University with a Bachelor's degree in Engineering and is a professor-level Senior Engineer.



Mr. Junjun Tang, aged 58, has served as the President and Executive Director of the Company since May 2019. Mr. Tang also serves as President and Director of HHGrace and Hua Hong Wuxi. Mr. Tang has extensive experience in the integrated circuit industry and management and possesses strong coordination and execution ability. Prior to joining the Company, Mr. Tang was the Secretary of the Party Committee, Vice President and Executive Vice President of Shanghai Huali from February 2010 to March 2019. He was concurrently the President of Huali Integrated from August 2016 to March 2019. During the period from July 2008 to February 2010, Mr. Tang was the Vice Secretary of the Party Committee, President of Trade Union and head of administrative and government relationships of HHNEC. Each of Shanghai Huali and Huali Integrated is a connected person of the Company as defined by the Listing Rules, and HHNEC was a wholly-owned subsidiary of the Company prior to its deregistration in August 2018. Prior to joining the Company, Mr. Tang successively held various positions, including Associate Chief Officer of Shanghai Bureau of Instrument and Telecommunications Industry (上海儀表電訊工業局), Technologist of Shanghai Radio No.17 Factory (上海無線電十七廠) and Technologist of Shanghai Semiconductor Device No.4 Factory (上海半導體器件四廠). Mr. Tang graduated from Southwest Jiaotong University with an Undergraduate's degree in Business Administration. He also graduated from China Europe International Business School with a Master's degree in Business Administration. He holds the title of Chief Senior Economist, and was awarded titles including National May 1st Labor Medal, National Model Worker, National Outstanding Party Affairs Worker.

DIRECTORS AND SENIOR MANAGEMENT TEAM



Mr. Guodong Sun, aged 46, was appointed as a Non-Executive Director of the Company with effect from 10 December 2020, and is a Director of Hua Hong Wuxi. Mr. Sun joined China Development Bank in 2000. From 2000 to 2014, Mr. Sun held various positions in China Development Bank, including Deputy Director of the Human Resources Systems Division, Deputy Director and Director of the Hubei Branch Human Resources Department, and Vice Minister and Minister of the Party Committee Organization Department. Mr. Sun had been the General Manager of the Human Resources Department of Sino-IC Capital Co., Ltd. (華芯投資管理有限責任公司) from December 2014 to July 2016, and has been the Managing Director of Sino-IC Capital Co., Ltd. since July 2016. Mr. Sun graduated from Beijing Institute of Technology in the PRC with a Bachelor's degree in Computer Application and from Central University of Finance and Economics in the PRC with a Master's degree in Business Administration.



Ms. Jing Wang, aged 52, has been a Non-Executive Director of our Company since June 2019. She currently serves as President, Deputy Secretary of the Communist Party Committee and Director of Huahong Group, a Director of HHGrace and Hua Hong Wuxi, Chairman of Hongri, Executive Director of Shanghai Huahong Investment Development Co., Ltd., and Director of Hua Hong International. Ms. Wang has extensive experience in management and economic development. Ms. Wang was the Division Director of the Industrial Development Division (Service Industry Development Division) of Shanghai Municipal Development and Reform Commission, Deputy Director of China (Shanghai) Free Trade Zone Management Committee (中國(上海)自由貿易試驗區管委會), the Deputy District Head of Shanghai Pudong New Area, a full-time Deputy Director at Shanghai Science and Technology Innovation Centre Development Office (上海推進科技創新中心建設辦公室) and Deputy Director of Shanghai Zhangjiang Hi-tech Industrial Development Zone Management Committee (上海市張江高新技術產業開發區管委會), etc. Ms. Wang graduated from Shanghai Jiao Tong University with a Bachelor's degree in Technical Economics in 1992. She also graduated from Fudan University with a Master's degree in World Economics in 2003. She holds the title of Chief Senior Economist.

DIRECTORS AND SENIOR MANAGEMENT TEAM



Mr. Jun Ye, aged 50, has been a Non-Executive Director of our Company since February 2012, and is a Director of HHGrace. Mr. Ye has more than 20 years of experience in finance and investment. Mr. Ye has successively held various positions in SAIL, including Manager of the Investment Banking Division and the Business Development Division, General Manager Assistant and Deputy General Manager since 1996 and General Manager since May 2018. Mr. Ye is also a Director at Bank of Shanghai, Chairman of Shanghai Zhaoxin Semiconductor Ltd., Sino Therapeutics Inc. and Sino-US United MetLife Insurance Company Limited. Mr. Ye obtained a Bachelor's degree in Industrial and International Trade and a Master's degree in Business Administration from Shanghai Jiao Tong University.



Mr. Stephen Tso Tung Chang, aged 74, is an Independent Non-Executive Director of our Company and a Director of HHGrace. Mr. Chang has extensive experience in accounting, auditing and financial management. He was a certified public accountant in Hong Kong and a member of the Hong Kong Society of Accountants from 1978 to the end of 2003. Mr. Chang is also a Fellow member of the Institute of Chartered Accountants in England and Wales since January 1983, and he held various positions at Ernst & Young starting in 1976. He became a Management Committee Member of Ernst & Young in 1989 and was actively involved in establishing and monitoring the firm's internal control and risk management policy and procedures. Prior to his promotion to Managing Partner of the Professional Services Department, he was Chairman of Ernst and Young's audit and advisory business services for four years. He was a Partner of Ernst and Young and the Chairman of Ernst and Young China and Hong Kong prior to his retirement in 2003. He is a member of the Investment Committee of Shanghai Fudan University Education Development Foundation and Fudan University Education Development Foundation (overseas). He is also an Independent Non-Executive Director of China World Trade Center Co., Ltd. (stock code: 600007.SH), and was formerly an Independent Non-Executive Director of China Cinda Asset Management Co., Ltd. (stock code: 1359.HK), Kerry Properties Limited (stock code: 683.HK) and China Life Insurance Company Ltd. (stock code: 2628.HK). Mr. Chang obtained a Bachelor of Science degree in Food Science and Chemistry from the University of London.

DIRECTORS AND SENIOR MANAGEMENT TEAM



Mr. Kwai Huen Wong, SBS, BBS, JP, aged 71, is an Independent Non-Executive Director of our Company and a Director of HHGrace. Mr. Wong had served as the PRC Managing Partner of two international law firms for 15 years. Prior to that, he worked for the Lands Department, Department of Justice and Legislative Council of the Hong Kong SAR Government for a total of 10 years. He was appointed as a Member of Airport Authority Hong Kong, Hospital Authority, and the Competition Commission from 2011 to 2018. He was the former Chairman of the Hong Kong International Arbitration Centre, the former President of the Law Society of Hong Kong and Inter-Pacific Bar Association, and the former Chairman of Hong Kong Copyright Tribunal. He is presently the Chairman of Hong Kong Inland Revenue Board of Review, and the Independent Non-Executive Director of Vinda International Holdings Limited (stock code: 3331.HK) and NWS Holdings Limited (stock code: 659.HK). Mr. Kwai Huen Wong was formerly a Director of the Hong Kong Mortgage Corporation Limited and an Independent Non-Executive Director of China Oilfield Services Limited. In addition, he is the Honorary Lecturer, External Examiner, and Professor at The University of Hong Kong, The Chinese University of Hong Kong, City University of Hong Kong, and Hong Kong Shue Yan University. Mr. Wong holds a Bachelor of Arts degree from The Chinese University of Hong Kong and a Bachelor of Law degree from the University of London.



Mr. Long Fei Ye, aged 81, is an Independent Non-Executive Director of our Company and a Director of HHGrace. Mr. Ye held various positions in the Shanghai Municipal Government. Mr. Ye relocated to Hong Kong in 1991 and served until 1995 as the Chief Executive of the “Shanghai Desk”, which was a cooperation arrangement between the Shanghai government and Arthur Andersen & Co. for promoting Shanghai. He then joined Kerry Holdings Limited in 1995, and served as the Chairman and Deputy Chairman of Shangri-La Asia Limited from October 2000 to August 2003 and August 2003 to March 2007, respectively. He was an advisor to Shangri-La Asia Limited from March 2007 to February 2018. Mr. Ye obtained a Bachelor’s and a Master’s degree, both in Physics, from Fudan University.

DIRECTORS AND SENIOR MANAGEMENT TEAM



Mr. Daniel Yu-Cheng Wang, aged 60, has been appointed as the Secretary of the Board of the Company since February 2012. Mr. Wang is also an Executive Vice President of our Company, HHGrace, and Hua Hong Wuxi, overseeing finance, information technology, administration and compliance, listed company affairs, and overseas human resources. He joined Grace Shanghai in April 2001 and played a central leadership role in each stage of Grace Shanghai's development including the preparation for and implementation of the merger and the successful initial public offering of the Company. Prior to joining Grace Shanghai, Mr. Wang worked at LSI Logic Corporation in San Jose, Silicon Valley, California from August 1995 to March 2001 as the Division Controller in the Broadband Entertainment Division. Before joining LSI Logic Corporation, Mr. Wang was employed by Franklin Templeton Investments in the U.S. Mr. Wang obtained a Bachelor's degree in Industrial Engineering and Operations Research from the College of Engineering, University of California, Berkeley, in the U.S. and a Master of Business Administration degree in Finance and Banking from the University of San Francisco. In the list of "All-Asia (Ex-Japan) Executive Team Ranking" published by Institutional Investor, an authoritative international financial magazine, he was named the "Best Chief Financial Officer" in the technology/semiconductor industry in 2018, 2019 and 2021.

Senior Management

As at the date of this report, the Company's senior management includes:

Mr. Suxin Zhang, aged 59, is the Chairman and an Executive Director of our Company. For more information about Mr. Zhang's profile and academic background, see the section headed "Directors and Senior Management Team – Board of Directors".

Mr. Junjun Tang, aged 58, is the President and Executive Director of the Company. For more information about Mr. Tang's profile and academic background, see the section headed "Directors and Senior Management Team – Board of Directors".

Mr. Heng Fan, aged 61, was an Executive Vice President of our Company from the end of 2014 to March 2022, and then acted as an advisor to our Company until his retirement in July 2022.

DIRECTORS AND SENIOR MANAGEMENT TEAM



Mr. Weiping Zhou, aged 56, is an Executive Vice President of our Company, HHGrace, and Hua Hong Wuxi, responsible for marketing. Mr. Zhou joined the Company at the beginning of 2018. Prior to joining the Company, Mr. Zhou was the Executive Vice President of Shanghai Belling Corporation Limited, the General Manager of Ningbo Shanshan Ulica Solar Technology Developing Company Limited, the General Manager of Shanghai Belling Microelectronics Manufacturing Company Limited, the Deputy Secretary to the Communist Party Committee, President, Chief Executive Officer, Secretary to the Communist Party Committee and Vice President of Advanced Semiconductor Manufacturing Corporation Limited. Mr. Zhou graduated from East China Normal University with a Bachelor's degree in Solid State Electronic Technology and subsequently obtained a Master's degree in Business Administration from Fudan University, and he is a professor-level Senior Engineer.



Mr. Lihua Ni, aged 54, is an Executive Vice President of our Company, HHGrace, and Hua Hong Wuxi, responsible for manufacturing projects and security management, and is the Factory Director of Fab 7. He joined HHGrace in May 2018. Prior to joining the Company, Mr. Lihua Ni successively worked for Wuxi Huajing Group Co., Ltd. (無錫華晶集團公司), Shanghai Hua Hong Microelectronics Co., Ltd., HHNEC, acted as a Department Manager at Shanghai Xinjin Semiconductor Fabrication Co., Ltd., the department head at HHNEC, and a Deputy Factory Director at Shanghai Huali. Mr. Lihua Ni graduated from Xidian University with a Bachelor of Engineering degree and obtained a Master of Engineering degree from Shanghai Jiao Tong University. He is qualified as a Senior Engineer.

Mr. Daniel Yu-Cheng Wang, aged 60, is an Executive Vice President of our Company, HHGrace, and Hua Hong Wuxi, overseeing finance, information technology, administration and compliance, listed company affairs, and overseas human resources. For more information about Mr. Wang's profile and academic background, see the section headed "Directors and Senior Management Team – Board of Directors".

DIRECTORS AND SENIOR MANAGEMENT TEAM



Dr. Weiran Kong, aged 59, is an Executive Vice President of our Company, HHGrace, and Hua Hong Wuxi, and is in charge of technology development and design services. He joined Grace Shanghai in March 2003 and has over 30 years' experience in the semiconductor industry, with a proven track record of driving innovations in the area of NOR Flash, Logic, and embedded Flash. Before joining Grace Shanghai, Dr. Kong was based in the U.S. and has worked for Sun Microsystems, Inc., LSI Logic Corporation, and ISSI. He obtained a Bachelor's degree in Physics from Nankai University in Tianjin and graduated with a Master's degree in Electrical Engineering and a Doctorate degree in Applied Physics from Oregon Graduate Institute of Science & Technology in the U.S. Dr. Kong holds 27 U.S. patents, 67 PRC patents and co-authored over 20 technical papers.

Company Secretary



Ms. Sui Har Lee, aged 45, has been serving as the Company Secretary of the Company since November 2019. Ms. Lee is currently a Partner of Jun He Law Offices. She has around 15 years of experience in general business practices and corporate financial transactions, such as assisting corporations in listing their shares on the Stock Exchange, merger and acquisitions, capital reorganization, and compliance and regulatory matters in relation to the Listing Rules of the Stock Exchange. Ms. Lee was admitted as a Solicitor of the High Court of Hong Kong in 2005. Ms. Lee graduated from City University of Hong Kong with the degree of Bachelor of Laws and obtained the degree of Master of Laws from University College London.

CORPORATE GOVERNANCE REPORT

The Board is pleased to present this corporate governance report for the year ended 31 December 2022.

Corporate Governance Practices

The Company diligently practices good corporate governance and has established corporate governance procedures that comply with the principles in the Corporate Governance Code (the “Code”) as set out in Appendix 14 to the Listing Rules.

The Company understands the importance of sound corporate governance practices and recognizes the changing regulatory environment. Therefore, the Company has continually monitored and updated its corporate governance practices, from implementing the Code and evaluating the effectiveness of its practices to responding to continuous developments in the regulatory landscape.

Compliance with the Code Provisions

During the year ended 31 December 2022, the Company complied with the Code.

Securities Transactions by Directors

The Company has adopted the Model Code for Securities Transactions by Directors of Listed Issuers (the “Model Code”) as set out in Appendix 10 to the Listing Rules as its own code of conduct regarding securities transactions by Directors. The Company has made specific enquiries with all of the Directors, each of whom has confirmed that they have, throughout the year ended 31 December 2022, complied with the required standards set out therein.

Board of Directors

The Board is entrusted with the overall responsibility of managing the business and affairs of the Company. It has the ultimate responsibility for the day-to-day management of the Company, which is delegated to the Chairman and management.

The eight-member Board currently comprises two Executive Directors, Mr. Suxin Zhang (Chairman) and Mr. Junjun Tang (President); three Non-Executive Directors, Mr. Jun Ye, Ms. Jing Wang and Mr. Guodong Sun; and three Independent Non-Executive Directors, Mr. Stephen Tso Tung Chang, Mr. Kwai Huen Wong, JP, and Mr. Long Fei Ye. More details of the Directors are disclosed on pages 12 to 16 of this annual report. The Company publishes and maintains on its website and on the Stock Exchange website an updated list of the Directors, identifying their roles and functions.

Each of the Non-Executive Directors of the Company is appointed for a specific term of three years and is subject to re-nomination and re-election by the Company in general meetings, unless previously terminated in accordance with the terms and conditions of the relevant letter of appointment or Director’s service contract.

The Board meets regularly throughout the year. All Directors are given the opportunity to put items on the agenda for regular Board meetings. All Directors have access to the Company Secretary to ensure that all Board procedures, rules and regulations are followed. Full minutes of Board meetings are kept by the Company Secretary and are available for inspection on reasonable notice. Any Director may, in furtherance of his duties, take independent professional advice, where necessary, at the expense of the Company.

CORPORATE GOVERNANCE REPORT

The Board is responsible for setting the strategic direction and policies of the Group and supervising management. Some functions are reserved by the Board, including, inter alia, the monitoring and approval of material transactions; matters involving a conflict of interest with a substantial shareholder or a Director of the Company; the approval of the quarterly, interim and final results; other disclosures to the public or regulators; and the internal control system. Decisions relating to such matters shall be subject to formal decisions of the Board. Matters not specifically reserved to the Board and necessary for the daily operations of the Company are delegated to management under the supervision of the respective Director(s) and the leadership of the Chairman.

The Company has implemented different mechanisms to ensure independent views and input are available to the Board:

- **Composition of the Board:** During the year ended 31 December 2022, the Board had at all times complied with Rules 3.10 and 3.10A of the Listing Rules. The Company has three Independent Non-Executive Directors, representing more than one-third of the Board. At least one of the Independent Non-Executive Directors possesses appropriate professional qualifications or accounting or related financial management expertise.
- **Independence assessment:** Each of the Independent Non-Executive Directors has made an annual confirmation of independence pursuant to Rule 3.13 of the Listing Rules. The Company is of the view that all Independent Non-Executive Directors are independent in accordance with the guidelines set out in Rule 3.13 of the Listing Rules.
- **Board decision-making:** A Director who has a material interest in any transaction, contract or arrangement shall not vote (nor shall be counted in the quorum) on any Board resolution approving the same. If a substantial shareholder or a Director has a conflict of interest in a matter to be considered by the Board which the Board has determined to be material, such matter shall be dealt with in a Board meeting rather than by a written resolution.
- **Communication between the Chairman and Independent Non-Executive Directors:** The Chairman of the Board values communication with the Independent Non-Executive Directors highly and holds meetings with them at least once each year without the presence of other Directors.
- **Remuneration of Independent Non-Executive Directors:** Independent Non-executive Directors receive fixed fees for their role as members of the Board and Board committees. No equity-based compensation with performance-related elements is granted to the Independent Non-executive Directors to avoid potential bias in their decision-making or compromise to their objectivity and independence.
- **Board evaluation:** The Board assesses and reviews the time contributed by each Independent Non-Executive Director and their attendance at Board and Board committee meetings, so as to ensure that every Independent Non-Executive Director has devoted sufficient time to the Board to discharge his responsibilities as a Director of the Company.

The implementation and effectiveness of the above mechanisms are reviewed on an annual basis. The Board considers that such mechanisms had been implemented properly and effectively in the year ended 31 December 2022.

The roles of the Chairman and the President are separate. The Chairman is responsible for the overall management and operations of the Company and for proposing and reviewing the corporate directions and strategies of the Company. The Chairman is responsible for formulating business strategies and provides leadership to the Board, ensuring effective running of the Board, including that all appropriate issues are discussed by the Board in a timely manner. The Chairman ensures that all Directors are properly briefed on issues arising at Board meetings and all Directors receive adequate, complete and reliable information. The Chairman of the Board highly values communication with the Independent Non-Executive Directors and will hold meetings with them at least once each year without the presence of other Directors.

CORPORATE GOVERNANCE REPORT

The President is responsible for the day-to-day management of the Company's business and operations as well as implementation of the Company's business strategies.

Directors' and Officers' Liabilities Insurance

Appropriate insurance has been arranged by the Company to cover potential liabilities of Directors and Officers of the Company regarding legal actions against said Directors and Officers of the Company and its subsidiaries, arising out of corporate activities of the Company.

Board Operation

During the year ended 31 December 2022, the Board held five Board meetings. The attendance record of each Board member at Board meetings, meetings of the Audit Committee, the Nomination Committee, and the Remuneration Committee, as well as the annual/extraordinary general meeting is set out below:

	Board meetings	Audit Committee meetings	Nomination Committee meetings	Remuneration Committee meetings	Annual General Meeting	Extraordinary General Meeting
Executive Directors						
Suxin Zhang	6	N/A	1	N/A	1	1
Junjun Tang	7	N/A	N/A	N/A	1	2
Non-Executive Directors						
Jun Ye	6 ^(Note)	4	N/A	N/A	0	0
Jing Wang	7	N/A	N/A	1	1	1
Guodong Sun	7	N/A	N/A	N/A	0	0
Independent Non-Executive Directors						
Stephen Tso Tung Chang	7	5	N/A	N/A	1	2
Kwai Huen Wong, JP	7	N/A	1	1	1	2
Long Fei Ye	7	5	1	1	1	2

Note: Suxin Zhang attended the Board meeting on 10 November 2022 as an alternate Director of Jun Ye.

In place of physical meetings, the Board may circulate written resolutions for approval by the relevant members of the Board except for matters where a substantial shareholder or a Director has a conflict of interest that the Board has determined to be material, in which case the matter shall be dealt with by a physical Board meeting (rather than a written resolution) to comply with provision C.5.7 of the Code.

The Board, having considered the attendance records of the Directors, is satisfied that each Director spends sufficient time performing his responsibilities.

CORPORATE GOVERNANCE REPORT

Continuous Professional Development

Directors shall keep abreast of their responsibilities as Directors and of the conduct, business activities, and development of the Company.

Under Code Provision C.1.4, the Directors should participate in appropriate continuous professional development programs to develop and refresh their knowledge and skills to ensure that their contribution to the Board remains informed and relevant. During the year ended 31 December 2022, all Directors were provided with timely updates on the Company's performance, financial position, prospects, and materials on new or salient changes to laws and regulations applicable to the Group, to enable the Board as a whole and each Director individually to discharge their duties. Internally-facilitated briefings for the Directors will be arranged in the next financial year and reading material on relevant topics will be issued to the Directors where appropriate. All Directors are encouraged to attend relevant training courses at the Company's expense.

The participation by each Director in continuous professional development for the year ended 31 December 2022 is set out below:

Name of Director	Reading related rules and materials and/or attending training courses
Suxin Zhang (<i>Chairman</i>)	✓
Junjun Tang (<i>President</i>)	✓
Jun Ye	✓
Jing Wang	✓
Guodong Sun	✓
Stephen Tso Tung Chang	✓
Kwai Huen Wong, JP	✓
Long Fei Ye	✓

Remuneration Committee

The Remuneration Committee currently comprises one Non-Executive Director, Ms. Jing Wang, and two Independent Non-Executive Directors, Mr. Kwai Huen Wong, JP and Mr. Long Fei Ye. The Chairman of the Remuneration Committee is Mr. Kwai Huen Wong, JP. Each member is sufficiently experienced and is appropriately skilled in the issues of determining Executive compensation in public companies. The Board expects committee members to exercise independent judgement in conducting the business of the committee. The roles and functions of the Remuneration Committee include the determination of the specific remuneration packages of all Executive Directors and senior management, including benefits in kind, pension rights, and compensation payments, and making recommendations to the Board in connection with the remuneration of the Non-Executive Directors. The Remuneration Committee should consider factors such as the salaries paid by comparable companies, employment conditions elsewhere in the Group, and the desirability of performance-based remuneration. A copy of the terms of reference of the Remuneration Committee is available from the Company's website and the Stock Exchange's website. The Remuneration Committee shall meet at least once a year.

On 11 August 2022, the Remuneration Committee held a meeting to discuss the vesting of certain options granted under the Company's share option scheme, and resolved to submit a proposal to the Board on the vesting arrangements for such options.

Details of the emoluments of the Directors are set out in note 8 to the Financial Statements.

CORPORATE GOVERNANCE REPORT

Nomination Committee

The Nomination Committee currently comprises one Executive Director, Mr. Suxin Zhang, and two Independent Non-Executive Directors, Mr. Kwai Huen Wong, JP and Mr. Long Fei Ye. The Chairman of the Nomination Committee is Mr. Suxin Zhang. Each member is sufficiently experienced and is appropriately skilled in the issues of nomination of directors to the Board. The Company has provided the Nomination Committee with sufficient resources to perform its duties. The Nomination Committee may seek independent professional advice, at the Company's expense, to perform its responsibilities. The roles and functions of the Nomination Committee are to review the structure, size and composition of the Board, make recommendations on any proposed changes to the Board to complement the Company's corporate strategy, with due regard to the board diversity policy, identify individuals suitably qualified to become Board members, select or make recommendations to the Board on the selection of individuals nominated for directorships, assess the independence of Independent Non-Executive Directors, and make recommendations to the Board on the appointment or re-appointment of Directors and succession planning for Directors, in particular the Chairman and the President, and monitor the implementation of the board diversity policy and review such policy, as appropriate, to ensure its effectiveness. The Nomination Committee has established a specific written committee charter which deals clearly with its authority and duties. A copy of the terms of reference of the Nomination Committee is available from the Company's website and the Stock Exchange's website. The Nomination Committee shall meet at least once a year.

On 10 November 2022, the Remuneration Committee held a meeting with the Nomination Committee and discussed issues such as the Company's remuneration policy and the competitiveness of the Company's salary levels.

Pursuant to the articles of association of the Company (the "Articles"), any person appointed as a Director to fill a casual vacancy of the Board shall hold office only until the next following annual general meeting of the Company and shall then be eligible for re-election at the relevant general meeting, and any Director appointed as an addition to the existing Board shall hold office only until the next annual general meeting of the Company and shall then be eligible for re-election at the relevant general meeting. Every Director shall be subject to retirement by rotation at least once every three years and shall be eligible for re-election in accordance with the Articles. The Articles also allow for removal of a Director by an ordinary resolution.

Auditor's Remuneration

During the year ended 31 December 2022, the remuneration paid and payable to the auditors of the Company, Ernst & Young, for the provision of audit services and non-audit related services to the Company were US\$1.40 million and US\$0.05 million, respectively. Details of significant non-audit related services include tax and risk management advisory services.

Audit Committee

At least one of the members of the Audit Committee has appropriate professional qualifications or accounting or related financial management expertise as required under the Listing Rules. None of the members of the Audit Committee was a former partner of the Company's existing external auditors within one year immediately prior to the dates of their respective appointments. All members have appropriate skills and experience in reviewing financial statements as well as addressing significant control and financial issues of the Company. The Board expects the members of the Audit Committee to exercise independent judgement and delegates the responsibilities of the corporate governance functions to the Audit Committee in order to comply with the requirement of the Code.

CORPORATE GOVERNANCE REPORT

The Audit Committee currently comprises one Non-Executive Director, Mr. Jun Ye, and two Independent Non-Executive Directors, Mr. Stephen Tso Tung Chang and Mr. Long Fei Ye. The Chairman of the Audit Committee is Mr. Stephen Tso Tung Chang. The primary duties of the Audit Committee include the reviewing of the Company's financial reporting system, the nature and scope of the audit review as well as the effectiveness of the system of internal control procedures and risk management. The Audit Committee is also responsible for making recommendations in relation to the appointment, reappointment, and removal of the external auditors, and the reviewing and monitoring of the independence and objectivity of the external auditors. In addition, the Audit Committee discusses matters raised by the external auditors and regulatory bodies to ensure that appropriate recommendations are implemented. A copy of the terms of reference of the Audit Committee is available from the Company's website and the Stock Exchange's website. The Audit Committee shall meet at least twice a year.

During the year ended 31 December 2022, the Audit Committee held five meetings and all the committee members were present at the meetings. The major work performed by the Audit Committee with respect to the year ended 31 December 2022 included reviewing and recommending the re-appointment of the external auditor, approving the terms of engagement (including the remuneration) of the external auditor and the audit plan, reviewing the unaudited quarterly results announcement, reviewing the unaudited interim report and interim results announcement for the six months ended 30 June 2022, reviewing the audited financial statements and final results announcement for the year ended 31 December 2022, reviewing the work of the Group's audit department and assessing the effectiveness of the Group's systems of risk management and internal control. The Audit Committee also held discussions with management to ensure that the Company has adequate resources, qualified and experienced staff in the accounting and financial reporting function, training programs and budget.

Board Diversity

The Board adopted a board diversity policy (the "Policy") in compliance with Rule 13.92 of the Listing Rules.

The Company sees increasing diversity at the Board level as an essential element in maintaining the Company's competitive advantage. In designing the Board's composition, Board diversity will be considered from several aspects, including without limitation, differences in the talents, skills, regional and industry experience, background, gender, age, and other qualities of the members of the Board, in order to maintain an appropriate range and balance of talents, skills, experience, and background on the Board. In recommending candidates for appointment to the Board, the Nomination Committee will consider candidates on merit against objective criteria and with due regard to the benefits of diversity on the Board. The Nomination Committee discussed and agreed on the measurable objectives for achieving diversity on the Board and recommended them to the Board for adoption. At any given time, the Board may seek to improve one or more aspects of its diversity and measure progress accordingly.

The Board believes that, among all measurable objectives, gender diversity is a representative manifestation of Board diversity. The Company has one female Director, which is in compliance with Rule 13.92 of the Listing Rules. The Board considers that the Company has achieved gender diversity at the Board level and targets to maintain at least the current level of female representation. In addition to gender diversity, the Remuneration Committee took the view that the measurable objectives for Board diversity had been achieved to a large extent for the year ended 31 December 2022. The Nomination Committee paid particular attention to the cultural and educational background, professional and technical experience, and skills of the members of the Board and also reviewed the composition of Executive Directors and Independent Non-Executive Directors, so as to ensure appropriate independence within the Board.

The Company will continue to maintain a balance of diverse perspectives on the Board that is appropriate for and conducive to the Company's growth.

CORPORATE GOVERNANCE REPORT

Workforce Diversity

As at 31 December 2022, the gender ratio of the Group's workforce (including the Company's senior management) was approximately 73% male to 27% female. The Company's hiring is merit-based and non-discriminatory. The Board is satisfied that the Company has achieved gender diversity in its workforce.

Corporate Governance Functions

The Board is responsible for performing the functions set out in provision A.2.1 of the Code.

The Board reviewed the Company's corporate governance policies and practices, the training and continuous professional development of Directors and senior management, the Company's policies and practices on compliance with legal and regulatory requirements, the compliance with the Model Code, and the Company's compliance with the Code and disclosure in this Corporate Governance Report.

Investor Relations

The Company has adopted a shareholders' communication policy, which is subject to annual review to ensure its implementation and effectiveness. Such policy aims to ensure that Shareholders will have equal and timely access to information about the Company, so as to enable them to exercise their rights in an informed manner and to allow them to engage actively with the Company.

A summary of the Company's shareholders' communication policy is set out below.

The Company provides information to Shareholders through its financial reports (including quarterly, interim and annual reports), circulars, announcements and other disclosures submitted to the Stock Exchange for publication.

To further promote effective communication, the Company maintains a website at www.huahonggrace.com with information and updates on the Company's business developments and operations, list of Directors and their roles and functions, constitutional documents, terms of reference of the Board and its committees, procedures for nomination of Directors for election, corporate governance practices, financial reports, circulars, announcements and other information.

Shareholders' meetings are a primary forum for communication between the Board and Shareholders. The Company encourages Shareholders to attend and participate in general meetings to ensure a high level of accountability and to keep them informed of the Company's goals and strategies. The Chairman of the Board, other Board members, and the Chairmen of all the Board committees, or in their absence, other members of the respective committees, are available to answer any questions from Shareholders. Shareholders are given sufficient notice of the meetings, and detailed voting procedures are included in circulars to Shareholders accompanying the notices of meetings.

In addition to the above, the Company also publishes newsletters through its WeChat public account. Shareholders can subscribe to the account to obtain the latest news of the Company.

To promote investors' understanding of the Company's business, the Company organises roadshows and on-site visits to its clean rooms and exhibition halls for investors. The Company has also participated in a number of investment forums and conducted multiple exchanges with securities analysts, fund management companies, and individual investors through various means.

CORPORATE GOVERNANCE REPORT

In order for the Company to solicit and understand the views of Shareholders and stakeholders, Shareholders and other stakeholders may make enquiries to the Company through its investor relations contact by email at IR@hhgrace.com.

The Company has reviewed the implementation and effectiveness of its shareholders' communication policy for the year ended 31 December 2022, including the steps taken at the general meetings, the handling of queries received and the multiple communication channels in place. The Company is of the view that the policy is effective and has been properly implemented.

Company Secretary

Ms. Sui Har Lee, the Company Secretary, is responsible to the Board for ensuring that the Board procedures are followed and that the Board activities are efficiently and effectively conducted. She is also responsible for ensuring that the Board is fully apprised of the relevant legislative, regulatory, and corporate governance developments relating to the Company and facilitating the induction and professional development of Directors.

The Company Secretary reports to the Chairman and the President, plays an essential role in the relationship between the Company and its Shareholders, and assists the Board in discharging its obligations to Shareholders pursuant to the Listing Rules.

During the year ended 31 December 2022, Ms. Sui Har Lee attended relevant professional seminars to update her skills and knowledge and has complied with Rule 3.29 of the Listing Rules.

Procedures for Shareholders to Convene an Extraordinary General Meeting

Extraordinary general meetings may be convened by the Directors on requisition of Shareholder(s) holding not less than one-twentieth of the paid-up capital of the Company or by such Shareholder(s) who made the requisition (the "Requisitionist(s)") (as the case may be) pursuant to sections 566 to 568 of the Companies Ordinance (Chapter 622 of the laws of Hong Kong) (the "Companies Ordinance"). The objects of the meeting must be stated in the requisition, which must be signed by the Requisitionist(s) and deposited at the registered office of the Company. Shareholders should follow the requirements and procedures as set out in sections 580 to 583 of the Companies Ordinance for convening an extraordinary general meeting.

Procedures for Putting Forward Proposals at Shareholders' Meetings and Directing Enquiries from Shareholders to the Board

Shareholders may at any time send their written requests, proposals, enquiries, and concerns to the Company for the attention of Chairman of the Board or the Company Secretary whose contact details are as follows:

288 Halei Road, Zhangjiang Hi-Tech Park, Shanghai 201203, China
Tel: (86) 21 38829909
Fax: (86) 21 50809999
Email: IR@hhgrace.com

CORPORATE GOVERNANCE REPORT

Voting by Poll

Pursuant to Rule 13.39(4) of the Listing Rules, any vote of Shareholders at a general meeting must be taken by poll.

Risk Management and Internal Monitoring

Risk Management and Internal Monitoring Objectives

Risk Management Objective

From a compliance perspective, the Company has implemented the provisions of the Corporate Governance Code issued by the Hong Kong Stock Exchange to ensure the compliance with relevant requirements in a timely manner.

From the perspective of operations, the management team well understands the risks that may be confronted by the Company as it undertakes future development. Therefore, the risk management objective of the Company is to identify and assess risks and take appropriate countermeasures to evade a risk entirely, if possible, otherwise to manage these risks to reduce their impact and keep them under control. The Company has constructed a robust risk control system working on a continuous basis, established a risk management platform, clarified risk management mechanisms, improved a risk map, and carried out an annual risk evaluation. We have developed a concise, scientific, practical, and efficient risk management and control model which complies with regulatory requirements under the Code and is in line with the Company's specific evolving circumstances.

Internal Control System Objective

The Company's internal control system has fully implemented the requirements for a risk management framework as set out by COSO (Committee of Sponsoring Organizations of the Treadway Commission) as well as the guidelines of Hong Kong Institute of Certified Public Accountants for risk management. We refined the three tiers of risk map in the processes and formed risk-oriented internal control evaluation by considering the Company's ongoing operational circumstances and business characteristics. The objective is to evaluate the effectiveness and applicability of our internal monitoring system and provide reasonable guarantees for the effectiveness of the Company's operating activities, the reliability of financial reports, and compliance with laws and regulations.

Risk Management and Internal Monitoring System

To ensure our risk management work develops efficiently and forms a long-term mechanism, the Company has established a risk management monitoring system comprising a "three-line model". It covers the roles and duties of many different aspects as follows:

1st Line	<p>Business Departments</p> <ul style="list-style-type: none"> • Establish and maintain various departmental risk management mechanisms; • Ongoing collection of risk data while performing day-to-day department tasks; • Continue to carry out risk monitoring and early warning of the department; <p>Assist in the implementation of the Company's risk management work, including providing necessary documents and samples, identify major risks related to the department, and determine major risk countermeasures;</p>
2nd Line	<p>Business Supervision and Administration Departments</p> <ul style="list-style-type: none"> • Provide and supplement expertise, play a supportive and supervisory role, help continuously implement and improve the risk management work; Analyze and report on the accuracy and effectiveness of risk management;

CORPORATE GOVERNANCE REPORT

3rd Line	Internal Audit Level
	<ul style="list-style-type: none"> • Independently inspect and supervise risk management activities conducted by the Business Departments and the Risk Management Level, and evaluate whether the Company's risk management mechanism is implemented effectively and efficiently; <p>Conduct annual comprehensive risk assessments, based on the risk assessment results, define the major risk factors and relevant response responsibilities, organize and guide relevant departments in making response plans for major risks, and follow up on the implementation of the plans;</p> <ul style="list-style-type: none"> • Urge departments or agencies to rectify problems discovered during the auditing and risk assessment process and monitor the ongoing status of the rectification work; • Report the auditing and risk assessment results to the Audit Committee of the Company.

Risk Management and Internal Monitoring Statement

The Board is responsible for the Company's risk management and internal monitoring system, as well as ensuring a review of the system's effectiveness. The Board designated the Internal Auditing Department to perform the internal auditing function and granted it full independent responsibility and authority. The internal auditors audited the effectiveness of the Company's risk management and internal monitoring system every half year according to the approved auditing scope and in accordance with the provisions in D.2 of the Corporate Governance Code, and no material deficiency was found.

Based on audits by the Internal Auditing Department, the Board believes that the Company's risk management and internal monitoring system is adequate, trustworthy, and effective. However, one must recognize that the Company's risk management and internal monitoring framework can only manage rather than completely eliminate risks that may affect the Company's ability to accomplish its business objectives. Therefore, it provides a reasonable but not an absolute guarantee for the avoidance of material misstatement or loss.

With a view to identifying, handling, and disseminating inside information in compliance with the SFO, procedures, including pre-clearance on dealing in the securities of the Company by designated members of management, notification of regular blackout period and securities dealing restrictions to relevant Directors and employees, identification of projects by code name, and dissemination of information to stated purpose and on a need-to-know basis, have been implemented by the Group to guard against possible mishandling of inside information within the Group.

General

The Directors acknowledge their responsibility in preparing the Company's financial statements for each financial period to give a true and fair view of the state of affairs of the Company and in accordance with statutory requirements and applicable accounting standards. In preparing the financial statements for the year ended 31 December 2022, the Directors have selected suitable accounting policies and applied them consistently, made judgments and estimates that are prudent, fair, and reasonable, and prepared the financial statements on a going concern basis.

The responsibilities of the auditors with respect to the financial reporting are set out in the Independent Auditors' Report on pages 221 to 228 of this annual report.

On behalf of the Board

Mr. Suxin Zhang

Chairman

DIRECTORS' REPORT

The Board presents the annual report of the Company for 2022 and the audited financial statements of the Company for the period from 1 January 2022 to 31 December 2022 (the "Financial Statements").

Principal Activities

The Company was a pure-play 8-inch and 12-inch wafer foundry as at the end of 2022, with its long-term focus on the development and application of "8-inch + 12-inch" differentiated specialty technologies, including Embedded/ Standalone Non-Volatile Memory, Power Discrete, Analog & Power Management, Logic & RF, providing wafer manufacturing services to its customers. The activities of its principal subsidiaries are set out in note 1 to the Financial Statements (Pages 237 to 238).

BUSINESS REVIEW

Revenue Analysis

Revenue of Hua Hong Semiconductor for 2022 was US\$2,475.5 million, representing a significant increase of 51.8% compared to the previous year. As at the end of 2022, the Company has been profitable for 48 consecutive quarters. The good performance for the year was mainly due to the continuous optimization of product mix and capacity expansion of the Company. Despite significant changes in the global semiconductor market environment in 2022, the Company adjusted its production line arrangements promptly to meet the market demand and carried out active expansion in automobiles, industrial control, data centers, new energy generation, and new energy application, thus achieving rapid growth. Due to the gradual implementation of the Company's "8-inch +12-inch" strategy, the 12-inch production platform was continuously expanded and supported by the market. With diversified support of advanced "Specialty IC + Power Discrete" specialized process technology, product quality and performance were widely recognized by the market. The Company also maintained good results in the traditional consumer market. In 2022, the Company maintained its business growth in terms of Embedded/Stand-alone memory, discrete, and analog & PM platforms, which will continue to create value for shareholders and the market in 2023.

	Revenue by Service					
	2022	2022	2021	2021	YoY	YoY
	US\$'000	%	US\$'000	%	Change US\$'000	Change %
Semiconductor wafers	2,376,659	96.0%	1,561,846	95.8%	814,813	52.2%
Others	98,829	4.0%	68,908	4.2%	29,921	43.4%
Total	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- In 2022, 96.0% of our revenue was generated from the sale of semiconductor wafers.

	Revenue by Customer					
	2022	2022	2021	2021	YoY	YoY
	US\$'000	%	US\$'000	%	Change US\$'000	Change %
Systems and fabless companies	2,267,446	91.6%	1,496,782	91.8%	770,664	51.5%
Integrated device manufacturers (IDMs)	208,042	8.4%	133,972	8.2%	74,070	55.3%
Total	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- Our revenue from systems and fabless companies accounted for 91.6%.

DIRECTORS' REPORT

Revenue by Geography

	2022	2022	2021	2021	YoY	YoY
	US\$'000	%	US\$'000	%	Change	Change
					US\$'000	%
China	1,811,269	73.2%	1,205,149	73.9%	606,120	50.3%
North America	297,683	12.0%	159,281	9.8%	138,402	86.9%
Other Asia	210,610	8.5%	169,227	10.4%	41,383	24.5%
Europe	114,728	4.6%	70,627	4.3%	44,101	62.4%
Japan	41,198	1.7%	26,470	1.6%	14,728	55.6%
Total	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- In 2022, North America was our fastest-growing market by revenue, with a year-on-year increase of 86.9% in revenue.

Revenue by Technology Type

	2022	2022	2021	2021	YoY	YoY
	US\$'000	%	US\$'000	%	Change	Change
					US\$'000	%
Embedded Non-Volatile Memory (eNVM)	767,568	31.0%	459,104	28.2%	308,464	67.2%
Standalone Non-Volatile Memory (sNVM)	208,171	8.4%	88,796	5.4%	119,375	134.4%
Discrete	774,638	31.3%	557,893	34.2%	216,745	38.9%
Logic & RF	274,384	11.1%	272,053	16.7%	2,331	0.9%
Analog & Power Management (PM)	448,648	18.1%	250,466	15.4%	198,182	79.1%
Others	2,079	0.1%	2,442	0.1%	(363)	(14.9%)
Total	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- In 2022, eNVM technology continued to grow, with continuous and outstanding growth in the results for MCU products.
- In 2022, there was a year-on-year increase of 38.9% in revenue from Discrete, which remained the Company's largest business segment.

DIRECTORS' REPORT

Revenue by Technology Node

	2022	2022	2021	2021	YoY	YoY
	US\$'000	%	US\$'000	%	Change	Change
					US\$'000	%
55nm & 65nm	355,161	14.3%	157,854	9.7%	197,307	125.0%
90nm & 95nm	505,233	20.4%	280,235	17.2%	224,998	80.3%
0.11 μ m & 0.13 μ m	426,387	17.2%	302,920	18.6%	123,467	40.8%
0.15 μ m & 0.18 μ m	206,733	8.4%	164,260	10.1%	42,473	25.9%
0.25 μ m	15,027	0.6%	22,926	1.4%	(7,899)	(34.5)%
\geq 0.35 μ m	966,947	39.1%	702,559	43.0%	264,388	37.6%
Total	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- Revenue from 55nm & 65nm technology nodes increased sharply, with a year-on-year increase of 125.0%.

Revenue by End Market

	2022	2022	2021	2021	YoY	YoY
	US\$'000	%	US\$'000	%	Change	Change
					US\$'000	%
Consumer Electronics	1,599,116	64.6%	1,039,325	63.7%	559,791	53.9%
Industrial & Automotive Electronics	550,342	22.2%	316,194	19.4%	234,148	74.1%
Communications	248,033	10.0%	218,946	13.4%	29,087	13.3%
Computing	77,997	3.2%	56,289	3.5%	21,708	38.6%
Total	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- All end markets recorded strong growth in revenue in 2022, particularly for Industrial & Automotive Electronics in 74.1% growth.

DIRECTORS' REPORT

Capacity and Capacity Utilization			
Fab (In thousands of wafers per month)	2022	2021	YoY Change
Fab 1	65	65	–
Fab 2	60	60	–
Fab 3	53	53	–
Total monthly 8-inch wafer capacity	178	178	–
Fab 7 (12-inch wafer capacity)	65	60	5
Capacity utilization (8-inch wafer equivalent)	107.4%	107.5%	(0.1)%

- In 2022, capacity utilization (8-inch wafer equivalent) was 107.4%.

Wafer Shipments			
In thousands of wafers	2022	2021	YoY Change
Wafer shipments (8-inch wafer equivalent)	4,087	3,328	22.8%

- In 2022, there was a year-on-year increase of 22.8% in the Company's wafer shipments.

Research and Development

Hua Hong Semiconductor is committed to research and development (R&D), innovation, and optimization of differentiated technologies, with a focus on eNVM, sNVM, Discrete, analog & PM, and logic & RF. It continues to provide customers with well-featured process technologies and services that meet market demand. In 2022, Hua Hong Semiconductor continued to expand the construction of the “8-inch + 12-inch” production platforms and enriched the advanced “Specialty IC + Power Discrete” process capability through expansion of the 12-inch production platform.

The technology platform related to eNVM remained one of the main sources of revenue for Hua Hong Semiconductor in 2022 and was mainly used for smart card IC and MCU. In terms of smart cards, shipments of smart card products produced using the 90nm embedded flash memory technology, with independent intellectual property rights, remained stable; the 55nm process was successfully mass-produced; and competitiveness of the eNVM platform remained at a high level. In terms of MCU, 12-inch embedded flash memory MCUs were mass-produced, and increased production capacity ensured double-digit growth in both shipments and sales of MCUs for the Company in 2022. The Company has a rich combination of embedded flash memory processes as well as a good market reputation. The industry-leading 0.11μm and independently-developed 90nm low power and ultra-low leakage embedded flash memory technology platforms, remained highly recognized in the market and were widely used in general MCU, Type-C interface control IC, touch control IC, smart meter control IC, and highly reliable Automotive Electronics, etc. Meanwhile, shipments using the 55nm high-speed MCU embedded flash memory technology platform, with independent intellectual property rights, increased rapidly. This further improved the richness and the competitiveness of the process platform and gradually enhanced the ability to provide manufacturing services to customers through differentiated processes.

DIRECTORS' REPORT

In 2022, continuous growth of new energy power generation and new energy applications, such as electric vehicles, and the gradual increase in market share of power devices for household appliances, communications, and other industries, will continue to promote growth of the Company's power discrete technology platform for a long period of time. Specifically, the insulated gate bipolar transistor (IGBT) technology platform continued to perform excellently, with rapid growth for eight consecutive years. The three-digit percentage growth in sales and production of IGBT in the 12-inch fab has greatly eased the problem of capacity constraints. After optimization for large current, high reliability, small pitch size, etc., IGBT technology showed strong competitiveness in electric vehicle inverters and new energy power generation. The Company made achievements in 12-inch Super Junction Metal Oxide Semiconductor Field Effect Transistor (MOSFET) with completion of the production capacity ramp-up and a three-digit growth in annual shipments. With regard to the specialty new-generation Deep-Trench technology, the Company accumulated valuable mass production experience and a good reputation among customers, as the technology was widely used in data center power supplies, charging piles, and new energy on-board chargers (OBCs) for new energy vehicles. In terms of the overall power device process platform, the Company will carry out development towards smaller pitch size and lower on-resistance, expand its presence in the automotive electronics market, continuously meet the demand of the end market, and provide customers with higher quality products and OEM services.

In terms of the BCD (Bipolar-CMOS-DMOS) process platform, the Company continued to achieve strong growth in 2022, with double-digit growth in revenue. The process scope covered low-medium, high, and ultra-high voltage products. Specifically, the Company achieved rapid production ramp-up of the 12-inch medium-low voltage 90 nm BCD process platform, which was successfully applied to digital power supplies, digital audio power amplifiers, and other market segments. In the analog power and motor driver IC applications, using the 8-inch 0.18 μ m and above medium-low voltage BCD process platforms, the Company maintained double-digit growth, achieving continuous improvement in market recognition and a technical level matching the industry-leading indicators. In the high and ultra-high voltage sectors, the Company has a 600-700V BCD process platform for application in lighting control as well as industrial and household motor driver chips. The process and reliability were continuously improved to meet future market demand. With changes in automotive electronics architecture and using our advantageous embedded flash memory and power device technology, the Company developed various integrated BCD processes to meet the continuous demand for highly integrated and intelligent automotive power management IC.

In addition to the above main technology platforms, Hua Hong Semiconductor continued to expand into new differentiated technology fields. With greater demands on the volume consumed and performance required for semiconductor products in smart home devices, wearable hardware, Automotive Electronics, etc., the Company continuously strengthened research and development of radio frequency, standard memory, and other technology platforms, which paid off in 2022. In terms of patents, it applied for 654 patents throughout the year and was granted a total of over 4,100 Chinese and U.S. authorised invention patents. The Company is committed to continuous innovation and providing customers with a rich selection of specialty technology platforms and extensive IP support.

2022 was a year full of both opportunities and challenges. Despite multiple challenges, the Company achieved all its production, research, and development targets. As HHGrace persisted in and practiced the advanced "Specialty IC + Power Discrete" process technology programs for a long time, the Company has maintained steady growth in results despite significant change in the traditional consumer market. Looking forward to the future, there will be rapid growth in the application of new energy in the world as well as demand for semiconductors in automobiles and other industries. The Company's process research and development will be rapidly oriented towards relevant fields. In the long run, with the continuous increase in proportion of semiconductors in end-user system products and further penetration of digitalization and informatization into daily production and life, there will certainly be a long-term positive trend in global demand for semiconductor components. In 2023, the Company will further expand the phase-I production capacity in Wuxi and start the phase-II production capacity construction plan in time to provide the market with more extensive process capability and production capacity support.

DIRECTORS' REPORT

Outlook

Looking forward to 2023, there will be many uncertainties in the global economic recovery. According to the forecast by an authoritative institution, the global GDP growth rate is expected to drop to 1.7% in 2023, and the GDP growth rate of China is expected to increase to 5%. The slowdown in global economic growth and the decline in traditional consumer demand may become a common challenge for the semiconductor industry in the new year. Despite the decline in overseas market demand and the accelerated transformation and upgrading of domestic market demand, Hua Hong Semiconductor actively made plan for emerging new markets including electric vehicles and new energy, accelerated its activities to meet new these market demands, and maintained the sustained and healthy development of its business in alignment with the market trends. The Company will further improve competitiveness of the 12-inch production platform. More abundant and advanced specialty technology, with long-term and continuous strategic cooperation, including mutual trust with customers, will become the key engine to maintain growth of the Company in the new year. In terms of production capacity, in order to better meet the long-term demand of the semiconductor market, the Company will give full support to the "8-inch + 12-inch" strategy, maintain optimization of the existing 8-inch platform, continue capacity expansion of phase-I for the 12-inch platform, and in due course start construction of the phase-II production capacity expansion in Wuxi. In terms of products and technical promotion, all fabs of the Company have been recognized under the IATF16949 quality system. In 2023, the Company will continue to improve its automotive electronics product lines and seize the market opportunity due to the explosive increase in demand for semiconductor components in the local automobile market supply chain. The Company will continue to improve its specialized process technology capabilities, particularly for the embedded flash memory and power discrete technology platform, with a view to maintain its dominant position and contribute to the Company's long-term and sustainable development.

DIRECTORS' REPORT

MANAGEMENT DISCUSSION AND ANALYSIS

FINANCIAL PERFORMANCE

	2022 US\$'000	2021 US\$'000	Change
Revenue	2,475,488	1,630,754	51.8 %
Cost of sales	(1,631,832)	(1,179,156)	38.4 %
Gross profit	843,656	451,598	86.8 %
Other income and gains	70,986	60,758	16.8 %
Fair value gain on an investment property	78	183	(57.4)%
Selling and distribution expenses	(12,464)	(10,673)	16.8 %
Administrative expenses	(266,666)	(198,920)	34.1 %
Other expenses	(111,360)	(165)	67,390.9 %
Finance costs	(40,331)	(13,226)	204.9 %
Share of profit of associates	12,171	6,765	79.9 %
Profit before tax	496,070	296,320	67.4 %
Income tax expense	(89,499)	(65,349)	37.0 %
Profit for the year	406,571	230,971	76.0 %
Attributable to:			
Owners of the parent	449,912	261,476	72.1 %
Non-controlling interests	(43,341)	(30,505)	42.1 %

Revenue

Revenue was US\$2,475.5 million, an all-time high and an increase of 51.8% over the prior year, due to increased wafer shipments and improved average selling price.

Cost of sales

Cost of sales was US\$1,631.8 million, an increase of 38.4% over 2021, primarily due to increased wafer shipments and increased depreciation costs.

Gross profit

Gross profit was US\$843.7 million, an increase of 86.8% compared to 2021, mainly due to improved average selling price and product mix, partially offset by increased depreciation costs.

Other income and gains

Other income and gains were US\$71.0 million, an increase of 16.8% compared to 2021, primarily due to increased government subsidies and interest income.

Selling and distribution expenses

Selling and distribution expenses were US\$12.5 million, an increase of 16.8% from 2021, primarily due to increased labor expenses.

Administrative expenses

Administrative expenses were US\$266.7 million, an increase of 34.1% from 2021, primarily due to decreased government grants for research and development and increased labor expenses.

Other expenses

Other expenses were US\$111.4 million, compared to US\$0.2 million in 2021, largely due to foreign exchange loss versus foreign exchange gain in the previous year.

DIRECTORS' REPORT

Finance costs

Finance costs were US\$40.3 million, an increase of 204.9% from 2021, primarily due to increased bank borrowings.

Share of profit of associates

Share of profit of associates was US\$12.2 million, an increase of 79.9% from 2021, due to increased profit realized by the associates.

Income tax expense

Income tax expense was US\$89.5 million, an increase of 37.0% compared to 2021, primarily due to increased taxable profit.

Profit for the year

As a result of the cumulative effect of the above factors, profit for the year increased to US\$406.6 million, from US\$231.0 million in 2021. Net profit margin was 16.4%, compared to 14.2% in 2021.

FINANCIAL STATUS

	31 December 2022 US\$'000	31 December 2021 US\$'000	Change
Non-current assets			
Property, plant and equipment	3,367,716	3,116,501	8.1 %
Investment property	169,363	184,883	(8.4)%
Right-of-use assets	78,425	75,331	4.1 %
Investments in associates	130,721	122,040	7.1 %
Equity instruments designated at fair value through other comprehensive income	178,632	257,788	(30.7)%
Other non-current assets	54,794	54,364	0.8 %
Total non-current assets	3,979,651	3,810,907	4.4 %
Current assets			
Inventories	578,060	432,917	33.5 %
Trade and notes receivables	291,856	181,042	61.2 %
Due from related parties	13,006	6,910	88.2 %
Other current assets	182,996	157,935	15.9 %
Restricted and time deposits	1,042	2,248	(53.6)%
Cash and cash equivalents	2,008,765	1,610,140	24.8 %
Total current assets	3,075,725	2,391,192	28.6 %
Current liabilities			
Trade payables	236,999	194,385	21.9 %
Interest-bearing bank borrowings	426,756	195,024	118.8 %
Due to related parties	6,096	7,501	(18.7)%
Government grants	37,714	66,837	(43.6)%
Other current liabilities	674,851	616,654	9.4 %
Total current liabilities	1,382,416	1,080,401	28.0 %
Net current assets	1,693,309	1,310,791	29.2 %
Non-current liabilities			
Interest-bearing bank borrowings	1,481,580	1,395,279	6.2 %
Lease liabilities	14,644	16,137	(9.3)%
Deferred tax liabilities	41,268	25,735	60.4 %
Total non-current liabilities	1,537,492	1,437,151	7.0 %
Net assets	4,135,468	3,684,547	12.2 %

DIRECTORS' REPORT

Explanation of items with fluctuation over 10% from 31 December 2021 to 31 December 2022

Equity instruments designated at fair value through other comprehensive income

Equity instruments designated at fair value through other comprehensive income decreased from US\$257.8 million to US\$178.6 million, primarily due to decrease of fair value and a disposal of equity instruments.

Inventories

Inventories increased from US\$432.9 million to US\$578.1 million, primarily due to increased customer demand.

Trade and notes receivables

Trade and notes receivables increased from US\$181.0 million to US\$291.9 million, mainly due to increased revenue.

Due from related parties

Due from related parties increased from US\$6.9 million to US\$13.0 million, primarily due to increased receivables from certain of our related parties.

Other current assets

Other current assets increased from US\$157.9 million to US\$183.0 million, primarily due to increased properties under development.

Restricted and time deposits

Restricted and time deposits decreased from US\$2.2 million to US\$1.0 million, primarily due to decreased pledged deposits.

Cash and cash equivalents

Cash and cash equivalents increased from US\$1,610.1 million to US\$2,008.8 million, mainly due to reasons stated in the cash flow analysis below.

Trade payables

Trade payables increased from US\$194.4 million to US\$237.0 million, primarily due to increased purchase of materials.

Due to related parties

Due to related parties decreased from US\$7.5 million to US\$6.1 million, primarily due to decreased trade payables from certain of our related parties.

Government grants

Government grants decreased from US\$66.8 million to US\$37.7 million, primarily due to decreased receipts of government funding.

DIRECTORS' REPORT

Interest-bearing bank borrowings

Total interest-bearing bank borrowings increased from US\$1,590.3 million to US\$1,908.3 million, due to increased drawdowns of bank borrowings.

Deferred tax liabilities

Deferred tax liabilities increased from US\$25.7 million to US\$41.3 million, primarily due to increased withholding tax accrued for dividend distribution.

CASH FLOW

	2022 US\$'000	2021 US\$'000	Change
Net cash flows generated from operating activities	750,865	518,471	44.8 %
Net cash flows used in investing activities	(930,156)	(863,059)	7.8 %
Net cash flows generated from financing activities	672,177	1,014,640	(33.8)%
Net increase in cash and cash equivalents	492,886	670,052	(26.4)%
Cash and cash equivalents at beginning of the year	1,610,140	922,786	74.5 %
Effect of foreign exchange rate changes, net	(94,261)	17,302	(644.8)%
Cash and cash equivalents at end of the year	2,008,765	1,610,140	24.8 %

Net cash flows generated from operating activities

Net cash flows generated from operating activities were US\$750.9 million, an increase of 44.8% from 2021, mainly due to increased revenue, partially offset by increased payments for materials, maintenance and payrolls.

Net cash flows used in investing activities

Net cash flows used in investing activities were US\$930.2 million, primarily attributed to (i) US\$996.2 million for capital investments, (ii) US\$6.7 million for investment in an associate, offset by receipts of (i) US\$38.4 million of government grants, (ii) US\$28.5 million of interest income, (iii) US\$5.7 million of disposal of an equity instrument, and (iv) US\$0.1 million of disposal of fixed assets.

Net cash flows generated from financing activities

Net cash flows generated from financing activities were US\$672.2 million, including (i) US\$514.6 million of proceeds from bank borrowings, (ii) US\$392.0 million of capital contribution from non-controlling interests, (iii) US\$11.1 million of government grants for interest expenses, and (iv) US\$6.2 million of proceeds from issue of shares, offset by (i) US\$199.7 million of repayments of bank borrowings, (ii) US\$47.3 million of interest payments, (iii) US\$3.2 million payment of principal portion of lease payments, (iv) US\$0.8 million payments of listing fee, and (v) US\$0.8 million payment of restricted deposits.

Net increase in cash and cash equivalents

As a result of the cumulative effect of the above factors, cash and cash equivalents increased from US\$1,610.1 million as of 31 December 2021 to US\$2,008.8 million as of 31 December 2022.

DIRECTORS' REPORT

FINANCIAL RISKS

Interest rate risk

Our exposure to the risk of changes in market interest rates relates primarily to the Group's interest-bearing bank borrowings with a floating interest rate. Our policy is to manage interest rate risk using a mix of fixed and variable rate debts.

As at 31 December 2022, if the interest rates had been 100 basis points higher/lower with all other variables held constant, profit before tax for the year would have been US\$14.5 million lower/higher, mainly as a result of higher/lower interest expense on floating rate bank borrowings.

Foreign currency risk

We have transactional currency exposures, arising primarily from sales or purchases by our significant subsidiaries operating in Mainland China in US\$ rather than the subsidiary's functional currency, which is RMB. During the year, approximately 27% of our sales were denominated in currencies other than the functional currency of the subsidiary making the sale, whilst 71% of costs of sales were denominated in the subsidiary's functional currency.

In addition, we have currency exposures from interest-bearing bank borrowings, held by our subsidiary operating in Mainland China. As at 31 December 2022, interest-bearing bank borrowings with a carrying amount of US\$1,775.8 million are dominated in United States dollars, other than the subsidiary's functional currency, which is RMB.

As at 31 December 2021, if the US dollar had strengthened or weakened against the RMB by 5 percent, with all other variables held constant, our profit before tax for the year would have been approximately US\$60.5 million lower or higher.

Credit risk

We trade only with recognized and creditworthy third parties and related parties. It is our policy that all customers who wish to trade on credit terms are subject to credit verification procedures. In addition, receivable balances are monitored on an ongoing basis, and our exposure to bad debts is not significant.

Our maximum exposure to credit risk in relation to our financial assets is: the carrying amounts of cash and cash equivalents, trade and notes receivables, financial assets included in prepayments, other receivables and other assets, amounts due from related parties, and restricted and time deposits included in the consolidated statement of financial position. We have no other financial assets which carry significant exposure to credit risk.

Liquidity risk

To meet liquidity requirements in the short and long term, our policy is to monitor regularly the current and expected liquidity requirements to ensure that we maintain sufficient reserves of cash and adequate committed lines of funding from major financial institutions.

Capital management

Our primary objectives of capital management are to safeguard our ability to continue as a going concern and to maintain healthy capital ratios to support our business and maximize shareholders' value.

We manage our capital structure and make adjustments in light of changes in economic conditions. To do this, we may adjust the dividend payment to shareholders, return capital to shareholders, or issue new shares. We are not subject to any externally imposed capital requirements. No changes were made in the objectives, policies, or processes for managing capital during the year.

DIRECTORS' REPORT

Gearing Ratio

Details of the gearing ratio are set out in note 38 to the Financial Statements.

Results

The results of the Group for the year ended 31 December 2022 and the state of affairs as at that date are set out in the Financial Statements on pages 229 to 232 of this report.

Final Dividends

In order to better cater to market demand, enhance the Company's market position and core competitiveness in the wafer foundry industry and cope with the changing market environment, the Company is maintaining a stable, prudent, and responsible policy for our shareholders. Based on the requirements for a sustainable operation and long-term development, the Board does not recommend payment of a dividend for the year ended 31 December 2022 (2021: Nil). The Company will retain sufficient cash to continue its investment activities, in order to maximize benefits for our shareholders.

Dividend Policy

Subject to the approval of the Shareholders and the requirements of law, it has been decided that the Company will pay dividends to the Shareholders for the year of 2015 and onwards if the Group is profitable, the operations environment is stable, and there is no significant investment made by the Group. It is intended that the average of dividends paid in three consecutive years will be no less than 30% of the average distributable net profit of these three years. The remaining net profit will be used for the development and operations of the Group.

This dividend policy will continue to be reviewed from time to time and there can be no assurance that dividends will be paid in any amount for any given period. In the event that the Board recommends a dividend, the form and amount will depend on the assessment by the Directors of the factors affecting the Group from time to time.

DIRECTORS' REPORT

Distributable Reserves

As at 31 December 2022, the Company had no distributable reserves available for distribution to our shareholders.

Bank Loans

The particulars of bank loans of the Group as at 31 December 2022 are set out in note 26 to the Financial Statements.

As at 31 December 2022, certain of the Group's bank loans were secured by pledges of the Group's assets. Please refer to note 26 to the Financial Statements for further details.

Financial Summary

A summary of the published results and the assets and liabilities of the Group for the past five financial years is set out on page 348. This summary does not form part of the audited financial statements.

Property, Plant and Equipment

Details of additions and other changes during the year ended 31 December 2022 in the property, plant and equipment, and investment property of the Group are set out in notes 13 and 14 to the Financial Statements.

In addition, details of the investment property are set out below:

Location	Type of Use	Term of Lease	Group's Interest	Gross Floor Area (sq.m.)
Portions of 9 buildings No. 818 Guo Shou Jing Road Zhangjiang Hi-Tech Park Pudong New Area Shanghai, PRC	Industrial use	Held under a land use right for a term expiring on 8 March 2051	100%	91,563.11

Significant Events After the Reporting Period

There is no significant subsequent event undertaken by the Group after 31 December 2022.

DIRECTORS' REPORT

Share Capital and Share Option Scheme

Details of movement in the share capital of the Company during the year ended 31 December 2022 are set out in note 30 to the Financial Statements. These movements include the automatic inclusion of the amount standing to the share premium account into the share capital as from 3 March 2014, in accordance with section 37 of Schedule 11 to the New Companies Ordinance (Cap. 622), as part of the transition to the no-par value regime.

A share option scheme (the "Share Option Scheme") was approved by an extraordinary general meeting of the Company held on 1 September 2015. A summary of the Share Option Scheme is as follows:

Purpose of the Share Option Scheme:	The purpose of the Share Option Scheme is to attract, retain and provide incentives to the Participants (defined below), to provide them with the opportunity to obtain Shares of the Company, and to link their interests closely to the operating results and share performance of the Company, with the view to increasing the value of the Company.
Participants:	The participants of the Share Option Scheme ("Participants") include (1) existing Executive and Non-Executive Directors of any member of the Group; or (2) senior management and key managerial and technical personnel having a direct impact on the results of operations and sustainable development of any member of the Group, subject always to any limits and restrictions specified in the Share Option Scheme, but shall not include any Independent Non-Executive Directors.
Maximum entitlement of each Participant:	If the total number of Shares allotted and which may fall to be allotted upon exercise of all the share options ("Share Options") granted and to be granted (including exercised, cancelled, and outstanding Share Options) to a Participant in any 12-month period in aggregate exceeds 1% of the issued share capital of the Company at the time, no further grant of Share Options shall be given to such Participant. Share Options may be granted to a Participant in excess of the individual limit of 1% in any 12-month period only with the approval of the Shareholders at a general meeting. No Share Option shall be granted to any person who holds over 5% of Shares which carry voting rights on the Grant Date (as defined in the Share Option Scheme), unless such grant is approved by shareholders at the general meeting.
Minimum period, if any, for which an option must be held before it can be exercised:	Two years unless otherwise stated in the grant notice of the Share Option.
The amount payable on application or acceptance of the Share Option and the period within which payments or calls must be made or loans for such purposes must be paid:	HK\$1.00 is to be paid by each grantee as consideration for the grant of Share Option within 28 days from the date of proposed offer.
Number of options available for grant as at 1 January 2022:	93,944,356
Remaining life of the Share Option Scheme:	The Share Option Scheme shall be valid and effective for a period of seven (7) years commencing on the date of adoption. It has therefore expired on 1 September 2022. No further options could be granted, and none has been granted, under the Share Option Scheme from that date.

DIRECTORS' REPORT

As at the date of this report, the total number of shares available for issue under the Share Option Scheme is 23,438,871 shares, representing approximately 1.79% of the total number of shares in issue.

Share Options Granted under the Share Option Scheme

On 4 September 2015, the Company granted 30,250,000 share options (the "2015 Options") to subscribe for a total of 30,250,000 ordinary shares of the Company to certain individuals under the Share Option Scheme. Details of the 2015 Options are as follows:

Date of grant:	4 September 2015
Exercise price of options granted:	HK\$6.912
Number of options granted:	30,250,000 (representing 2.31% of the issued shares of the Company as at 31 December 2022).
Validity period of the options:	From 4 September 2015 to 3 September 2022 (seven (7) years), both dates inclusive.
Vesting period of the options:	One third of the options shall vest on each of 4 September 2017, 4 September 2018, and 4 September 2019.

The exercise price of HK\$6.912 per Share represents a premium of 0% over the higher of (i) the closing price of HK\$6.87 per Share as stated in the daily quotation sheets issued by the Stock Exchange on the date of the grant; (ii) the average closing price of HK\$6.912 per Share as stated in the daily quotation sheets issued by the Stock Exchange for the five trading days immediately preceding the date of the grant; and (iii) the closing price of HK\$6.800 per Share as stated in the daily quotation sheets issued by the Stock Exchange on the day immediately before the grant date.

On 24 December 2018, the Company granted 34,500,000 share options (the "2018 Options") to subscribe for a total of 34,500,000 ordinary shares of the Company to certain individuals under the Share Option Scheme. Details of the 2018 Options are as follows:

Date of Grant:	24 December 2018
Exercise price of options granted:	HK\$15.056
Number of options granted:	34,500,000 (representing 2.64% of the issued shares of the Company as at 31 December 2022)
Validity period of the options:	From 24 December 2018 to 23 December 2025 (seven (7) years), both dates inclusive
Vesting period of the options:	For employees at or above the level of the vice president of the Company (together with Directors), one fourth of the 2018 Options shall vest on each of 24 December 2020, 24 December 2021, 24 December 2022, and 24 December 2023; for the other employees of the Company, one third of the 2018 Options shall vest on each of 24 December 2020, 24 December 2021, and 24 December 2022

The exercise price of HK\$15.056 per share represents the higher of (i) the closing price of HK\$14.440 per share as stated in the daily quotation sheets issued by the Stock Exchange on the date of the grant; (ii) the average closing price of HK\$15.056 per share as stated in the daily quotation sheets issued by the Stock Exchange for the five business days immediately preceding the date of the grant; (iii) the closing price of HK\$14.380 per Share as stated

DIRECTORS' REPORT

in the daily quotation sheets issued by the Stock Exchange on the day immediately before the grant date; and (iv) the nominal value of the share.

On 29 March 2019, the Company granted 500,000 share options (the "March 2019 Options") to subscribe for a total of 500,000 ordinary shares of the Company to one individual under the Share Option Scheme. Details of the March 2019 Options are as follows:

Date of Grant:	29 March 2019
Exercise price of options granted:	HK\$18.400
Number of options granted:	500,000 (representing 0.04% of the issued shares of the Company as at 31 December 2022)
Validity period of the options:	From 29 March 2019 to 28 March 2026 (seven (7) years), both dates inclusive
Vesting period of the options:	One fourth of the options will vest on each of 23 December 2021, 12 August 2022, 29 March 2023, and 29 March 2024

The exercise price of HK\$18.400 per share represents the higher of (i) the closing price of HK\$18.400 per share as stated in the daily quotation sheets issued by the Stock Exchange on the date of the grant; (ii) the average closing price of HK\$18.176 per share as stated in the daily quotation sheets issued by the Stock Exchange for the five business days immediately preceding the date of the grant; (iii) the closing price of HK\$18.220 per share as stated in the daily quotation sheets issued by the Stock Exchange on the day immediately before the grant date; and (iv) the nominal value of the share.

On 23 December 2019, the Company granted 2,482,000 share options (the "December 2019 Options") to subscribe for a total of 2,482,000 ordinary shares of the Company to certain individuals under the Share Option Scheme. Details of the December 2019 Options are as follows:

Date of Grant:	23 December 2019
Exercise price of options granted:	HK\$17.952
Number of options granted:	2,482,000 (representing 0.19% of the issued shares of the Company as at 31 December 2022)
Validity period of the options:	From 23 December 2019 to 22 December 2026 (seven (7) years), both dates inclusive
Vesting period of the options:	For employees at or above the level of the vice president of Hua Hong Wuxi, one fourth of the options will vest on each of 23 December 2021, 23 December 2022, 23 December 2023, and 23 December 2024; for the other employees of Hua Hong Wuxi, one third of the options will vest on each of 23 December 2021, 23 December 2022, and 23 December 2023

The exercise price of HK\$17.952 per share represents the higher of (i) the closing price of HK\$17.260 per share as stated in the daily quotation sheets issued by the Stock Exchange on the date of the grant; (ii) the average closing price of HK\$17.952 per share as stated in the daily quotation sheets issued by the Stock Exchange for the five business days immediately preceding the date of the grant; (iii) the closing price of HK\$17.200 per share as stated in the daily quotation sheets issued by the Stock Exchange on the day immediately before the grant date; and (iv) the nominal value of the share.

DIRECTORS' REPORT

Among the March 2019 Options, 500,000 share options were granted to the Directors of the Company, subject to their acceptance.

Details of the movements in the share options during the year ended 31 December 2022 are as follows:

Number of share options	Name or category of participants				Total
	Director		Other employees		
	Mr. Junjun Tang				
Granted at 4 September 2015	-	29,262,000	-	-	30,250,000
Granted at 24 December 2018	-	-	33,820,000	-	34,500,000
Granted at 29 March 2019	500,000	-	-	-	500,000
Granted at 23 December 2019	-	-	-	2,482,000	2,482,000
Cancelled during the year 2015	-	-130,000	-	-	-130,000
Cancelled during the year 2016	-	-1,458,000	-	-	-1,458,000
Cancelled during the year 2017	-	-1,353,399	-	-	-1,353,399
Cancelled during the year 2018	-	-754,595	-	-	-754,595
Cancelled during the year 2019	-	-58,000	-1,035,000	-36,000	-1,729,000
Cancelled during the year 2020	-	-	-993,904	-84,000	-1,276,904
Cancelled during the year 2021	-62,500	-	-5,751,868	-592,993	-6,407,361
Exercised during the period	-	4,738,332	847,614	59,209	5,645,155
Cancelled during the period	-	-	-530,077	-73,483	-603,560
Lapsed during the period:	-	-	-13,651	-500	-14,151
Outstanding at 1 January 2022	437,500	4,738,332	22,781,065	1,744,840	29,701,737
Outstanding at 31 December 2022	437,500	-	21,389,723	1,611,648	23,438,871
Vesting period of share options:	From 29 March 2019 to 28 March 2026	From 4 September 2015 to 3 September 2022	From 24 December 2018 to 23 December 2025	From 23 December 2019 to 22 December 2026	
Exercise period of share options	From 29 March 2021 to 28 March 2026	From 4 September 2017 to 3 September 2022	From 24 December 2020 to 23 December 2025	From 23 December 2021 to 22 December 2026	
Exercise price of share options	HK\$18.400	HK\$6.912	HK\$15.056	HK\$17.952	
Weighted average closing price of the shares immediately before the dates on which the share options were exercised		HK\$28.29	HK\$30.71	HK\$30.89	

Save as disclosed above, the Company has not adopted any other share option scheme during the year ended 31 December 2022.

Reserves

Details of movements in the reserves of the Group during the year ended 31 December 2022 are set out in the consolidated statement of changes in equity on pages 233 to 234 of this report.

DIRECTORS' REPORT

Continuing Connected Transactions and Connected Transactions

Continuing Connected Transactions

The Group disclosed in the prospectus dated 3 October 2014 the continuing connected transactions with, amongst others, Shanghai Huali, Huahong Real Estate and Huajin Property Management. Certain details of such transactions are summarized in the table below. With respect to such transactions, the Company had applied for and the Stock Exchange had granted a waiver from, among others, strict compliance with the announcement and independent shareholders' approval requirement (as the case may be). Details of such continuing connected transactions of the Group together with certain other continuing connected transactions conducted during 2022 are set out as follows:

Transaction	Transaction Date	Parties to the Transaction	Connected Relationship	Transaction	Actual Transaction Amount 2022	Proposed Annual Caps 2022
(1)	1 January 2022	Huahong Group (as purchaser) The Company (as seller)	Huahong Group is a substantial shareholder of the Company. Hongri and Huahong Zealcore are owned 51% and 93.02% owned by Huahong Group, respectively. ICRD was regarded by Huahong Group as its subsidiary during 2022.	The Company's sale of semiconductor products to Huahong Group, its subsidiaries and associates, including Hongri, Huahong Zealcore and ICRD, pursuant to the Huahong Group Framework Agreement.	US\$17,447,000	US\$30,036,000
(2)	1 January 2022	Huahong Group (as seller) The Company (as purchaser)	Huahong Group is a substantial shareholder of the Company. Hongri and Huahong Zealcore are owned 51% and 93.02% owned by Huahong Group, respectively.	The Company's purchase of wafers and chemicals from Huahong Group, its subsidiaries and associates, including Hongri and Huahong Zealcore, pursuant to the Huahong Group Framework Agreement.	US\$19,247,000	US\$25,920,000
(3)	1 January 2022	Huahong Group (as service provider) The Company (as recipient of service)	Huahong Group is a substantial shareholder of the Company. Shanghai Huali is 53.79% owned by Huahong Group. Huahong Group controls the majority of Jitong's board composition.	Provision of (i) foundry services by Shanghai Huali and (ii) general supporting services by Jitong pursuant to the Huahong Group Framework Agreement.	US\$89,000	US\$5,179,000
(4)	2 March 2022	SITRI (as purchaser) The Company (as seller)	SITRI is 80% held by a subsidiary of SAIL, the Company's substantial shareholder.	Sales agreement between the Company (as seller) and SITRI (as purchaser) in relation to the sale of wafers and other semiconductor products to SITRI.	US\$344,000	US\$1,500,000

DIRECTORS' REPORT

Transaction	Transaction Date	Parties to the Transaction	Connected Relationship	Transaction	Actual Transaction Amount 2022	Proposed Annual Caps 2022
(5)	1 January 2021	HHGrace (as service provider) Hua Hong Wuxi (as recipient of service)	Hua Hong Wuxi is a non-wholly owned subsidiary which is held as to approximately 20.58% by China IC Fund, a substantial shareholder of the Company. Accordingly, Hua Hong Wuxi is a connected subsidiary of the Company.	Service agreement between HHGrace (as service provider) and Hua Hong Wuxi (as recipient of services) in relation to the provision of corporate services by HHGrace to Hua Hong Wuxi.	RMB145,000,000 (approx. US\$21,529,000)	RMB145,000,000 (approx. US\$21,529,000)
(6)	25 February 2010 (together with the supplemental agreements dated 10 June 2011 and 25 July 2014)	Shanghai Huali (as lessee) The Company (as lessor)	Shanghai Huali is 53.79% owned by Huahong Group, a substantial shareholder of the Company.	Lease agreement between Shanghai Huali (as lessee) and the Company (as lessor) in relation to the factory premise situated at Hill 2, 13th street, Zhangjiang Hi-Tech park, Pudong New Area, Shanghai, PRC leased by the Company to Shanghai Huali for their 300mm wafer production line. The total gross floor area leased was 96,099.2 square meters.	RMB95,809,000 (approx. US\$14,254,000)	RMB107,000,000 (approx. US\$16,041,000)
(7)	10 January 2013 (together with a supplemental agreement dated 10 June 2014)	Huahong Real Estate (as lessor) The Company (as lessee)	Huahong Real Estate is a wholly-owned subsidiary of Huahong Technology Development, a company 50% held by and consolidated with Huahong Group, a substantial shareholder of the Company, and 50% held by HHGrace, a wholly-owned subsidiary of the Company.	Lease agreement between Huahong Real Estate (as lessor) and the Company (as lessee) in relation to the dormitory premises situated at Hua Hong Innovation Park, Nong 2777, Jinxiu Road East, Pudong New Area, Shanghai, PRC ("Dormitory Premises") rented by the Company from Huahong Real Estate for use as staff quarters for the Company's employees. The total gross floor area rented was 17,412.87 square meters.	RMB11,504,000 (approx. US\$1,696,000) ⁽¹⁾	RMB12,000,000 (approx. US\$1,799,000)
(8)	1 January 2021	Huajin Property Management (as property manager) The Company (as lessee)	Huajin Property Management is a wholly-owned subsidiary of Huahong Technology Development, a company 50% held by and consolidated with Huahong Group, a substantial shareholder of the Company, and 50% held by HHGrace, a wholly-owned subsidiary of the Company.	Property management agreement between Huajin Property Management (as property manager) and the Company (as lessee) in relation to the engagement of Huajin Property Management by the Group to provide property management services for the Dormitory Premises.	RMB2,445,000 (approx. US\$362,000)	RMB4,000,000 (approx. US\$600,000)

DIRECTORS' REPORT

Transaction	Transaction Date	Parties to the Transaction	Connected Relationship	Transaction	Actual Transaction Amount 2022	Proposed Annual Caps 2022
(9)	7 September 2022	Huahong Real Estate (as lessor) The Company (as lessee)	Huahong Real Estate is a wholly-owned subsidiary of Huahong Technology Development, a company 50% held by and consolidated with Huahong Group, a substantial shareholder of the Company, and 50% held by HHGrace, a wholly-owned subsidiary of the Company.	Lease agreement between Huahong Real Estate (as lessor) and the Company (as lessee) in relation to the dormitory premises situated at Hua Hong Innovation Park, Nong 2777, Jinxiu Road East, Pudong New Area, Shanghai, PRC ("Additional Dormitory Premises") rented by the Company from Huahong Real Estate for use as staff quarters for the Company's employees. The total gross floor area rented was 7,726.32 square meters.	RMB1,622,000 (approx. US\$229,000)	RMB1,800,000 (approx. US\$270,000)
(10)	7 September 2022	Huajin Property Management (as property manager) The Company (as lessee)	Huajin Property Management is a wholly-owned subsidiary of Huahong Technology Development, a company 50% held by and consolidated with Huahong Group, a substantial shareholder of the Company, and 50% held by HHGrace, a wholly-owned subsidiary of the Company.	Property management agreement between Huajin Property Management (as property manager) and the Company (as lessee) in relation to the engagement of Huajin Property Management to provide property management services for the Additional Dormitory Premises.	RMB268,000 (approx. US\$38,000)	RMB450,000 (approx. US\$67,000)

Notes:

- (1) The Group entered into a twenty-year lease with respect to certain dormitory premises from Huahong Real Estate before the adoption of Hong Kong Financial Reporting Standard 16. Thus, the Group are not required to re-comply with the notifiable or connected transaction Rules. The amount of rent payable by the Group under the lease is US\$1,696,000 per year. As at 31 December 2022, the balances of those right-of-use assets and lease liabilities were US\$12,229,000 and US\$14,772,000, respectively.

DIRECTORS' REPORT

The price and terms of the continuing connected transactions as described above were determined in accordance with the pricing policies and guidelines as set out in the relevant announcements of the Company. The Board (including the Independent Non-Executive Directors) has reviewed the continuing connected transactions as described above and confirmed that such transactions did in fact continue in 2022:

- (i) in the ordinary and usual course of business of the Company;
- (ii) either on normal commercial terms or, if there are no sufficient comparable transactions to judge whether they are on normal commercial terms, on terms no less favourable to the Company than terms available to or from (as appropriate) independent third parties; and
- (iii) in accordance with the relevant agreements on terms that are fair and reasonable and in the interests of the Shareholders of the Company as a whole.

The auditors of the Company have confirmed in a letter to the Board that, with respect to the aforesaid continuing connected transactions of 2022:

- (i) nothing has come to their attention that causes the auditors to believe that the disclosed continuing connected transactions have not been approved by the Company's Board;
- (ii) for transactions involving the provision of goods or services by the Group, nothing has come to their attention that causes the auditors to believe that the transactions were not, in all material respects, in accordance with the pricing policies of the Company;
- (iii) nothing has come to their attention that causes the auditors to believe that the transactions were not entered into, in all material respects, in accordance with the relevant agreements governing such transactions; and
- (iv) with respect to the aggregate amount of each of the continuing connected transactions, nothing has come to their attention that causes the auditors to believe that the disclosed continuing connected transactions have exceeded the relevant annual caps disclosed in the relevant announcement(s) with respect to each of the disclosed continuing connected transactions.

Connected Transactions

The Capital Injection Agreement

On 29 June 2022, the Company, HHGrace, Wuxi Xi Hong Lian Xin, China IC Fund, China IC Fund II and Hua Hong Wuxi entered into the Capital Injection Agreement pursuant to which it is agreed that the registered capital of Hua Hong Wuxi shall increase from US\$1,800 million to approximately US\$2,536.85 million, where each of the Company, HHGrace, Wuxi Xi Hong Lian Xin and China IC Fund II shall contribute approximately US\$177.78 million, US\$230.22 million, US\$160 million and US\$232 million in cash, respectively as capital injection into Hua Hong Wuxi. Upon completion of the capital injection, Hua Hong Wuxi remains a non-wholly owned subsidiary of the Company held as to approximately 22.22%, 28.78%, 20.00%, 20.58% and 8.42% by the Company, HHGrace, Wuxi Xi Hong Lian Xin, China IC Fund and China IC Fund II, respectively.

Hua Hong Wuxi is a connected subsidiary of the Company given it was held as to approximately 29% by China IC Fund, a substantial shareholder of the Company, prior to the capital injection. Further, Wuxi Xi Hong Lian Xin is a connected person at the subsidiary level because it holds 20% of Hua Hong Wuxi as the latter's substantial shareholder. Accordingly, each of Hua Hong Wuxi and China IC Fund is a connected person of the Company, and the transactions contemplated under the Capital Injection Agreement constitute connected transactions of the Company under Chapter 14A of the Listing Rules.

DIRECTORS' REPORT

The Capital Injection Agreement was approved by the Shareholders at the EGM of the Company on 29 August 2022. Please refer to the announcement of the Company dated 29 June 2022 and the circular of the Company dated 9 August 2022 for further details of the Capital Injection Agreement.

Related Party Transactions

During the year ended 31 December 2022, the Group entered into certain transactions with parties regarded as "related parties" under the applicable accounting standards. Details of the related party transactions entered into by the Group during the year ended 31 December 2022 are disclosed in note 35 to the financial statements. The Company has complied with the disclosure requirements set out in Chapter 14A of the Listing Rules. Save as disclosed in the section headed "Continuing Connected Transactions and Connected Transactions" in this annual report, the other related party transactions disclosed in note 35 were not regarded as connected transactions or were exempt from reporting, announcement, and shareholder approval requirements under the Listing Rules.

Performance of the Equity Investments

The table below sets out the breakdown of the performance with respect to the Equity Investments during the year ended 31 December 2022.

	Shanghai Huali (USD'000)	QST (USD'000)	Shanghai Awinic (USD'000)
Initial investment cost	229,133	1,704	6,290
Book value at the beginning of the year	241,242	2,236	14,310
Redemption	–	–	(5,707)
Changes in fair value	(48,601)	(28)	(5,079)
Exchange realignment	(18,471)	(188)	(1,082)
Book value at the end of the year	174,170	2,020	2,442
Dividends received	–	–	–
Gain on disposals	–	–	1,943
Subscribed capital contribution/ number of shares held	RMB1,400,000,000	10,377,050	178,000
Percentage of equity interest held	6.3428%	0.6220%	0.1072%
Size compared to the total assets of the Company	2.5%	0.0%	0.0%

During the year ended 31 December 2022, the Group disposed of 350,000 shares of Shanghai Awinic, amounting US\$5,707,000. Decrease in the fair value of the Company's equity investment in Shanghai Huali, QST, and Shanghai Awinic were US\$48,601,000, US\$28,000, and US\$5,079,000 respectively.

Shanghai Huali was established in 2010. As an industry-leading IC wafer foundry company, Shanghai Huali has advanced process technologies and offers comprehensive solutions. It is devoted to providing one-stop wafer foundry technical services for process technology nodes from 65/55nm to 28/22nm for design companies, IDM companies, and other system companies. Shanghai Huali has two 12-inch fully-automated wafer fabs in China.

During the financial year of 2022, the book value of the Company's equity investment in Shanghai Huali decreased by US\$67,072,000, including a decrease of US\$48,601,000 in the fair value and a foreign currency statement loss of around US\$18,471,000. Accordingly, the Board is of the view that the performance of Shanghai Huali during the financial year of 2022 has been in line with its expectations.

DIRECTORS' REPORT

QST was founded in September 2012 and has a robust IP portfolio, with over 83 patents issued. QST is a leading sensor platform company engaged in the development and marketing of Innovative MEMS sensors and solutions to simplify advanced perception, measurement, and control in consumer, automotive, and industrial applications.

During the financial year of 2022, the book value of the Company's equity investment in QST decreased by US\$216,000, including a decrease of US\$28,000 in the fair value and a foreign currency statement loss of around US\$188,000. As the business of QST is still in its early development stage, the Board is of the view that the performance and strategic planning of QST during 2022 have been consistent with its expectations.

Shanghai Awinic, founded in June 2008, is a high-tech company focusing on high-quality and high-performance IC design of mixed signal, analog, and RF for mobile phone, AI, Internet of Things, automotive electronics, wearables, and consumer electronics. Shanghai Awinic is a listed company on the STAR Market of the Shanghai Stock Exchange.

During the financial year of 2022, the Company disposed of 350,000 shares of Shanghai Awinic. The fair value decreased by US\$5,079,000 and there was a foreign currency statement loss of around US\$1,082,000. Notwithstanding the disposal, the Board considers its investment in Shanghai Awinic as part of a long-term strategic investment, which will see the Group and Shanghai Awinic collaborate in areas such as development of Analog, BCD (including 12-inch 90nm), eFlash, Power Device, RF and IC technologies, and expansion of production capacity, with a view to providing more competitive products with higher performance and quality to customers. The Board is of the view that the performance of Shanghai Awinic during the financial year of 2022 has been in line with its expectation.

The Company confirms that it has complied with the accounting policy of investments and other financial assets (policies under HKFRS 9, applicable since 1 January 2018) as contained in the annual report of the Company for the year ended 31 December 2022.

The Company expects the future prospects of the aforementioned investments to be largely in line with that over the past year. No significant changes in investment strategy or source of funding are expected for the coming year.

Annual General Meeting

The AGM will be held on Thursday, 11 May 2023.

Closure of Register of Members

For determining the eligibility of Shareholders to attend and vote at the AGM

Latest time to lodge transfer documents for registration	4:30 p.m. on 5 May 2023
Closure of register of members	8 May to 11 May 2023 (both dates inclusive)
Record date	11 May 2023

In order to be eligible to attend and vote at the Annual General Meeting, unregistered holders of shares should ensure all share transfer forms accompanied by the relevant share certificates are lodged with the Company's branch share registrar Tricor Investor Services Limited, at 17/F, Far East Finance Centre, 16 Harcourt Road, Hong Kong for registration no later than the aforementioned latest time.

DIRECTORS' REPORT

Directors and Directors' Service Contracts

The Directors of the Company during the year and as of the date of this report were:

Executive Directors:

Mr. Suxin Zhang (*Chairman*)

Mr. Junjun Tang (*President*)

Non-Executive Directors:

Mr. Guodong Sun

Ms. Jing Wang

Mr. Jun Ye

Independent Non-Executive Directors:

Mr. Stephen Tso Tung Chang

Mr. Kwai Huen Wong, JP

Mr. Long Fei Ye

Each of the Directors of the Company is appointed for a specific term of three years and is subject to re-nomination and re-election by the Company in general meetings, unless his/her appointment has been early terminated in accordance with the terms and conditions of the relevant letter of appointment or director's service contract.

Mr. Guodong Sun, Mr. Jun Ye and Mr. Stephen Tso Tung Chang will retire by rotation from office as Directors at the Annual General Meeting, and Mr. Guodong Sun, Mr. Jun Ye and Mr. Stephen Tso Tung Chang, being eligible, will offer themselves for re-election pursuant to the articles of association of the Company.

None of the Directors proposed for re-election at the general meeting has a service contract which is terminable by the Group within one year without payment of compensation, other than statutory compensation.

The Company has received annual confirmation of independence from each of the existing Independent Non-Executive Directors in accordance with Rule 3.13 of the Listing Rules. The Company considers that all the Independent Non-Executive Directors are independent in accordance with the Listing Rules.

Profiles of Directors and Senior Management

Profiles of Directors and Senior Management of the Company are set out on pages 12 to 18 of this report.

Remuneration of the Highest Paid Individuals and Directors and Senior Management

Details of the remuneration of the Directors and the five highest paid individuals are set out in notes 8 and 9 to the consolidated financial statements in this annual report, respectively.

DIRECTORS' REPORT

Interests of the Directors and the Chief Executive in Shares and Underlying Shares of the Company

As at 31 December 2022, save as disclosed below, none of the Directors or the Chief Executive of the Company had any interests or short positions in the shares, underlying shares, or debentures of the Company or any associated corporation (within the meaning of Part XV of the SFO), as recorded in the register kept under section 352 of the SFO, or as otherwise notified to the Company and the Stock Exchange pursuant to the Model Code contained in the Listing Rules.

Name of Director	Capacity	Number of underlying shares held in long position ⁽¹⁾	Approximate percentage of interests
Mr. Junjun Tang	Beneficial owner	437,500	0.03%

Note:

(1) Long position in the underlying shares of the Company under share options granted pursuant to the Share Option Scheme.

Interests of Directors in a Competing Business

During the year, none of the Directors of the Group had any interests in a business which competes, either directly or indirectly, with the business of the Company or the Group.

Interests of Directors in Transactions, Arrangements or Contracts of Significance

On 29 June 2022, the Company, HHGrace, Wuxi Xi Hong Lian Xin, China IC Fund, China IC Fund II and Hua Hong Wuxi entered into the Capital Injection Agreement. Mr. Guodong Sun, a non-executive Director of the Company, is the managing director of Sino IC Capital Co., Ltd., the fund manager of China IC Fund and China IC Fund II. Therefore, he was considered to have a material interest in the Capital Injection Agreement. Please refer to the section headed "Continuing Connected Transactions and Connected Transactions – Connected Transactions – The Capital Injection Agreement" for further details of the Capital Injection Agreement.

Save as disclosed above, no transaction, arrangement or contract of significance to which the Company or any of its subsidiaries or associates was a party and in which a Director or an entity connected with a Director has or had a material interest, whether directly or indirectly, subsisted at the end of the year ended 31 December 2022 or at any time during the year.

Directors' Securities Transactions

The Company has devised its own code of conduct regarding Directors dealing in the Company's securities (the "Company Code") on terms no less exacting than the Model Code. Specific enquiry has been made to all the Directors, and the Directors have confirmed that they have complied with the Company Code and the Model Code throughout 2022.

Indemnity and Insurance

The Company provides directors and officers liabilities (D&O) insurance for the Directors and Officers. The D&O insurance covers day-to-day management liability and is renewed every year.

DIRECTORS' REPORT

Director(s) of the Subsidiaries

The names of Directors who have served on the boards of the Company's subsidiaries during the year ended 31 December 2022, or during the period from the end of the year 2022 to the date of this report, were as follows:

Name of the Subsidiary	Place of Incorporation	Name of the Director(s)
Grace Cayman	Cayman Islands	Mr. Suxin Zhang Mr. Jun Ye
HHGrace	Shanghai, PRC	Mr. Suxin Zhang Mr. Junjun Tang Ms. Jing Wang Mr. Yuchuan Ma Mr. Takayuki Morita Mr. Jun Ye Mr. Stephen Tso Tung Chang Mr. Kwai Huen Wong, JP Mr. Long Fei Ye
Hua Hong Wuxi	Wuxi, PRC	Mr. Suxin Zhang Mr. Jun Wei Mr. Junjun Tang Mr. Guodong Sun Ms. Jing Wang Ms. Qi Chen ¹ Mr. Xin Jin Mr. Xiaoming Zhu ²
Huahong Real Estate (Wuxi) Co., Ltd.	Wuxi, PRC	Mr. Weiping Zhou
Huahong Semiconductor Manufacturing (Wuxi) Co., Ltd.	Wuxi, PRC	Mr. Suxin Zhang
Global Synergy Technology Limited	Hong Kong, PRC	Mr. Daniel Yu-Cheng Wang Mr. Cheng Fu
HHGrace Semiconductor USA, Inc.	CA, USA	Mr. Daniel Yu-Cheng Wang Mr. Cheng Fu
HHGrace Semiconductor Japan Co., Ltd.	Tokyo, Japan	Ms. Maki Nakamura Mr. Daniel Yu-Cheng Wang Mr. Cheng Fu

Notes:

- (1) Ms. Qi Chen's appointment as a director of Hua Hong Wuxi was registered with the relevant market supervision and management authority on 13 January 2023.
- (2) Mr. Xiaoming Zhu's resignation as a director of Hua Hong Wuxi was registered with the relevant market supervision and management authority on 13 January 2023.

DIRECTORS' REPORT

Interests of Substantial Shareholders and Other Persons in the Shares and Underlying Shares of the Company

As at 31 December 2022, persons other than a Director or Chief Executive of the Company, having interests of 5% or more or short positions in the shares and underlying shares of the Group, were as follows:

Substantial shareholders	Capacity and nature of interest	Number of shares held	Approximate percentage of aggregate interests in issued share capital*
Shanghai Hua Hong International, Inc. ("Hua Hong International") ⁽²⁾	Legal and beneficial owner	347,605,650 ⁽¹⁾	26.60%
Huahong Group ⁽²⁾	Interest in a controlled corporation	347,605,650 ⁽¹⁾	26.60%
Sino-Alliance International, Ltd. ("Sino-Alliance International")	Legal and beneficial owner	160,545,541 ⁽¹⁾⁽³⁾	12.29%
Sino-Alliance International	Interest in a controlled corporation	28,415,606 ⁽¹⁾	2.17%
SAIL	Interest in a controlled corporation	188,961,147 ⁽¹⁾⁽⁴⁾	14.46%
Xinxin (Hong Kong) Capital Co., Limited	Legal and beneficial owner	178,705,925 ⁽¹⁾	13.67%
Xun Xin (Shanghai) Investment Co., Ltd.	Interest in a controlled corporation	178,705,925 ⁽¹⁾	13.67%
China IC Fund	Interest in a controlled corporation	178,705,925 ⁽¹⁾	13.67%

Notes:

- (1) Long positions in the shares of the Company.
- (2) Hua Hong International is a wholly-owned subsidiary of Huahong Group.
- (3) Including 3,084 shares held in escrow by Sino-Alliance International pursuant to an escrow arrangement.
- (4) SAIL indirectly held interests in the Company through two wholly-owned subsidiaries, including Sino-Alliance International.

* The percentages are calculated based on the total number of shares of the Company in issue as at 31 December 2022, i.e., 1,306,836,740 shares.

Save as disclosed above, so far as is known to any of the Directors and the Chief Executive of the Company, as at 31 December 2022, no other person or corporation other than a Director or Chief Executive of the Company had any interests or short positions in any shares or underlying shares of the Company which were recorded in the register required to be kept by the Company pursuant to section 336 of the SFO.

DIRECTORS' REPORT

Arrangements to Purchase Shares or Debentures

At no time during the year ended 31 December 2022 were rights to acquire benefits by means of an acquisition of shares in or debentures of the Company granted to any of the Directors or their respective spouses or minor children, or were any such rights exercised by them, or was the Company or any of its holding companies, subsidiaries, or fellow subsidiaries, a party to any arrangements to enable the Directors or their respective spouses or minor children to acquire such rights in any other body corporate.

Major Customers and Suppliers

For the year ended 31 December 2022, the purchases attributable to the Group's top five suppliers combined were less than 30% of total purchases, and the turnover attributable to the Group's top five customers combined was less than 30% of total turnover.

Emolument Policy

As at 31 December 2022, the Group had a total of 6,753 employees. The Group recruits and promotes individuals based on their merit and development potential. The emolument policy for employees of the Group is set up by the Remuneration Committee on the basis of their merit, qualifications, and competence.

The emoluments of the Directors are determined by the Remuneration Committee, having regard to the Group's operating results and individual performance. The emoluments of the Directors on a named basis are set out in note 8 to the financial statements for the year ended 31 December 2022.

Purchase, Sale or Redemption of Securities

For the year ended 31 December 2022, neither the Company nor any of its subsidiaries purchased, sold or redeemed any of the Company's listed securities.

Right of First Refusal

There are no provisions for right of first refusal under the Company's articles of association, or the laws of Hong Kong, which would oblige the Company to offer new shares on a pro-rata basis to existing shareholders.

Corporate Governance

The Company is committed to maintaining a high standard of corporate governance to safeguard the interests of shareholders and to enhance corporate value and accountability.

Information on the corporate governance practices adopted by the Company is set out in the Corporate Governance Report in this annual report.

Compliance with the Relevant Laws and Regulations

As far as the Board is aware, the Company has complied in all material respects with the relevant laws and regulations that have a significant impact on the business and operation of the Company.

DIRECTORS' REPORT

Environmental and Social Responsibilities

Environmental, social, and governance factors have been deeply integrated into the Company's strategy, management, and long-term development goal and have been involved in the entire process of our business operations. The Company firmly believes that the effective management of environmental, social, and governance initiatives, which mutually influence each other, can promote the long-term development of our business, and help create and share value for all stakeholders.

Detailed information on the environmental, social, and governance practices adopted by the Company in 2022 is set out in the 2022 Environmental, Social, and Governance Report.

The Company is committed to reducing the negative impact of its operations on the environment through green products and green production, thereby providing customers with more environment-friendly products. In active response to the "Dual Carbon" goal, the Company continued to increase investment in energy conservation and emission reduction and set energy use and greenhouse gas reduction targets to strengthen its ability to address climate change risk.

In 2022, the Company actively carried out special transformation of safety and environmental protection technology, and all of its factories were certified by the ISO14001 environmental management system. Moreover, the Company has made significant progress in the research and development of technologies in the field of new energy. The seventh generation IGB technology has been successfully developed and applied in mass production and has been deployed to mainstream new energy vehicles and photovoltaic power generation, providing solid technical support for the development of green products in the whole value chain.

As a responsible corporate citizen, the Company is committed to promoting the construction of a sustainable value chain. In 2022, the Company set an additional goal for ESG management with respect to a sustainable supply chain, i.e. "a due diligence rate of 100% of suppliers' conflict minerals and a utilization rate of 100% of compliant minerals", so as to strengthen the management of suppliers' conflict minerals and build up a harmonious industrial ecosystem.

Compliance with the Deed of Non-Competition and the Deed of Right of First Refusal

Huahong Group, SAIL, and INESA, being the then controlling shareholders of the Company, entered into a deed of non-competition (the "Deed of Non-Competition") dated 23 September 2014, details of which have been set out in the paragraph headed "Non-Competition Undertaking" in the section headed "Relationship with Controlling Shareholders" of the Company's prospectus dated 3 October 2014 (the "Prospectus"). In addition, Huahong Group and SAIL also entered into a deed of right of first refusal (the "Deed of Right of First Refusal") dated 10 June 2014, details of which have been set out in the paragraph headed "Right of First Refusal" in the section headed "Relationship with Controlling Shareholders" of the Prospectus. The Company has reviewed the written declaration from each of the controlling shareholders mentioned above on their compliance with their undertakings under the Deed of Non-Competition and the Deed of Right of First Refusal (as the case may be) for the year ended 31 December 2022. The Independent Non-Executive Directors have reviewed the status of compliance and confirmed that all the undertakings under the Deed of Non-Competition and the Deed of Right of First Refusal (as the case may be) have been complied with by the relevant parties.

DIRECTORS' REPORT

Sufficiency of Public Float

Based on the information that is publicly available to the Company and within the knowledge of the Directors as at the date of this report, the Directors are satisfied that the Company has maintained the prescribed minimum public float under the Listing Rules.

Auditors

A resolution will be submitted at the AGM to re-appoint Ernst & Young as auditors of the Company.

On behalf of the Board

Mr. Suxin Zhang

Chairman

30 March 2023

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

DIRECTORS' DECLARATION

The Company adheres to the core values of “showing loyalty to and love for the motherland, always keeping the promise, being diligent and dedicated, and always fulfilling the mission”, insists on the concept of “openness, innovation and cooperation”, actively promotes industrial exchanges and cooperation, and responds to the expectations of stakeholders, including customers, employees and investors with substantive actions, so as to jointly achieve sustainable development.

The Company makes efforts to implement the environment-friendly and sustainable development concept and comprehensively improves the performance level of its environmental, social, and governance (ESG) responsibility by providing green products and promoting the application of green technologies.

The Company has a top-down environmental, social, and governance (ESG) structure, under which the Board undertakes the ESG responsibilities:

- a) to direct the formulation of ESG management policies and strategies of the Company and ensure that they are up to date, relevant, and in compliance with applicable legal and regulatory requirements;
- b) to direct the identification and determination of the importance of significant ESG issues of the Company;
- c) to supervise the setting and implementation of the Company's ESG goals, including: setting ESG management performance goals of the Company; monitoring the progress in achieving the goals; and advising on actions required to achieve the goals;
- d) to review and approve the Company's annual Environmental, Social, and Governance Report and other ESG related disclosures.

The management and practical progress of ESG issues in this report were considered and approved at the third meeting of the Board of Directors held in March 2023.

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

1 ESG Management System

1.1 ESG Management Structure and Strategies

Based on the corporate vision of “Continuous Innovation and Empowering the Future for Global Customers”, the Company established a top-down ESG management structure, continues to improve the management system, encourages innovation-driven development and fosters innovative talents, and strives to reduce the impact of business operation on the environment. We also make efforts to improve the supply chain performance and promote the joint creation of corporate business value and social value.

The Board, as the highest decision-making body for the Company’s ESG management, is responsible for supervising the formulation and implementation of ESG goals, guiding and reviewing ESG management strategies and policies, properly managing the ESG risks that the Company may suffer and taking ultimate responsibility for such risks. The Board establishes an inter-departmental ESG working group. Under the authorization of the Board, the ESG working group assists in the implementation of ESG management and regularly reports to the Board on the progress of ESG key performance indicators, so as to promote the realization of the Company’s ESG management targets.



The Company has integrated ESG management into its products, business operations, and corporate development, and formed a complete ESG management strategy covering the four aspects of “Responsibility for Employees”, “Responsibility for the Industry”, “Responsibility for People’s Livelihood”, and “Responsibility for Investors”.

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

ESG Management Strategies

“Heart Felt” Value for Employees

- Respect for the Value of Employees
- Caring about the Growth of Employees
- Protecting Occupational Health

Responsibility for Employees



Responsibility for the Industry



Empowering the Future for Global Customers

- Providing Quality Products
- Guaranteeing Rights & Interests of Customers
- Booming Industrial Economy

Continuous
Innovation
Empowering the
Future for Global
Customers

“Prosperous” Environment for Society

- Promoting Green Development
- Utilizing Resources Efficiently
- Jointly Promoting Social Harmony

Responsibility for People’s Livelihood



Responsibility for Investors



“New” Profits for Shareholders

- Development through Innovation
- Consolidate Operations with Integrity
- Sharing the Benefits of China’s Growth

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

1.2 Goals and Development of ESG Management

The Company has set goals for water use efficiency, energy use efficiency, GHG emissions, and waste reduction, based on the development of its business and its ESG performance in operation. The Board of Directors reviews the ESG performance and the achievement of ESG performance goals of the Company for the previous year on an annual basis and discloses the results in the ESG report, so as to promote the achievement of ESG performance goals.

In 2022, the Company increased the management targets on the topic of “sustainable supply chain” and clearly set the due diligence targets for conflict minerals to intensify its management of conflict minerals.

ESG Management Targets and Progress in 2022

Aspect	Target	Progress in 2022
Water resources management	The water consumed per unit product (m ³ per 8-inch wafer) in 2030 will decrease by 12% as compared with 2015	Target achieved ahead of schedule The water consumed per unit product in 2022 was 2.46m ³ per 8-inch wafer, decreasing by 23% as compared with 2015
Energy consumption management	Comprehensive energy consumption per unit product (MWh per 8-inch wafer) in 2030 will decrease by 7% as compared with 2015	Target achieved ahead of schedule Comprehensive energy consumption per unit product in 2022 was 0.25 MWh per 8-inch wafer, decreasing by 33% as compared with 2015
GHG emissions management	GHG emissions per unit product (tCO ₂ e per 8-inch wafer) in 2030 will decrease by 12% as compared with 2015	Target achieved ahead of schedule GHG emissions per unit product in 2022 was 0.12 tCO ₂ e per 8-inch wafer, decreasing by 52% as compared with 2015
Waste discharge management	Under the philosophy of lean manufacturing management, the Company will take reduction measures to continuously reduce the hazardous waste produced per unit product and the non-hazardous waste produced per unit product	Target achieved <ul style="list-style-type: none"> The hazardous waste produced per unit product in 2022 was 4.88 kg per 8-inch wafer, decreasing by 2% as compared with 2021 The non-hazardous waste produced per unit product in 2022 was 2.36 kg per 8-inch wafer, decreasing by 8% as compared with 2021
Sustainable supply chain management ¹	The due diligence rate on suppliers of conflict minerals will reach 100%, and the utilization rate of compliant minerals will reach 100%	Target achieved <ul style="list-style-type: none"> Have conducted due diligence on suppliers of “conflict minerals”, with a coverage rate of 100%, and completed the latest version of the investigation report on conflict minerals and extended minerals According to due diligence, all suppliers are found to use compliant raw materials, with the utilization rate of compliant minerals up to 100%

1 The sustainable supply chain management target is a newly added target in 2022

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Social Recognitions in 2022

No.	Honors
	National
1	2022 National May Day Labor Award Certificate
2	2022 China IC Design Achievement Award: China Semiconductor Special Contribution Award for 20 Years
3	2021 Excellent (Process) Solution Award for High-Reliability MCUs
	Shanghai
4	2022 Shanghai Worker Pioneer
5	2022 Shanghai March 8 Red Flag Collective
6	Shanghai “13th Five-Year Plan” Advanced Collective for Energy Conservation
7	Quality and Technology Award of Shanghai Association for Quality
8	2021 Outstanding Contribution Award for Scientific and Technological Innovation in Pudong New Area
	Jiangsu Province
9	Jiangsu May Day Labor Award Certificate
10	Jiangsu Worker Pioneer
11	Wuxi Worker Pioneer

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

1.3 Involvement of Stakeholders

Based on the business and operational characteristics of our Company and leveraging the experience and practices in industry at home and abroad, Hua Hong Semiconductor has determined the following to be our stakeholders: our shareholders, customers, employees, government agencies and regulators, partners, communities, and the public, and actively communicates with all of these stakeholders via various channels and methods, including websites, media, meetings, reports, and social activities.

Communications and Issues of Concern of Stakeholders

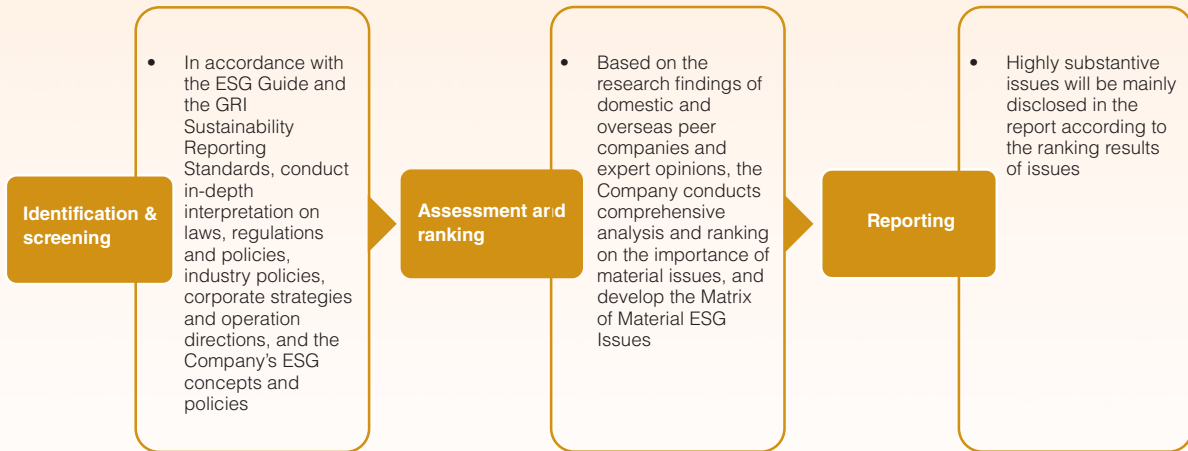
Key stakeholders	Description	Issues concerned	Communications and responses
Shareholders and senior management	Domestic and foreign investors holding equity and debt investments in our Company, and senior management members of the Company	Compliant operation, risk management, anti-corruption, customer relationship management, water resource management	Shareholders' meetings, financial reports, performance reports, results road shows, etc.
Customers	IDMs and fabless semiconductor companies	Data security and privacy protection, product quality and safety, customer relationship management, R&D innovation	Product exhibitions, customer research, technical seminars, B2B (such as E-tapeout systems, WIP report and WAT report, etc.), customer service hotlines, and customer satisfaction surveys, etc.
Employees	Our employees and contract personnel who serve our Company on a continuous basis	Employee interests and welfares, employee health and safety, employee development and training	Employee activities, employee representatives congress, intranet, employee trainings, self-service systems, employee manuals, internal publications, etc.
Government and regulators	Manufacturing, tax, environmental protection, security and other departments, local governments, SFC and other governmental or regulatory authorities	Compliant operation, green products, emissions management and energy management	On-site visit, policy enforcement, information disclosure, etc.
Partners	Suppliers, research institutions, industry associations, etc.	Industry development, product quality and safety, customer relationship management, R&D innovation, sustainable supply chain management	Public tender conferences, strategic cooperation negotiations, exchanges and visits, etc.
Communities and the public	Communities in which we operate, the public and media, etc.	Green products, emissions management, community and public benefit	Community activities, employee volunteer activities, public welfare activities, social cause campaigns, etc.

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

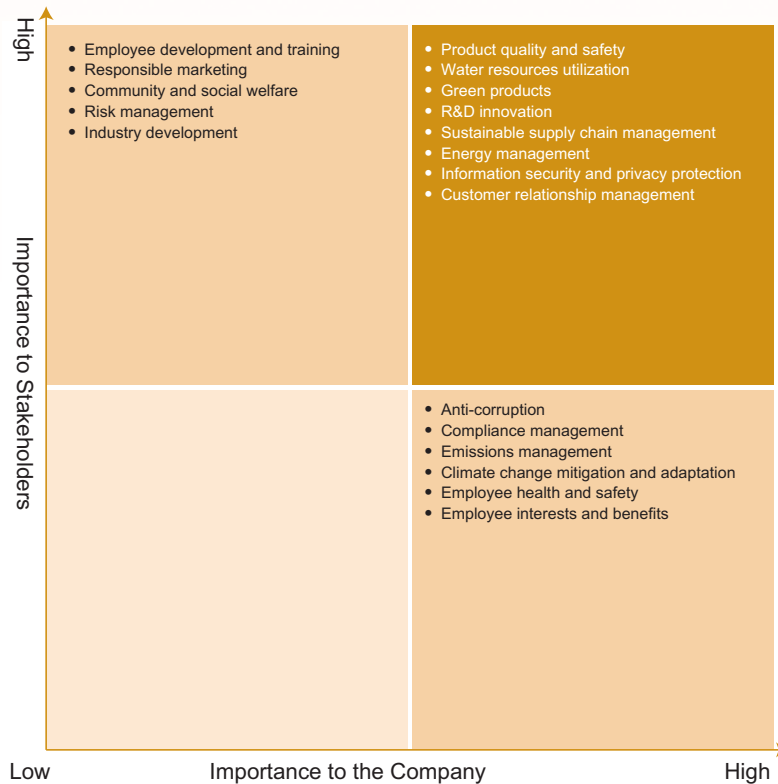
1.4 Identification and Analysis of Substantive Issues

In accordance with the Environmental, Social, and Governance Reporting Guide (the “ESG Guide”) of The Stock Exchange of Hong Kong Limited and the Sustainability Reporting Standards of Global Reporting Initiative (“GRI”), the Company identified 19 substantial issues in 2022 based on the concerns of internal and external stakeholders, policy research, and peer benchmark analysis.

Analysis Process of Substantive Issues



Matrix of Substantive Issues



2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Instructions on Adjustment of Issues

Issues	Explanation	Form of Adjustment	Notes
Responsible marketing	The Company ensures the authenticity and accuracy of the product information provided to customers/ consumers and never misleads, exaggerates, or defrauds customers/ consumers during the marketing process	New issue	This adjustment more comprehensively responds to the disclosure requirements in the ESG Guide of The Stock Exchange of Hong Kong Limited
Water resources management	The type of water resources utilized by the Company and its utilization management, resource conservation, etc., including data disclosure related to management methods and resource utilization	Restatement	This adjustment is more in line with standard industry nomenclature and the Company's ESG goals and strategies
Energy management	The type of energy utilized by the Company and its utilization management, energy conservation, etc., including data disclosure related to management methods and energy utilization	Restatement	This adjustment is more in line with standard industry nomenclature and the Company's ESG goals and strategies
R&D innovation	The Company's development and management in the field of scientific and technological innovation, including management and planning for R&D innovation and tracking progress of products under development	Restatement	This adjustment is more in line with standard industry nomenclature and the Company's ESG strategies
Sustainable supply chain management	Supplier classification, environmental and social risk management and green procurement, including data disclosure related to supplier statistics, risk assessment, etc.	Restatement	This adjustment is more in line with standard industry nomenclature

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Issues	Explanation	Form of Adjustment	Notes
Information security and privacy protection	The Company regulates data processing activities and ensures data security, including management methods, actions, etc.	Restatement	–
Customer relationship management	The Company's management system and measures related to customer relationship, such as customer service, customer complaint and handling, and customer education, including data disclosure related to customer satisfaction, customer service and complaint	Restatement	–

2 Environmental Responsibilities

Main Progress in 2022

Measures	Achievements
Technical transformation related to safety and environmental protection	A total of 49 special technical transformation projects related to safety and environmental protection An investment of RMB17.59 million in safety and environmental protection
Formulate the “energy conservation project plan of 3000 tons of standard coal”, covering measures for replacement of equipment with high energy efficiency but low energy consumption, technical transformation, etc.	Economic benefit of RMB7.13 million from energy saving and emission reduction Reduction of natural gas consumption by 344.4 thousand m ³ Reduction of electricity consumption by 412.66 kWh Reduction of carbon emissions by 2,487.21 tons

2.1 Environmental Management System





The Company adheres to the philosophy of environmental friendliness and sustainable development, strictly abides by the Environmental Protection Law of the People's Republic of China and other laws and regulations, and has revised the Exhaust Gas Emission Management Policy, the Related Party Management Procedure, the Radiation Equipment Management Procedure, the Waste Management Procedure, the Management Regulations for Water Use, the Resource and Energy Management Procedure, etc. pursuant to the ISO 14001 Environmental Management System. It has also built an environmental management system covering the whole life cycle and has improved its environmental management level by continuously optimizing environmental management measures.

In addition, the Company actively promotes energy conservation and emission reduction and reduces the impact of production on the environment by constructing green buildings, reducing the energy and resource consumption during operation. In 2022, the Company invested RMB17.59 million in special transformation projects of safety and environmental protection technologies, with a total of 49 optimization and transformation projects involved.

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

During the Reporting Period, the Company has paid the taxes and fees related to environmental protection in full, and all factories have passed the ISO 14001 System certification, and no violation against the environmental protection laws and regulations has occurred to the Company.

Certification in Relation to Environmental Responsibilities of Hua Hong Semiconductor

Name of Certification		Coverage
	ISO 14001: 2015 Environmental Management System	All factories
	"Leadership in Energy and Environmental Design" (LEED v4) Gold Award	Hua Hong Wuxi
	Two-Star Green Building Design Label Certificate	Hua Hong Wuxi
	QC 080000 Hazardous Substance Process Management System	All factories

The Company's EHS Department is responsible for coordinating its environmental management system, including formulation of management regulations, performance analysis and evaluation with respect to energy and resource use, emissions management, etc. It also assists external agencies in the audit and testing of the Company's environmental management system. Furthermore, the Company uses the safety management auditing and tracking system to sort out and list the nonconforming items against the environmental protection regulations found in daily management, then follow up and record the subsequent rectifications through the regular reminder function of the system.

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

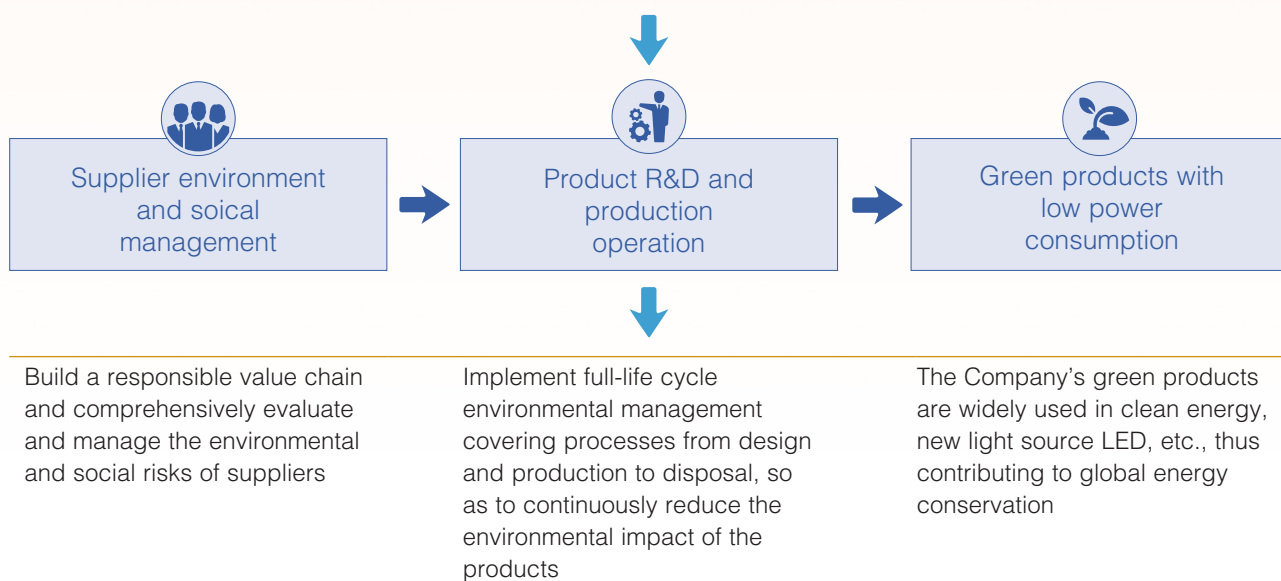
Main Resources Used and Management Regulations

Main Energy and Resources		Management Regulations
Energy	Electric power, heat, natural gas, and a small amount of gasoline and diesel	Resource and Energy Management Procedure Management Regulations for Water, Electricity, Steam and Gas Metering
Water sources	Municipal water supply	Management Regulations for Water, Electricity, Steam and Gas Metering Management Regulations for Water Use Standard Operating Procedures for Industrial Water Supply System, etc.
Raw materials	Silicon slice, quartz, target material, gas, and chemicals	CSR & RBA Statement for Suppliers Control Policy for Service Life of Raw Materials Risk Identification and Countermeasures for Key Materials Risk Analysis Form for Key Materials Management Specification of the Materials Management Department for Storage of Chemicals and Gases, etc.

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Overview on Environmental Management Performance

Water Resources	
Total water consumed	18,010,226 m ³
<i>of which: Water from municipal water supply</i>	10,284,063 m ³
<i>Wastewater reused</i>	7,726,163 m ³
Water consumed per unit product	2.46 m ³ per 8-inch wafer
Volume of recycled water	107,163,560 m ³
Energy	
Total electricity consumed	954,667 MWh
Electricity consumed per unit product	228 kWh per 8-inch wafer
Natural gas consumed	10,530,287 m ³
Natural gas consumed per unit product	2.52 m ³ per 8-inch wafer
Packaging Materials	
Total packaging materials used for finished products	313.32 tons
Total packaging materials recycled for finished products	53.94 tons
Other Raw Materials	
Silicon slice, quartz, target material, gas, chemicals and other raw materials for production	



2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Air Emissions	
Total hazardous waste	20,385 tons
Hazardous waste produced per unit product	4.88 kg per 8-inch wafer
Total non-hazardous waste	9,864 tons
Non-hazardous waste produced per unit product	2.36 kg per 8-inch wafer
Waste	
Total air emissions	23,910.24 million m ³
Nitrogen oxide (NO _x) emissions	32,650 kg
Sulfur dioxide (SO ₂) emissions	3,546 kg
Greenhouse Gas	
GHG emissions	497,938 tCO ₂ e
GHG emissions per unit product	0.12 tCO ₂ e per 8-inch wafer
Wastewater	
Total wastewater discharge	8.32 million m ³

Green Culture

The Company continuously promotes the environmental protection concept, regularly holds environmental management sharing sessions, and organizes each production plant to share excellent environmental management cases and measures at the sharing sessions, so as to strengthen employees' awareness of environmental protection and the economical use of office resources and energy.

Practice in Green Culture

Saving paper around the office	<ul style="list-style-type: none"> Implementing office informatization to reduce paper consumption. Making efforts to promote the use of recycled paper, including for printing business cards of employees, to support recycling.
Saving electricity	<ul style="list-style-type: none"> Turning off the power supply when leaving work or for a long time. Reasonably setting air conditioning temperature above 26°C in summer and below 20°C in winter.
Saving water	<ul style="list-style-type: none"> Developing employees' awareness of saving water and posting water saving tips.
Waste disposal	<ul style="list-style-type: none"> Classifying domestic waste in each factory into 4 categories, namely dry, wet, recyclable and harmful waste, and putting up posters for waste classification to raise employees' awareness.
Commuting	<ul style="list-style-type: none"> Encouraging employees to commute by public transport. Using new energy vehicles as shuttle buses for the Company.

2.2 Energy Management

Energy consumed by the Company is mainly electric power, heat, natural gas, and a small amount of gasoline and diesel. The Company strictly complies with the Energy Conservation Law of the People's Republic of China and other laws, regulations and relevant provisions, sets the energy conservation management goals, and formulates various rules, including the Resource and Energy Management Procedure, the Management Regulations for Water, Electricity, Steam and Gas Metering, etc. The Company continues to optimize and improve its energy management system, and constantly enhance the energy efficiency by carrying out various energy-saving technical transformation projects and by using energy-saving equipment.

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Energy Management System

Philosophy

- Carry out source control and continuous improvement while satisfying and improving productivity, and reduce the impact on the environment while reducing production costs

Goal

- By 2030, the Company's comprehensive energy consumption per unit product will decrease by 7% compared with 2015

Policy

- Resource and Energy Management Procedure
- Management Regulations for Water Use
- Management Regulations for Water, Electricity, Steam and Gas Metering

Measures

- Carrying out technical transformation for energy-saving
- Regularly engaging third-party agencies to conduct energy audits of the Company
- Organizing energy-saving publicity and implementation activities and post energy-saving signs

To ensure the stable supply of electricity and smooth production, the Company developed the Emergency Plan for Emergency Unloading, the Emergency Plan for Emergency Power Cut and the On-site Treatment Plan of the Power Department for Power Cut and carried out emergency plan training and emergency drills in fabs on a regular basis. The power supply is guaranteed through daily inspection, special system investigation, and emergency drills.

The Company has actively carried out a series of energy-saving publicity activities, and upheld the energy-saving and low-carbon concept, including sharing existing energy-saving action cases, popularizing relevant laws and regulations, etc. to enhance the energy-saving awareness of all employees.

During the Reporting Period, the Company responded to the "One Percent" Energy Conservation and Carbon Reduction Initiative in Shanghai Industrial and Communication Industry of Shanghai Municipal Economic and Informatization Commission, and formulated the "energy conservation project plan of 3000 tons of standard coal", covering measures such as the replacement of equipment with poor energy efficiency and high energy consumption, transforming the process to use equipment with better energy efficiency and lower energy consumption, technical transformation, waste heat recovery, etc. The Company has also carried out internal and external energy consumption audits to better sort out and analyze the Company's energy consumption, enhance its management level and achieve the goal of energy conservation and efficiency increase.

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Energy Saving Work and Achievements in 2022

Fabs	Measures	Annual Reduction in Energy Consumption
Fab 1	<ul style="list-style-type: none"> To replace the old refrigeration machine with new ones to save energy and reduce consumption 	618,000 kWh Annual reduction in electricity consumption
Fab 2	<ul style="list-style-type: none"> To optimize product flow and reduce usage of pure water and natural gas 	11,700 m³ Annual reduction in natural gas consumption 6,048 tons Annual reduction in pure water consumption
Fab 3	<ul style="list-style-type: none"> DUPS replacement and renovation project in Fab 3 	2,562,300 kWh Annual reduction in electricity consumption
Fab 7	<ul style="list-style-type: none"> NORD Flash Cell New Process Project 	1,890,000 kWh Annual reduction in electricity consumption 16,000 tons of water Annual reduction in water consumption 8,000 tons of wastewater Annual reduction in wastewater discharge

2.3 Climate Change Mitigation and Adaptation

The Company recognizes that climate change mitigation is of great significance to enterprises and the world. For this purpose, the Company formulates the Carbon Trading Management Regulations for achieve carbon emission reduction in response to China's "30 · 60" carbon peaking and carbon neutrality goals. The Company has also regularly carried out carbon emission verification in applicable production factories, continuously improved energy use efficiency in production and operation, developed products with low-energy consumption, and assisted in the realization of China's carbon peaking and carbon neutrality goals.

The Company's GHG emissions mainly come from direct GHG emissions from the use of natural gas and indirect GHG emissions from outsourced electricity. The Company carries out GHG emission reduction work from the management level and the technical level to reduce the carbon emissions generated in its operation activities, thereby lessening the impact on climate change.

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Major Sources of GHG Emissions

Type of GHG	Source
Scope 1	Consumption of natural gas of the Company, gasoline for self-owned vehicles and diesel for self-owned vehicles
Scope 2	GHG emissions generated by the consumption of outsourced electricity and steam of the Company

The Company is a key GHG emission entity, with production bases in Shanghai and Wuxi. During the Reporting Period, the Company conducted a third-party carbon emission audit on all factories in the Shanghai Production Base to ensure carbon compliance.

Countermeasures against Climate Change

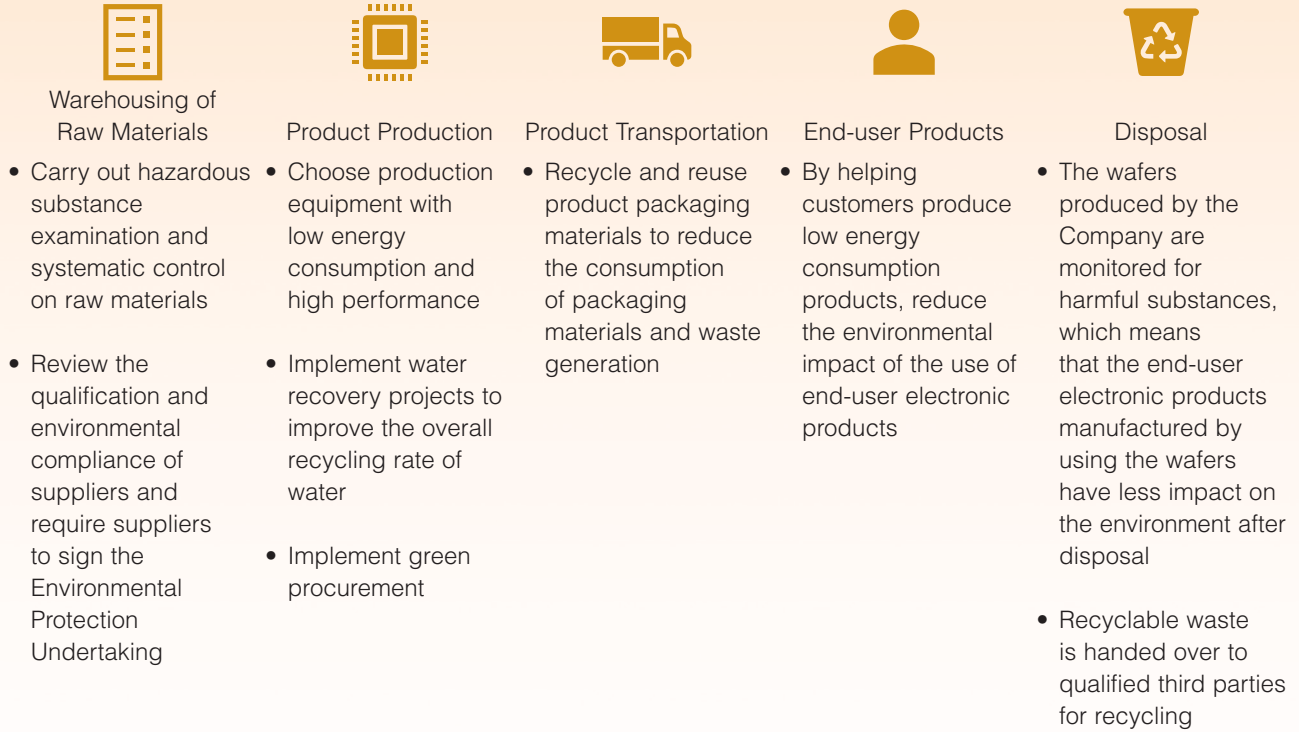
Aspect	Content
Management	<ul style="list-style-type: none"> Establish emergency contingency plans and organize emergency drills and trainings on a regular basis Timely follow up relevant laws and regulations and the government's new requirements, and develop relevant improvement plans to meet the new requirements Carry out GHG verification, carbon inventory and other work
Technology	<ul style="list-style-type: none"> Construct and maintain emergency equipment, replace with efficient and energy-saving equipment, etc. Use green energy, high-efficiency and energy-saving equipment, etc. to enhance energy efficiency and reduce carbon footprint
Product	<ul style="list-style-type: none"> Use green technology and green raw materials to reduce the generation of harmful substances and reduce the impact on the environment Develop products with lower power consumption and higher efficiency to enhance energy efficiency of the industry and reduce carbon emissions

Green Products

Green products refer to safe, environment-friendly and high-quality products manufactured in the closed-loop process of product design, manufacturing, use, scrapping and reuse, during which the green concept is always considered. Green products are also characterized by low resource and energy consumption, low pollutant emissions, low toxicity and less harm, easy recycling, treatment and reuse. Based on the environmental footprint throughout the whole life cycle of a product, the Company actively develops green products, and continuously reduces their impact on the environment through green procurement, technology improvement and other measures. Meanwhile, the Company's green products are widely applied in many industries, which can help reduce their impact on the environment.

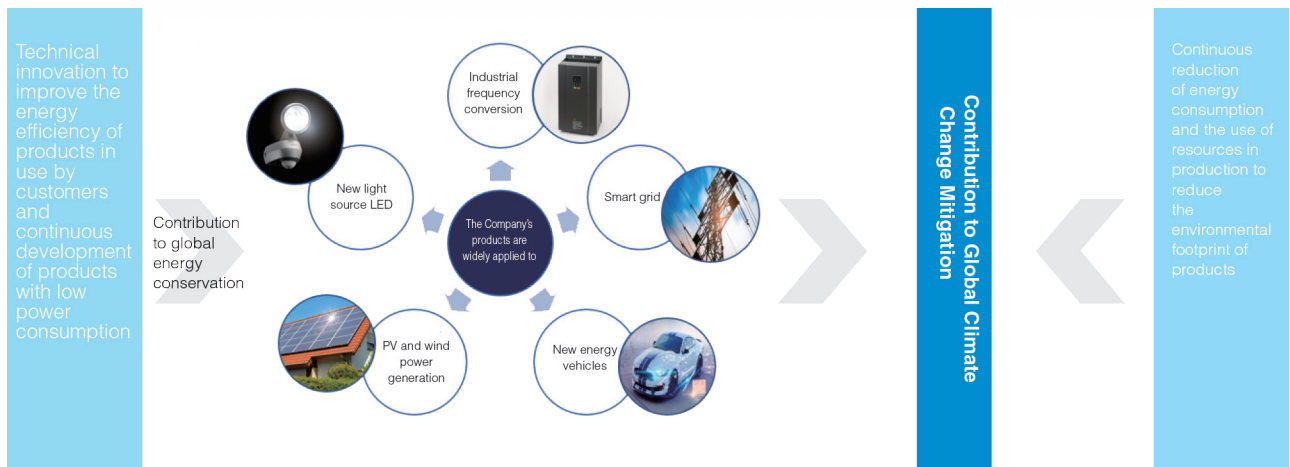
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Environmental Management for the Full Life Cycle of Products



Currently, the Company's products have been widely applied to the fields of industrial frequency conversion, smart grid, new energy vehicles, PV and wind power generation, new light source LED, etc. The Company continues to optimize the energy efficiency of its compound semiconductor power devices, develop silicon-based power devices with higher energy efficiency, and develop new integrated technical solutions such as BCD600V Highside and HiPower to provide environment-friendly solutions for variable frequency household appliances and new energy vehicles, thereby reducing the environmental impact for end users.

Actions for Contribution to Global Climate Change Mitigation



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2.4 Sustainable Water Management

The Company sets water management goals and formulates water management strategies in strict accordance with the Water Law of the People's Republic of China. It also introduces higher-efficiency equipment and processes, continuously optimizes water resources management measures, and enhances its water consumption efficiency.

Water Management Target

Water consumed per unit product (m³/8-inch wafers) in 2030 will decrease by 12% as compared with 2015.

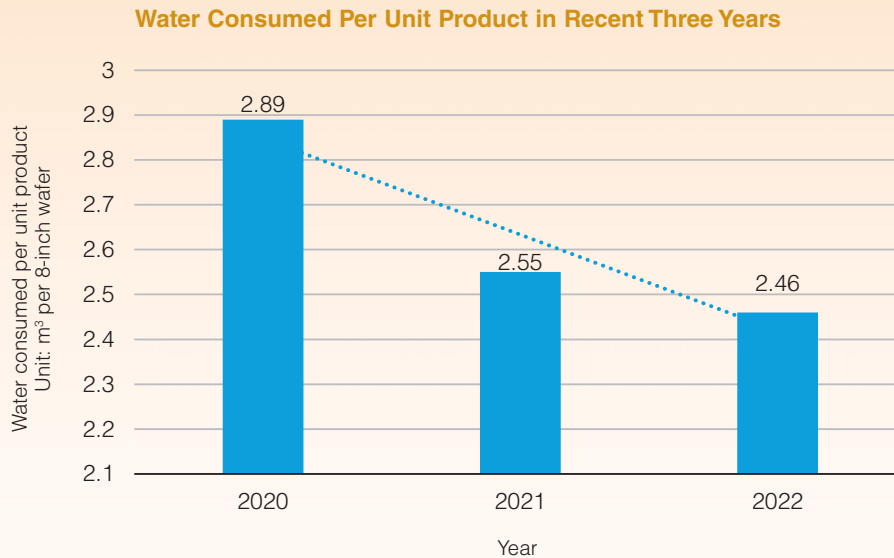
Water used by the Company comes from the municipal water supply to a large extent, in addition to a smaller amount of recycled water and air conditioning condensate from the pure water manufacturing process. The Company constantly monitors the risk of water resources in areas where we operate through the "Aqueduct Water Risk Atlas", an external tool from the World Resources Institute (WRI). We analyze the rationality of water consumption for the production and operation of our fabs and the possible impact of water intake, and formulate effective measures to reduce risks and ensure that water resources can support the Company's sustainable development.

WRI Risk Monitoring Results and Countermeasures of the Company

Water risk monitoring indicators	<ul style="list-style-type: none"> • Type of physical risks: Water consumption risk, drought, decline of groundwater water level, etc. • Condition of physical risks: Coastal erosion, untreated water • Laws, regulations and reputation risks: Quality of drinking water, sanitary conditions, etc.
Monitoring results	<ul style="list-style-type: none"> • Medium-risk area: Wuxi Fab • High-risk area: Shanghai Fab
Countermeasures	<ul style="list-style-type: none"> • Relying on water monitoring sites for each fab, the Company has conducted water balance tests on a regular basis to calculate the process water, recycled water, wastewater, and domestic water of each fab • The Company records the flow, volume and recycling of water resources, so as to analyze whether there is any abnormal utilization of water resources and predict the reasonable allocation of water resources among water-consuming units • Build green buildings, upgrade or replace equipment with high water consumption, and enhance water consumption efficiency • Expand the sources of water resources, recycle air-conditioning condensate, organic wastewater, etc., and refine the recycled water into industrial water • Carry out water-saving awareness publicity activities, and post water-saving signs

The Company has continuously improved the lean management of water resources, formulated management regulations such as the Standard Operating Procedures for Industrial Water Supply System and the Disposal Procedures for Abnormal Tap Water Supply, established sound ledger management mechanism to regularly conduct statistics, analysis and improvement on water consumption. While meeting the reasonable water demand, the Company makes efforts to save water resources and maintain sustainable water balance. By taking measures such as water-saving publicity activities, the Company has reduced water consumption in all aspects and continuously reduced water consumption in production systems and process systems. In addition, the Company is committed to taking water-saving measures such as water-saving technological transformation and wastewater recycling in production and operation, and constantly improving efficiency in the use of water resources in all fabs.

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During the Reporting Period, the Company won the second prize of the 2022 Shanghai Industrial Water Reuse and Comprehensive Rainwater Utilization Award.

Water Resources Management Work and Achievements in 2022

Actions	Measures	Achievements
<ul style="list-style-type: none"> Recycling of process cleaning water 	<ul style="list-style-type: none"> Lightly contaminated cleaning water containing inorganic acid and organic matters discharged from production shall be collected separately by pipeline and delivered to the transit tank. If the water quality is unqualified, it shall be discharged to the industrial wastewater system; if the water quality is qualified, it shall be recycled to the pure water system for secondary use after treatment with activated carbon and anion resin, so as to reduce the tap water consumption and wastewater treatment. 	Recycled water: 7,575 m ³ /day
<ul style="list-style-type: none"> Recycling of primary RO concentrated water 	<ul style="list-style-type: none"> Primary RO concentrated water will be produced in the ultra-pure water reverse osmosis treatment system, and will be recycled. 	Recycled water: 2,300 m ³ /day
<ul style="list-style-type: none"> Recycling of condensed water 	<ul style="list-style-type: none"> Condensed water from air conditioning system will be recycled and used in cooling tower and for exhaust gas washing. 	Recycled water: 440 m ³ /day

Moreover, in the Supplier Questionnaires, the Company requires the major suppliers to disclose information on sustainable management of water resources use, including water consumption statistics for production and operation, water-saving measures, water-saving goals of the suppliers, etc., so as to continuously reduce the water footprint of products. During the Reporting Period, the Company carried out actions related to water resource management and performance surveys on silicon wafer suppliers, with the coverage ratio of 100%.

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2.5 Emissions Management

In order to meet the emission standards and reduce the impact on environment, the Company has standardized the management of air emissions, wastewater and waste discharge in strict accordance with the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes, Law of the People's Republic of China on the Prevention and Control of Soil Pollution, Law of the People's Republic of China on the Prevention and Control of Water Pollution, as well as other laws and regulations and relevant provisions. During the Reporting Period, no incident of excessive or illegal discharge of pollutants has occurred to the Company, nor has any litigation case arising from the above incidents occurred.

Air Emission Discharge Management

The Company strictly complies with national and local discharge requirements such as the Discharge Standards of Pollutants for Semiconductor Industry (DB31/374-2006). The Company has formulated improved testing plans and management measures for the air emissions discharged during production, including sulfuric acid mist, hydrogen chloride (HCl), nitric oxide (NO_x), ammonia (NH₃), and volatile organic compounds (VOCs). The Company has further developed testing plans for major air emissions according to the production situation and regularly carried out testing and evaluation to ensure the compliance of air emissions.

Air Emissions Management

Type	Treatment Method
Air Emissions Acid air emission	Up-to-standard discharge after removing most of the components through pretreatment and centralized treatment of the washing tower
Alkaline air emission (mainly ammonia gas)	Purification through a washing tower
Organic air emission	Purification through activated carbon adsorption, or combustion after concentration
Air Emissions containing dust (mainly small particulates of silicon dioxide)	Removal through a dust-extraction unit

The Company has standardized the requirements on online monitoring and management of organic waste gas, improved the on-site supervision capacity of its fabs; The Company's waste gas treatment facilities are maintained at a higher level of treatment efficiency through annual overhaul and other measures.

In addition, the Company optimized and improved the treatment technology of its organic waste gas treatment system, enhanced the treatment efficiency of the system, and reduced the emission of organic waste gas.

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Waste Management

The Company maintains consistently high standards and strict requirements in the implementation of the waste management system. The Company has formulated the Waste Management Procedure, the Code of Practice for Industrial Waste Management and other management regulations to standardize waste management operations and recorded and managed waste treatment through the unified environmental protection management system of the government to ensure all transportation records are traceable and controllable.

Hazardous wastes generated in the Company's production and operation activities include waste acid and waste isopropanol. The Company has authorized a qualified third-party company for treatment of hazardous wastes, mainly by means of incineration, physical-chemical treatment, and recycling. Non-hazardous solid waste was recycled by the Company or submitted to a qualified third-party agency for collection and treatment to improve the utilization efficiency.

Waste Management Measures

In-house waste management

- Raw materials are recycled in the fabs, such as raw materials for production and office supplies, to delay raw materials from becoming waste

Outsourced recycling and reuse

- Submitted to a qualified third-party company for recycling and disposal

Reused for other industrial purpose

- Wastes are recovered, recycled and reused for other industrial purpose

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Classification and Treatment Methods of Waste

Categories		Treatment Method
Non-hazardous waste	Domestic waste and kitchen garbage	Entrusting the environmental sanitation departments in the places where we operate for unified disposal on a regular basis
	Such as sludge	Landfilling
Hazardous waste	Such as waste acid, waste isopropanol, and waste phosphoric acid	Recycling
	Such as waste glass bottles, 200L chemical barrels, and waste liquid from laboratory	Physical-chemical treatment
	Such as cleaning cloths, plastic bottles, organic waste liquid, waste activated carbon, waste resin, and arsenic-containing waste	Incineration

The Company has established a waste discharge management system, and reduced the impact on the environment through technological transformation and reuse of waste based on the concept of “reduction from the source” and “circular economy”. Since 2017, the Company has carried out work to reduce the discharge of various hazardous wastes every year to constantly reduce the impact of hazardous waste emissions on the environment.

In 2022, Hua Hong Fab 3 built and put into use an ammonia-nitrogen treatment tank for innocuous treatment of ammonia-containing waste. Waste sulfuric acid generated in the treatment process was delivered to titanium dioxide manufacturers for recycling and reuse, so as to enhance the utilization efficiency of resources.

Wastewater Discharge Management

The Company strictly complies with the Discharge Standard of Water Pollutants for Electronic Industry (GB39731-2020), the Integrated Wastewater Discharge Standard (DB31/199-2018), the Waste Water Quality Standards for Discharge to Municipal Sewers (GBT 31962-2015) – Grade B Standard, and formulates the Management System for Drainage and Waste. The Company also reduces the generation of wastewater by continuously optimizing manufacturing processes and wastewater recovery.

In terms of pollution discharge and information disclosure, the Company carried out online monitoring and management of wastewater, with relevant data of Shanghai Fab disclosed on the environmental information disclosure platform, thus improving transparency of environmental information for the Company.

Wastewater Discharge Management

Categories		Treatment Method
Wastewater	pH, COD, ammonia nitrogen, fluorine ion, etc.	Discharged through a pipeline into a designated urban sewage pipe network after treatment and meeting relevant standards

In 2022, the Shanghai Fab self-monitored the soil and groundwater in its fabs according to the requirements of the Technical Guide for Self-Monitoring of Soil and Groundwater for Industrial Enterprises (HJ1209) issued by the Shanghai Municipal Bureau of Ecology and Environment, and prepared a complete soil and groundwater monitoring report, ensuring that the wastewater discharge complies with the laws, regulations and relevant standards.

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3 Employee-Related Responsibilities

3.1 Rights and Benefits of Employees

Rights and Interests of Employees

The Company strictly complies with laws and regulations including the Labor Law of the PRC and the Law on Employment Contracts of the PRC. We insist on fair employment, implement the principle of equal pay for equal work, and ensure that employees are not discriminated against or treated differently based on non-work factors including age, gender, place of birth, religious belief, marital status, or disability. We prohibit the employment of child labor or forced labor.

The Company has formulated relevant management regulations, including the Employment Procedures and the Management Procedures for Trainees. The Company strictly checks the identity information of employees and never employs adolescents under the age of 16. As at the end of the Reporting Period, the Company had 6,760 regular employees. As at the end of the Reporting Period, it has neither infringed the rights and interests of its employees, nor been subject to complaints or penalties by a regulatory authority.

Overview on Employee Rights and Interests

Recruitment and Dismissal	Remuneration	Working Hours and Vacation System	Democratic Participation
<ul style="list-style-type: none"> Recruitment: Adhering to the principle of fairness, equity and openness; Dismissal: The Company and employees go through the dismissal procedure according to relevant laws, regulations, and the Dismissal Management Procedure. 	<ul style="list-style-type: none"> The Company provides competitive salaries for employees, which are higher than the minimum wage in the place of operation. 	<ul style="list-style-type: none"> A standard working hours system is adopted. A comprehensive or flexible working hours system is adopted for certain positions with the approval of the government labor and personnel authorities; Based on holidays and festivals specified by the government, supplementary annual leaves are provided for employees. 	<ul style="list-style-type: none"> Establishing labor union, employee congress, etc. to ensure the democratic participation of employees in the Company's decision-making.

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Employee Communication

An unblocked communication channel is favorable to the establishment of harmonious labor relations. The Company is committed to building and improving employee communication and feedback mechanisms and has formulated the Employee Communication Rules and encouraged the multi-way communication between the Company and employees, between officers and subordinate officers, and among employees through the creation of multiple communication channels.

In May 2022, the Company held a symposium for young employees with the theme of “Devoting to forging a new journey in the new era”. The Company’s leaders, the Chairman of the Trade Union and many young front-line employees attended the symposium and shared their work experience and feelings, which enhanced the cohesion among employees.

Employee Diversity

Hua Hong attaches great importance to the diversity of employees, formulates relevant regulations and procedures, and continues to create an open, inclusive, respectful and diverse employment environment. We respect the lifestyle of all kinds of employees and try to provide them with convenient conditions to meet their living habits. The Company is also committed to creating better office and service facilities for employees and improving their happiness.

Measures for Creating a Good Working Environment



Office

- An air purification system is installed to improve office air quality;
- Green space is increased in office areas.



Diet

- There are staff canteens and coffee shops in factory zones;
- Establishing a food safety supervision team, adopting the mode of centralized purchasing of food materials and qualified supplier management, and inviting employees and department representatives to carry out supervision;
- Publishing the canteen food cooking guideline to manage balanced nutrition, oil and salt control, for the employees’ diet in the canteens.



Accommodation

- Construction of dormitory with private bathrooms, 24-hour supply of hot water, and WIFI network, etc.;
- The dormitory area has a library, computer room, snooker room, laundry, TV room, HIVE BOX, and other facilities.



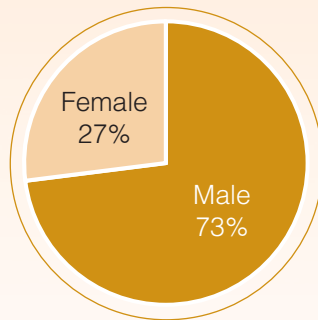
Travel

- Providing all employees with travel allowance;
- Providing free commuter bus services between the park, subway stations, and the dormitory;
- Creating a commuting route for employees living in the transit-challenged areas and arranging commuter bus services for departments which need to have such services on weekends.

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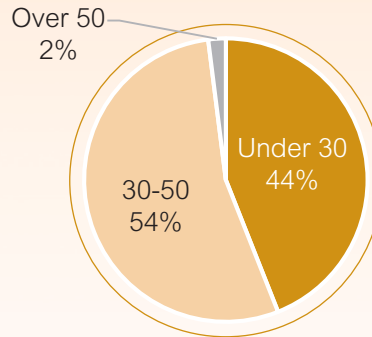
In terms of care for female employees, we care for the welfare and development of female employees, by organizing a special physical examination every year, continuously improving human-based management of lactating employees, and providing relevant service facilities to ensure convenience for pregnant employees and lactating employees at work.

Employees by gender



■ Male ■ Female

Employees by age



■ Under 30 ■ 30-50 ■ Over 50

In addition, the Company established the Employee Assistance Mechanism, under which we provide assistance for needy employees at special festivals such as Spring Festival, Labor Day, and Mid-Autumn Festival, in addition to routine expression of sympathy and solicitude to injured or families of diseased employees; and we give timely care and support to employees who suffer a significant misfortune and help them overcome their plight as soon as possible through multiple forms of assistance including donation, support, care, and nursing.

3.2 Employee Health and Safety

The Company attaches great importance to occupational health and safety of employees, and strictly complies with the Law of the People's Republic of China on Prevention and Control of Occupational Diseases, the Production Safety Law of the People's Republic of China, the Regulation on Work-Related Injury Insurances, as well as other laws, regulations and provisions. The Company has established a complete occupational health and safety system that meets the safety goal of "zero accident for production safety", defining the occupational health and safety policy, so as to provide employees with a good working environment and ensure their occupational health.

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Occupational Health and Safety Management System

Occupational Health and Safety Management Policy

The Company strictly complies with safety, health, and environmental protection regulations; makes efforts for clean production; carries out continuous improvement; creates a safe, healthy, and comfortable working environment for employees; and strenuously pursues the highest goal of "zero accidents" and sustainable operation, becoming a model corporate citizen in the world.

System Construction	<ul style="list-style-type: none"> The Company has established the Safe Production Committee; implemented the Committee's Safe Production Responsibility System; and implemented the Regular Safety Meeting System; All employees at all levels are required to sign the Safety Responsibility Letter, so as to implement the Safe Production Responsibility System for the staff. 	Management Factors	<ul style="list-style-type: none"> Emergency response to hazards/environmental factors; Special equipment and posts; Chemicals management; Occupational health monitoring and Protection.
Internal Audit, Inspection and Hazard Identification	<ul style="list-style-type: none"> Safety technology transformation; Establishing a dual prevention work mechanism of hierarchical control of safety risks and management or hazard identification. 	Construction of Safety Culture	<ul style="list-style-type: none"> Safety awareness and safety training; Emergency drills.

Safe Production

Improving the Establishment of Systems

The Company pays great attention to safety assurance of employees in the production process, strictly abides by the Production Safety Law of the People's Republic of China, and formulates the Implementation Measures for the Production Safety Responsibility System of the Production Safety Committee. We also establish the safe production management committee and the weekly production safety meeting system to ensure the stable operation of the Company's safe production system. In accordance with the requirements of the Production Safety Law of the People's Republic of China, the Company optimizes various management systems for production safety, consolidates safety responsibilities, intensifies the dual control system, strengthens the emergency response mechanism, ensures safety investment, and facilitates the construction of corporate safety culture.

In 2022, the Company actively implemented the standardization, systematization and intelligent construction of safety work, and optimized the production safety responsibility system of all employees. In accordance with the principle of "one post with one responsibility" and "whoever takes charge and uses shall take the responsibility", the Company has compiled a Safety Responsibility Letter covering all staff with "General Terms + Functional Departments + Business Departments" by combining the post functions. 100% of our employees have signed the Letter. Meanwhile, our contractors are required to sign the "Letter of Commitment on Safety and Environmental Protection", so as to make every department and every employee take their respective responsibility, and optimize the production safety responsibility system of all employees.

In addition, the Company improved systematic procedure management based on its operation experience, established and perfected safety management systems such as safety accident/incident/hidden danger troubleshooting and tracking system, special equipment registration system, equipment terminal infrared detection and recording system, etc., and keep data records to ensure the implementation of corrective measures, thereby standardizing the implementation of procedures and enhancing the Company's safety management efficiency and safety operation level.

So far, all production bases of the Company in Shanghai and Wuxi have passed the certification of ISO 45001 International Occupational Health and Safety Management System.

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Name of Production Base	ISO 45001 Certification	Term of Validity
Hua Hong Shanghai Production Base	Certified	18 April 2024
Hua Hong Wuxi Production Base	Certified	18 April 2024

Construction of Production Safety Culture

In order to carry out the construction of production safety culture and strengthen the staff's awareness of safety culture, the Company organized a series of special activities such as "Production Safety Month", "Safety & Health Cup", "Fire Protection Month", and conducted carried out activities such as production safety publicity, education and training, as well as safety knowledge and skills competition. Various safety publicity and demonstration activities have effectively enhanced the safety awareness and safety knowledge reserve of employees, and promoted all staff to fulfill their safety commitments and responsibilities.

Actions for Construction of Production Safety Culture in 2022

Action Name	Content and Effect
Strengthening safety training	<ul style="list-style-type: none"> Carry out diversified trainings on various safety themes, such as "new employee safety, work resumption safety, production safety standardization, fire fighting skills, occupational health, emergency management system, public security and prevention of telecom fraud, and restaurant & traffic safety", to ensure the 100% participation rate in safety education and training, the 100% certificate holding rate for all employees, with approximately 24,423 trainees. Organize all staff to participate in the national online contest on knowledge about the "New Safety Law", and constantly enhance the staff's safety awareness and ability.
Enhancing emergency response capability	<ul style="list-style-type: none"> Each production base has organized and implemented more than 70 comprehensive and special emergency plan drills and more than 1,000 on-site emergency response trainings, with a training rate of 100%. Complete the expert review and filing of production safety emergency plans, establish and improve the normative documents such as rapid emergency response procedures to abnormal conditions for production base, and organize weekly training, quarterly practice, and annual competition. Hold ERT personal skills competition and ERT fire fighting skills competition, and build an emergency management system communication platform by carrying out activities. Organize and carry out the "Fire Protection Month" fire knowledge display board publicity, fire fighting skill trainings, evacuation and escape drills for all staff, and enhance the staff's safety awareness and emergency response ability.
Selecting excellent cases	<ul style="list-style-type: none"> Conduct annual evaluation on excellent safety and technical skills, and organize learning and exchange activities. Carry out evaluation on typical accidents and hidden dangers, with a total of 24 excellent cases awarded.

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Safety Risk Prevention Facilities and Measures for Employees



Fire fighting facilities

- Establishing the complete fire fighting system and automatic alarming system.



Alarming and monitoring system

- Our clean workshops are equipped with toxic, hazardous and flammable gas alarming system, liquid leakage detector and ultra-high sensitivity smoke detector.



Emergency measures

- Establish an emergency rescue team and formulate emergency response plans for different disasters; and regularly organize special disaster prevention drills and rectify any problem found in a timely manner.

Chemical Safety Management

With regard to safety protection of chemicals, the Company has formulated a number of management policies and operation procedures, including the Chemicals Management Procedure, the Chemical Substance Review Procedure, the Special Emergency Plan for Chemical Leakage, the Inspection and Registration System for Chemicals Coming In and Out of the Warehouse, the Management Measures for Chemical Turn-on, etc..

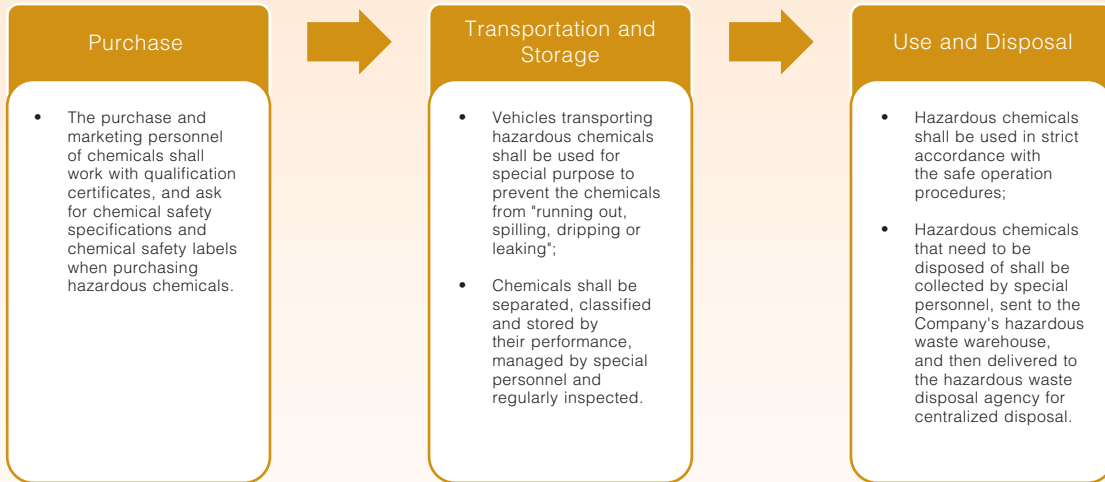
Hazardous Chemicals Used in the Manufacturing of Hua Hong Semiconductor Chips

Type	Name
Flammable liquid	Isopropanol, photoresist and diesel
Oxidants and organic peroxides	Hydrogen peroxide
Toxic chemicals	Phosphine and fluorine
Corrosive chemicals	Sulfuric acid, hydrochloric acid, hydrofluoric acid, phosphoric acid, mixed acid, ammonia water and sodium hydroxide
Compressed and liquefied gas	Hydrogen, methane, silane, nitrogen, oxygen, argon, helium, ammonia and chlorine

The Company has established a factory chemical review committee to comprehensively evaluate the environmental protection and safety qualifications and risk prevention and control capabilities of chemical suppliers in advance the Company adopts the chemical substance management system to manage the use, storage and disposal of chemicals, control the maximum storage of chemicals, and dynamically monitor their use and consumption. In addition, the Company makes efforts to eliminate on-site hazard sources and reduce safety risks from the source by giving priority to the use of new technologies and by replacing toxic and flammable hazardous chemicals with non-toxic chemicals.

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Hua Hong Hazardous Chemicals Management Procedure



Employee Health

Management of Occupational Hazard Factors

In order to provide occupational health protection for employees, the Company identifies occupational hazard factors of employees and formulates corresponding countermeasures in strict accordance with the Law of the People's Republic of China on Prevention and Control of Occupational Diseases and other laws and regulations. The Company's job positions involving occupational hazard factors mainly include ion implantation, diffusion, etching, chemical mechanical grinding, power gasification and other positions involving equipment operation.

Identification of Occupational Hazard Factors of Employees and Countermeasures

Job Positions with Occupational Hazards	Occupational Hazard Factors	Countermeasures
Ion implantation, diffusion, etching, chemical mechanical grinding, power gasification and other positions involving equipment operation	Fluorine and its inorganic compounds, hydrofluoric acid, hydrochloric acid, nitric acid, sulfuric acid, phosphoric acid, ammonia water, hydrogen peroxide, arsenic and its compounds, phosphorus and its compounds, isopropanol, etc.	<ul style="list-style-type: none"> The equipment in the clean room is automatically operated in the closed space, and is equipped with closed process exhaust system Provide employees with personal protective articles and emergency response devices, and regularly check such articles and devices to ensure their effectiveness

In addition, the Company engages external organizations to test the occupational hazards in its production environment every year, so as to ensure that the occupational exposure limits for harmful factors are not exceeded in the production environment, and the Company informs all employees of the test results. In 2022, the Company has replaced the toxic methanol used for wastewater treatment in its factories with non-toxic 25% food-grade glucose solution, thereby continuously reducing the occupational hazard exposure risk of employees.

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Improvement of Employee Health

The Company provides an annual health check-up for all employees, including multiple cancer screenings and other items, and establishes employee health records to systematically track the changes in employees' health status. The Company carries out various activities to promote healthy lifestyle to employees, such as health lectures on the theme of "How to stay away from the risk of "hypertension, hyperlipemia and hyperglycemia", "Guidelines for People Infected with COVID-19 at Home" and "Prevention of facial paralysis in alternate seasons", to encourage the employees to live and work in a healthy way.

3.3 Employee Development and Training

Employee Training

The Company has established a sound employee education and training system, and formulated the Operating Procedure of Internal Training System Review, the Education and Training Procedure and department-level training procedures, which are constantly adjusted according to the strategic development and employee needs, to meet the all-round and multi-level training needs of employees in different positions.

The Company has established training facilities (special training rooms and equipment), learning and sharing platforms (including online training registration management platform, training material and position-specific question bank and multimedia learning courseware, etc.), and where necessary, uses external resources for ensuring employees learning and development.

In 2022, the Company continuously carried out "Special Training Camp for Newly-hired Recent College Graduates" training program, and in addition to the refining and concentration of professional theory and practical training into three major series of courses, namely "new era", "new revelation" and "new talents", it further offers courses regarding corporate culture and political literacy, and organizes visits to bases of Chinese revolution, which helped its new employees quickly integrate into the team and meet the challenges of their future work with full enthusiasm.

Employee System

Trainees	Training Contents	2022 Performance
Grass-roots managers	Role recognition, self-management, management of others, and working management	<ul style="list-style-type: none"> • Percentage of employees trained: 100%
Front-line managers	Develop management skills of front-line shift and team leaders, cultivate a front-line management team with high quality and high business ability, and lay a solid foundation for the Company's management	
Newly-employed university students	Career quality, corporate culture, introduction to special skills and other courses	<ul style="list-style-type: none"> • Average training hours per employee: 123.7 hours
Front-line employees	Courses about theory and practical training of the semiconductor manufacturing module	

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Career Development

The Company has clear and transparent promotion channels for employees, regularly evaluates employee performance and provides employees with feedback on individual performance and offers personal career development plans for the development of employees. According to industrial characteristics, the Company has set three professional categories, namely, management, technology and functional support and has established corresponding job training. Employees may continuously develop their careers in a single professional title category according to their own specialties, potential, and desires. Moreover, they are able to shift from technology to management.

In addition, the Company has formulated the Implementation Measures for Academic Education Subsidy, which encourages employees to improve their professional and technical knowledge and provides 16 employees with on-the-job academic education subsidies in 2022, so as to promote work performance and efficiency improvement, and continuously train high-quality talent that meets the current and future needs of the Company, thus further improving its comprehensive competitiveness.

As of the end of the reporting period, the overall employee turnover rate of the Company was 12%. Specifically, the employee turnover rates by gender, age and region are as follows.

Employee Turnover Rate of Hua Hong Semiconductor in 2022

Category	Turnover rate (%)
Male employees	12.83
Female employees	9.74
Employees aged below 30	18.34
Employees aged 30 to 50	7.23
Employees aged above 50	0.65
Employees in mainland China	12
Employees from overseas	0

4 Products and Services

4.1 Product R&D and Innovation

Construction of an Innovative Technology R&D System

R&D and innovation are the critical basis for promoting the continuous upgrading of products and ensuring the sustainable development of the Company. In the process of product R&D and innovation, Hua Hong abides by the Law of the People's Republic of China on Progress of Science and Technology, the Patent Law of the People's Republic of China on Science and Technology Progress and the requirements of other laws and regulations, constantly develops and upgrades new technologies, and leads the development of wafer manufacturing process and chip design by focusing on its corporate vision of "Continuous Innovation and Empowering the Future for Global Customers".

In order to stimulate employees' motivation to invest in innovation and R&D, the Company has established the Value Engineering (VE) proposal system to support employees' exploration into their potential and contribution to product innovation through standardized application process, review and reward procedures. The system involves the reduction of raw materials and energy consumption, human resources optimization and production capacity improvement, as well as process and procedure optimization, which can support the improvement and innovative development of all business modules of the Company. All employees in the management, technology, quality control, manufacturing engineering and other relevant support departments can participate in the quantitative review, recognition and reward activities of VE proposals via this system.

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In addition, the Company attaches great importance to scientific research innovation and open cooperation, and has established the first workstation of academicians and experts and the first science and technology association of enterprises in the IC industry in Shanghai. Through the introduction of experts, project cooperation, talent training, academic exchange and other approaches, the Company strives to build an industry-university-research technology innovation system, so as to promote the transformation of scientific and technological achievements into productive forces.

Seizing the Clean Energy Opportunity

With the accelerated adjustment of the global energy structure, promoting the use of clean energy has become the focus of development for more and more enterprises. Hua Hong has actively seized the opportunity of clean energy and applied the main process platforms in different application fields to facilitate the development of green products in the downstream value chain.

Hua Hong has accumulated substantial technology and experience in the manufacturing process of upstream components in the new energy application field, such as new energy power generation, etc., which can effectively support its energy transformation and development. Currently, the semiconductor components for new energy, which are already at the international advanced level, will further explore into the technology and reliability of the 8-inch wafer production platform, and gradually transformed to the 12-inch process platform. Hua Hong focuses on development of the “8-inch + 12-inch wafer” production platform, vigorously implements the core development strategy of advanced “Specialty IC + Power Discrete” product mix, and fully supports the high-quality supply capacity of localized components in the new energy infrastructure and application fields. Hua Hong power discrete devices and non-volatile memory processes play an important role in supporting the development of products in the new energy application fields, such as new energy vehicles, energy-saving household appliances, etc.

Products for Supporting Clean Energy Development

Discrete

Power discrete is an important device for new energy power generation and new energy applications. For example, a large number of IGBTs, MOSFETs and other devices are required for PV and wind power generation equipment, electric vehicles and electric two-wheelers.

The Company has accumulated a large number of customers in this field, and has maintained good partnership with leading enterprises in the field for a long time to conduct in-depth development and cooperation together. So far, the revenue of power discrete devices has taken up a significant part of the Company's revenue.

Non-volatile Memory Process

Non-volatile memory process is widely used in chip applications such as MCUs and ASICs, and these chips are also widely applied to new energy end-user application, such as electric tools, electric two-wheelers, electric vehicles, etc.

According to IC Insights, the automotive market accounts for more than 30% of the global MCU consumption market. All of Hua Hong's fabs have passed the IATF 16949 certification for automotive industry, making important contributions to supporting the local manufacturing of automotive semiconductors.

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In 2022, the Company made significant progress in research and development of technologies applied in the field of new energy, helping accelerate the transformation progress of the global clean energy.

Development Progress of Technologies Boosting New Energy Transformation in 2022

The seventh generation IGBT technology has been successfully developed and put into mass production. It has been widely used in mainstream new energy vehicles and PV power generation field.

The new super-junction technology has been developed and has been applied to the electric vehicle charging pile and on-board charger (OBC) solutions. Compared with the original super-junction technology, the optimized solution has reduced the process steps by 25%, and lowered the energy consumption by about 10% on average, further improving the effect of energy conservation and emission reduction.

In the future, the Company will further promote the development of silicon-based power devices capable of achieving higher energy efficiency, and initiate the development of compound semiconductor power devices characterized by high power density and low energy consumption, so as to provide continuously optimized solutions for products applied to the clean energy sector, such as variable frequency household appliances, new energy vehicles, and to further improve energy efficiency.

Intellectual Property Protection

The Company advocates independent innovation and respect for intellectual property rights, particularly in the research and development of application-specific integrated circuits, including intelligent chips and information security chips. The Company strictly complies with the Patent Law of the People's Republic of China, the Copyright Law of the People's Republic of China, the Trademark Law of the People's Republic of China and other laws and regulations, and formulates the internal management regulations, such as the Management Regulations for Intellectual Property, to strengthen the protection and management of the Company's intellectual property rights.

The Company has actively filed applications for patents and investigated responsibility for any potential breaches of intellectual property rights. At the same time, we promise that we will never infringe upon the intellectual property rights of any enterprise or individual, and will keep confidential all technological information regarding products of upstream and downstream partners. To reduce the risk of claims of infringement of third-party intellectual property rights against our manufacturing of semiconductor devices or end-user products, we conduct reputational and potential risk audit on customers before accepting product orders, and we have entered into several technology licensing agreements with major technical companies.

Patent Applications in 2022

Type of Patents	Number of Patents (Items)
Total number of patents applied for in the year	654
Total number of patents approved in the year	331
Total number of Chinese and U.S. invention patents obtained	4,139

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4.2 Product Quality and Safety

Quality Management System

The Company strictly complies with the Law of the People's Republic of China on Product Quality and other quality laws and regulations, and has formulated the Quality Manual, Code of Practice for Quality Objective Management and other rules. The Company carries out quality management work pursuant to these law, regulations and rules. So far, all the production bases of Hua Hong have successfully passed the ISO 9001 Quality Management System and the IATF 16949 QMS certification for the automotive industry. The Company implements a synthesized quality management model covering five comprehensive modules of quality system and customer satisfaction, supplier management and raw material analysis, quality assurance, reliability assurance, and failure analysis.

Name of Production Base	Certification	Term of Validity
Hua Hong Shanghai Production Base	ISO 9001 Quality Management System	21 May 2024
	IATF 16949 Quality Management System for Automotive Industry	21 May 2024
Hua Hong Wuxi Production Base	ISO 9001 Quality Management System	11 November 2025
	IATF 16949 Quality Management System for Automotive Industry	29 December 2023

In accordance with the policies, the Company carries out quality management. The Company shall comprehensively implement excellent performance management, and deeply promote the integration of industrialization and informatization. Actively fulfilling corporate social responsibility, the Company strictly adheres to Zero Defects concept and ensures the delivery of green and high-quality products in a timely order, to continuously provide competitive services. Besides, the Company is supposed to fully meet customer requirements and unremittingly improve customer satisfaction, so as to achieve mutual benefits and a win-win situation.

Whole-Process Quality Assurance Measures

Quality assurance by multiple systems

Pursue excellent quality by multiple management systems, such as personnel management, equipment management, supply chain management, environment management, system management, process management, and customer quality control.

Real-time monitoring and prevention

With these reliable management systems, we are able to achieve real-time monitoring and testing over our entire product cycles from product R&D to production and after-sales feedback; carry out failure analysis on anomalies that may arise during the production and application processes; dig out the nature of problems; and work out corresponding corrective and preventive measures.

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During the daily quality management process, the Company holds various daily management meetings to ensure the product quality meets expectations according to the requirements of the overall quality system, such as materials review meetings, change management committee meetings, production meetings and weekly safety meetings. In the meantime, the Company regularly organizes monthly quality and safety meetings to report relevant work to the management, so as to ensure timely communication about and resolution to product quality problems. In 2022, the Company carried out the project quality evaluation activities of “Zero Defect of Characteristic Processes and High-quality Development of Hua Hong”. As at the end of the year, 186 department-level projects were reviewed and completed, with the on-time completion rate up to 100%.

Product Safety Assurance

In terms of product safety assurance, the Company has established a hazardous substance management system, formulated the Hazardous Substances Management Procedure and the three-level management system to effectively control the hazardous substances in products.

Hazardous Substance Control System

Process	Measures
Product R&D	The Company incorporates the management of hazardous substances into the product R&D process to reduce the risk of using hazardous substances from the source.
Raw materials testing	Suppliers are required to provide the product test report for hazardous substances, sign the Letter of Commitment on Not Using Hazardous Substances to ensure the safety of raw materials.
Regular inspection by a third-party agency	A third-party organization is entrusted to carry out testing in accordance with the Directive on Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations (“RoHS”) and the Regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (“REACH”) on a yearly basis to ensure product quality.

Management of Nonconforming Products

For nonconforming products, the Company has formulated the management policy of Nonconforming Product Control Procedure, and has established an optimal product recall system. Our customers may return to us within the warranty period any nonconforming products which do not comply with the prescribed functions or fail to meet the management requirements for hazardous substances. As at 2022, the failure rate of the Company’s products on the end-user side was less than one in a billion.

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4.3 Customer Service and Protection of Customers' Interests

Customer Service Management

The Company focuses on customer experience, and based on the philosophy of “providing customers with more convenient and safer services”, it has established an impeccable customer service system, including the three aspects of customer communication, customer complaint and customer satisfaction, so as to continuously enhance its customer service capabilities.

Customer Service System



Customer Communication

- Adopt multiple methods of communication with customers, including customer survey, regular quarterly/annual business reviews, technical seminar and training.



Customer Complaint

- Establish customer complaint channels and formulate the Customer Complaint Handling Procedure, handle and feed back customer complaints in a timely manner.



Customer Satisfaction Survey

- Carry out satisfaction surveys on a sampling basis annually and formulate an improvement plan according to the survey results.

To better satisfy customer service requirements, the Company formulates an annual work plan for customer services and conducts relevant work according to the plan. In addition, the Company implements product introduction, negotiation with customers on their special requirements, customer review and other workflows online and offline synchronously, so as to achieve more sufficient and more efficient communication to meet customer expectations.

The Company attaches great importance to customers' complaint and feedback, and has formulated the Customer Complaint Handling Rules to standardize customer complaint handling and the implementation of corrective and preventative measures. Customers may make a complaint and give feedback to the Company through e-mail, hotline, letter, fax, and other channels. During the Reporting Period, the Company did not receive any complaints from customers.

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Customer Complaint Handling Procedure



Occurrence of a Complaint

Normally, communicate and confirm with the customer within 24 hours after the occurrence of a complaint and give a preliminary reply.



Investigation into Failure Causes

Complaints requiring product failure analysis will be submitted to relevant departments for handling. Corrective and preventive measures will be proposed according to the investigation results and a reply will be given to customers.



Prevention and Correction

Supervise the implementation of corrective and preventive measures by relevant departments, and verify the correction results by regularly sorting out and analyzing relevant information fed back by customers.

The Company conducts customer satisfaction surveys on a regular basis. In 2022, the Company carried out a customer satisfaction survey in the form of questionnaire to collect customer opinions. The average score of customer satisfaction in the questionnaire was 8.86 (full score: 10 points). The management of the Company reviews the annual satisfaction survey results, organizes the difference analysis and implements improvement measures, and feeds corresponding improvement measures and results back to customers.

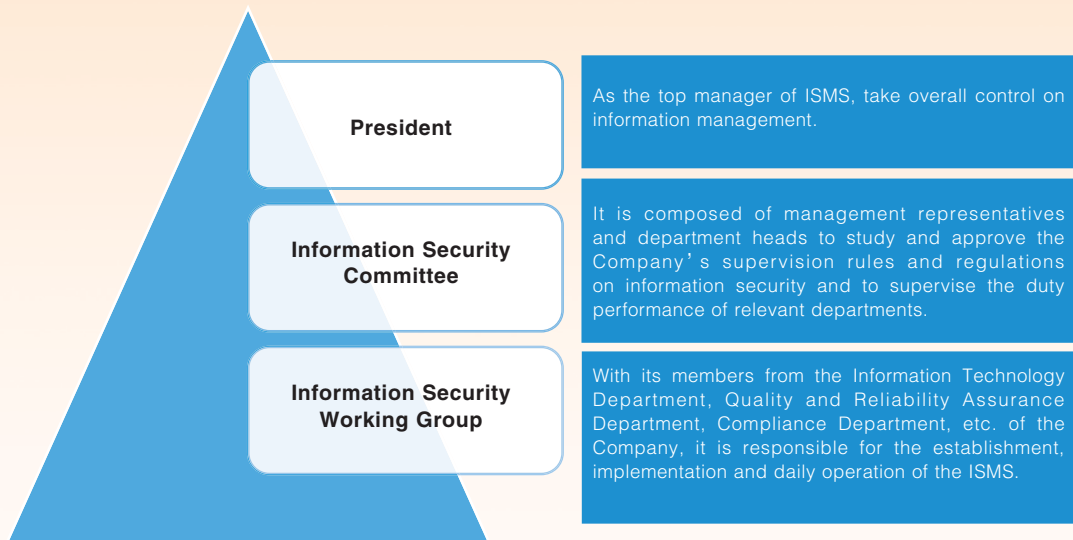
Information Security and Privacy Protection

The Company attaches importance to its information security and the protection of customer privacy. It carries out information security protection work in strict accordance with the Cyber Security Law of the People's Republic of China, the Cryptography Law of the People's Republic of China, the Regulation on the Administration of Commercial Cipher Codes, and other laws, regulations and provisions. Meanwhile, the Company has developed and implemented information security management rules such as the Information Security System Manual and the Statement of Applicability (SOA), and conducts management on network security, computer security, encryption control management, user access control, regular backup, etc. to ensure the legal compliance of data processing security and customer privacy protection.

The Company establishes the Information Security Committee, which is fully responsible for the information security protection work of the Company. The Company has established an Information Security Management System (ISMS), which controls information security risks from information asset management, personnel security, physical control, logic control, and other aspects to ensure information security and is ISO 27001 certified (valid until February 2025).

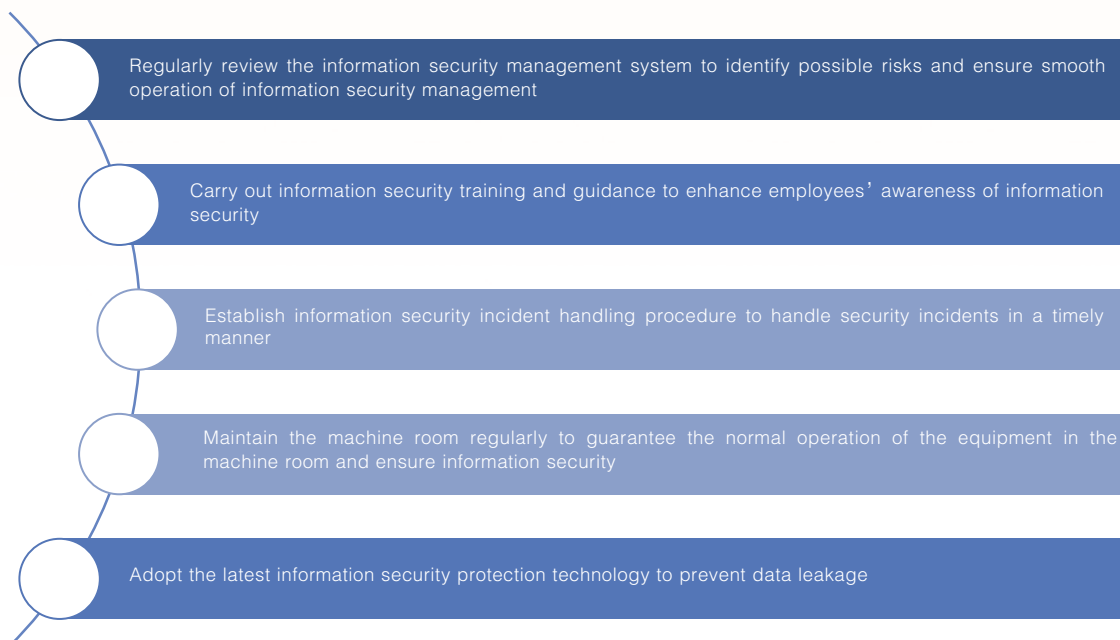
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ISMS Structure



During the stable operation process of ISMS, the Company effectively protects customer information and privacy security by carrying out information security management training and review and by adopting the latest security protection technology and other measures, which, on the other hand, provides the Company with safer and more efficient information management services.

Information Security Management Measures



In 2022, the Company carried out a series of trainings in relation to information security protection in various production and operation bases to strengthen employees' awareness and ability concerning information security protection, and improve the Company's overall information security protection level.

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Information Security Protection Training in 2022

Theme	Coverage	Participants
ISMS Training 2022Q1		5,741
ISMS Training 2022Q2		6,180
ISMS Training 2022Q3		5,018
Confidentiality and Information Security Compliance Training	Employees of Hua Hong Shanghai & Wuxi Production Bases	6,400
Quality Month Activity – Information Security Awareness Training for Senior Executives		108

Responsible Marketing

It is Hua Hong's responsibility to customers to carry out responsible marketing and ensure the integrity, accuracy and authenticity of marketing information. The Company strictly abides by the Trademark Law of the People's Republic of China, the Advertising Law of the People's Republic of China and other laws and regulations, implements the product label management pursuant to relevant procedures, and runs the compliance awareness throughout the whole process of business development and contract management, in an effort to eliminate the possibility of improper marketing due to subjective factors.

No incidents of violations concerning the use of labels and promotional information occurred within the Company during the Reporting Period.

5 Responsible Business Operation

5.1 Sustainable Supply Chain Management

Creating a Responsible Supply Chain

Creating a responsible supply chain is an important strategy for long-term development of the Company. The Company has established an excellent supply chain management system, and formulated the Social Responsibility Requirements for Suppliers and the Supplier Risk Identification, Planning and Control Management Procedure in accordance with the Code of Conduct of the Responsible Business Alliance (RBA), so as to conduct comprehensive management on suppliers.

Major Suppliers of Hua Hong

Type of Suppliers	Quantity (Suppliers)
Silicon wafer	21
Chemicals	91
Gas	48

Good supplier cooperation is the foundation for the Company to ensure stable production and operation. The Company has established a supplier management system covering supplier selection and access, supplier review and evaluation, support for supplier growth and supplier elimination.






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Supplier Management System

Supplier Management	Actions
Supplier selection and access	<ul style="list-style-type: none"> The Company formulated the Social Responsibility Requirements for Suppliers in accordance with the RBA, and put forward requirements for suppliers in five aspects: labor, health and safety, environmental protection, business ethics and management system; Suppliers with outstanding performance in terms of environment, labor and ethics will be preferred in supply and procurement; In addition to requiring all cooperating suppliers to comply with the Social Responsibility Requirements for Suppliers, the Company also requires its upstream suppliers to recognize and manage in accordance with the Social Responsibility Requirements for Suppliers.
Supplier review and evaluation	<ul style="list-style-type: none"> The Company has formulated the Supplier Risk Identification, Planning and Control Management Procedure to carry out comprehensive evaluation and control on the environmental and social risks of suppliers every year, so as to identify the environmental and social risks of suppliers, and formulate corresponding countermeasures; Suppliers with major violation records are required to carry out a third-party risk audit in terms of their social responsibilities and provide the certificate of passing the audit, or they may be disqualified as suppliers; The Company's anti-corruption policy covers all suppliers, requiring them to comply with anti-corruption requirements and confirming the compliance at the time of annual evaluation.
Support for supplier growth	<ul style="list-style-type: none"> The Company carries out regular publicity trainings on the theme of "CSR " and "RBA Code of Conduct" for suppliers every year, including environment, labor, ethics, etc; The supplier training program carried out in 2022 covered suppliers of silicon wafer, chemicals, gas, target materials and other categories.
Supplier elimination	<ul style="list-style-type: none"> The Company urges the suppliers with poor performance in terms of environment, labor and ethics to rectify and confirm that their rectification meets the requirements. Suppliers who fail to meet the rectification requirements will be disqualified.

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Overview of the Social Responsibility Requirements for Suppliers of Hua Hong Semiconductor

 Labor	<ul style="list-style-type: none"> • Free choice of occupation • Youth employees • Working hours 	<ul style="list-style-type: none"> • Salaries and benefits • Humane treatment • Non-discrimination 	<ul style="list-style-type: none"> • Free association
 Occupation and Health	<ul style="list-style-type: none"> • Occupational safety • Emergency plan • Occupational injuries and diseases 	<ul style="list-style-type: none"> • Hygiene management • Physically demanding work • Machine-related protection 	<ul style="list-style-type: none"> • Public health, canteen, and dormitories • Communication of health and safety
 Environmental Protection	<ul style="list-style-type: none"> • Environment-related permits and reports • Preventing pollution and saving resources • Hazardous substances 	<ul style="list-style-type: none"> • Solid waste • Air emissions • Material restrictions 	<ul style="list-style-type: none"> • Management of water resources • Energy consumption and greenhouse gas emissions
 Business Integrity	<ul style="list-style-type: none"> • Operation with integrity • No illegitimate interests • Information disclosure 	<ul style="list-style-type: none"> • Intellectual property rights • Fair trade, advertisement, and competition • Confidentiality on identities 	<ul style="list-style-type: none"> • Responsible procurement of minerals • Privacy
 Management System	<ul style="list-style-type: none"> • Duties and responsibilities of management • Legal and customer requirements • Risk assessment and management 	<ul style="list-style-type: none"> • Performance indicators with implementation plans and measures • Training • Communication 	<ul style="list-style-type: none"> • Employee feedback, participation, and complaints • Review and assessment • Corrective measures

The Company is committed to supporting the growth of suppliers and boosting the development of the domestic chip industry. In 2022, the Company cooperated with Zhonghuan Advanced Semiconductor Materials Co., Ltd. (“Zhonghuan Advanced Semiconductor”), a silicon wafer supplier, in taking the joint development and growth action to jointly promote the improvement of quality management and product quality through mutual solidarity and cooperation. The Company and the quality and technical members of Zhonghua Advanced Semiconductor formed a key team to conduct pre-management in the daily production process of Zhonghua Advanced Semiconductor, and to facilitate the establishment of production process management and control systems such as management system, fault detection and control system, statistical process management system, etc. suitable for the semiconductor industry in Zhonghuan. In the meantime, the Company carried out special audits to assist Zhonghuan Advanced Semiconductor in improving its management process. For key quality control points, we helped Zhonghua Advanced Semiconductor to implement the requirements of the semiconductor industry, carry out independent continuous improvement activities, and constantly enhance its quality management awareness. Furthermore, a series of actions of Zhonghua Advanced Semiconductor have also been applied to the management of its upstream suppliers to facilitate the sound development of the semiconductor industry supply chain.

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Responsible Minerals Management

“Conflict Minerals” are obtained by local armed militias by way of long-time forced labor, child labor, and damaging the environment and ecology. Such metals are also the main capital source of illegal armed organizations. According to the Dodd-Frank Wall Street Reform and Consumer Protection Act and research reports of certain international nongovernmental organizations, such minerals are likely to be used for electronic and electrical products, such as mobile phones and computers, in ICT industries.

Metal mineral resources such as gold (Au), tantalum (Ta), tungsten (W), tin (Sn) and cobalt (Co) will be involved in the Company’s production and operation process. The Company is aware of the risk of significant negative impacts from mining, trading, processing and exporting minerals in conflict-affected and high-risk areas. In order to effectively reduce the Company’s risk in relation to conflict minerals, the Company has formulated the Conflict Minerals Management Policy in accordance with the Responsible Minerals Initiative (RMI). In addition to self-management, the Company also requires all suppliers to promise not to purchase “conflict minerals” in conflict-affected and high-risk areas, so as to ensure the effective management of responsible minerals.



Hua Hong Conflict Minerals Management Policy

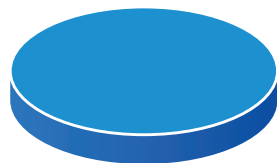
The Company takes global social and environmental responsibility as our goal and carries out green procurement and has promised to undertake the following responsibilities in its metal supply chain:

1. We undertake to assume social and environmental responsibilities.
2. Suppliers whose raw materials contain gold (Au), tantalum (Ta), tungsten (W), and tin (Sn) are required to purchase materials according to the Responsible Minerals Policy, while suppliers whose raw materials contain cobalt (Co) are required to disclose the smelters of cobalt.
3. We undertake to cause our suppliers to provide the declaration that they do not use gold (Au), tantalum (Ta), tungsten (W), tin (Sn), and cobalt (Co) from “conflict minerals”, and to carry out an investigation into conflict minerals, and complete the Conflict Minerals Reporting Template (CMRT) and the Extended Minerals Reporting Template (EMRT) under the Responsible Minerals Initiative (RMI).

All gold and tin used by the Company in its production process are from China; 75% of the tungsten used comes from China and 25% from Japan; One third of the cobalt used comes from China, one third from Japan and one third from Europe. During the Reporting Period, none of the gold (Au), tantalum (Ta), tungsten (W) or tin (Sn) used by the Company was from the regions with armed conflict.

Types and Sources of Minerals Used

Gold (Au) and tin (Sn)



■ China

Tungsten (W)



■ China ■ Japan

Cobalt (Co)



■ China ■ Japan ■ Europe

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The Company has conducted due diligence on the responsible mineral supply chain of suppliers involving minerals and requires suppliers to disclose information on sources of minerals and smeltery, so as to ensure that our suppliers comply with the Company's management policies for conflict minerals. In 2022, a total of 8 suppliers were involved in the due diligence, covering 100% of suppliers that are involved in "conflict minerals". In the due diligence audit this year, no major issues concerning child labor, inhuman treatment, forced labor, armed conflict, ecological damage, etc. were found; among which, the suppliers who do not use conflict minerals account for 100% as verified by the third-party organization.

5.2 Anti-Corruption and Anti-Bribery

The Company is committed to the development of a business ethics culture and has formulated the Undertaking System on Anti-Corruption and Business Ethics, the Anti-Corruption and Anti-Bribery Policy, and other internal management regulations, explicitly specifying that companies having business dealings with the Company (including all suppliers) shall sign the Undertaking Against Commercial Bribery and that all the relevant internal personnel shall sign the Undertaking on Business Ethics.

Anti-Corruption and Anti-bribery Policy of Hua Hong Semiconductor

All employees (including part-time employees), senior management, and Board members are required to abide by relevant laws and regulations practice and behave with integrity, diligence, and self-discipline. Corruption and bribery in all forms are prohibited, including:

- prohibiting commercial bribery and maintaining fair competition order;
 - prohibiting seeking for illegitimate benefits through taking advantage of influence in position and work; never violating financial management and operation regulations, or seeking personal gain in the name of the Company;
 - prohibiting practicing fraud to undermine the legitimate interests and reputation of the Company;
 - prohibiting any receipt of presents, cash gifts, securities and finances that may cause a negative influence on work.
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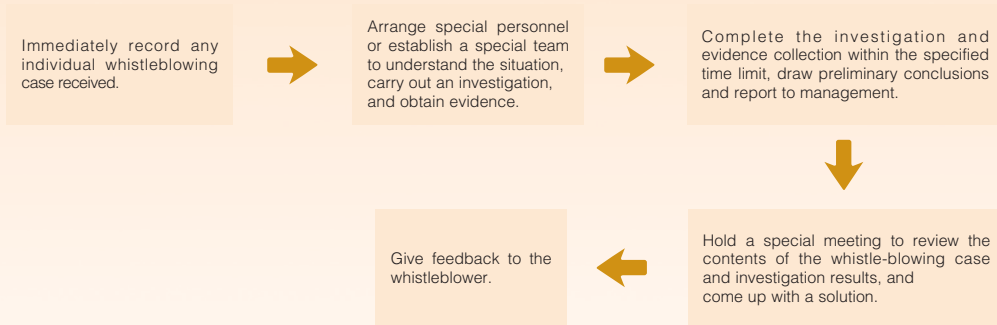
The Company carries out audits on anti-corruption and business ethics on a regular basis. In 2022, the Company has completed audits of internal management on anti-corruption and business ethics, and found no violation. In addition, the Company is committed to creating a sound business ethics culture by regularly introducing warning articles and cases in internal publications and providing training activities on anti-corruption and business ethics for all employees. On 15 September 2022, the Company held the 2022 Business Ethics Education Conference, and carried out a special training on the theme of "Knowledge on Anti-Corruption Party Conduct and Business Ethics" for all key positions and related personnel.

The Company sets up smooth whistle-blowing channels, and provides defined whistle-blowing channels, including E-mail, hotline and mailbox, to encourage employees to make real-name or anonymous complaints and whistle-blowing. The Company comprehensively handles whistle-blowing calls and letters at any time to achieve early detection, resolution and control, as well as appropriate treatment.

The Company establishes a standardized whistle-blowing case treatment procedure, and carries out the whistle-blowing procedure, classified acceptance, investigation and treatment work. In addition, the Company takes measures to protect whistleblowers, and all information related to whistleblowers will be kept strictly confidential. The Company protects the employees or external personnel from unfair treatment such as dismissal, demotion, suspension, intimidation, harassment or any other form of retaliation for whistle-blowing through legal channels.

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Business Ethics Supervision and Whistle-blowing Case Handling Procedures



During the Reporting Period, no corruption, bribery, extortion, fraud or money-laundering event has occurred to the Company, nor has any litigation case arising from the above events occurred.

5.3 Risk Management

The Company continuously improves its risk management organization system, and optimizes its internal control system. Since 2016, the Company has established procedures for risk management through the Internal Audit Department, which issued the “Rules about Comprehensive Control of Risks” and carried out related projects. It continuously improves the risk maps, and upgrades relevant policies and processes, so as to effectively enhance its comprehensive risk management capabilities.

In 2022, the Company comprehensively prevented and supervised its internal and external risks based on the “three-line model” of risk management, taking into account the principle of comprehensiveness and importance. The Company carried out an annual comprehensive risk assessment covering Shanghai and Wuxi, interviewed management with regard to risks through risk questionnaires, identified major risk areas, and formed an annual risk management report. Each business line collected and reported the respective risk events for the record quarterly or irregularly. In addition, the Company carried out risk management training, and discussed risk events among various business lines and at the corporate level.

Key Operational Risks and Countermeasures

Risk Category	Risk Factor	Countermeasures
Strategy	Strategic planning	The Company formulated strategic objectives from top to bottom and appropriately deconstructed and implemented such objectives in specific business models of corporate operation, to ensure the accomplishment of strategic objectives.
	External economic and policy impact	The Company can always maintain a high growth momentum through reasonable adjustment of product structure and gradual substitution with domestic products.
Operation	Talent reserve and development	We set up the talent resume database, carried out a talent inventory, continuously explored recruitment channels, optimized the salary structure, and improved the supporting welfare policies to comprehensively enhance the Company's attraction and employee satisfaction.

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Risk Category	Risk Factor	Countermeasures
	Supply chain	The Company enhances its right to speak in the industry chain through its technological advantages, signs medium – and long-term strategic agreements with suppliers, sets a safe inventory level for each production material, regularly reviews the rationality of the safe inventory level, makes timely adjustments according to market changes, and continuously evaluates suppliers' capacity and product quality to ensure stability of the supply chain.
	Information security	The Company has established its information security framework and management policy; implements the risk evaluation procedure for information security every year; and continuously monitors all kinds of key information through data protection system (DLP), so as to maintain the optimal interests of the Company, its shareholders, its customers, its suppliers and its employees.
	Research and development	The Company improves the R&D project management system, conducts comprehensive monitoring on R&D project initiation, implementation, and post-evaluation, enhances the ability of project managers, and develops new products with commercial value continuously in a timely manner.
	Exchange fluctuations	Transactions denominated in foreign currencies are settled in the same foreign currency whenever possible to reduce the need for foreign currency exchange, thus reducing risks arising from exchange rate fluctuations.
Environment and Safety	Environment	We design management procedures based on our observation, assessment, and control of environmental factors and list major environmental factors.
	Safety check	Safety checks focusing on troubleshooting and fault diagnosis are carried out continuously and regularly.
	Occupational health	We have developed the goals, indicators, and program management forms for our environmental and occupational health and safety programs, in accordance with the Company's established goals, indicators, and program management procedures for health, safety, and environment ("HSE").

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5.4 Protection of Investors' Rights and Interests

As a listed company on the Main Board of the Stock Exchange of Hong Kong Limited, the Company strictly complies with the requirements of the Listing Rules, the Companies Ordinance, the Securities and Futures Ordinance, the Takeovers Code and the Code on Share Repurchases, and sets up a professional working group to carry out investor relationship management and to strengthen the communication between the Company and investors. The Company has also established channels for the Company's management to receive suggestions from investors, so as to continuously improve the corporate governance level, and effectively protect the legitimate rights and interests of investors.

While carrying out investor relationship management, the Company communicates with the capital market through multiple channels about the Company's business operation and management status, financial position, product technology, major issues and other information, based on the principle of "equal treatment of all investors", the requirement on "compliance information disclosure" and the standard of "honest and trustworthy operation and interactive communication". The Company also proactively discloses information related to the Company concerned by investors, and fully protects the legitimate rights and interests of investors.

Investor Communication Channel



In 2022, the Company held one annual general meeting and two special general meetings of shareholders, at which resolutions were passed by voting. Meanwhile, all shareholders of the Company were invited to participate in the above meetings, including all small – and medium-sized investors of the Company. Furthermore, the Company held four performance exchange meetings during the Reporting Period, with a total of 1,303 participants.

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6 Industry and Community

6.1 Industry Development

The Company actively participated in the industry co-development activities to facilitate the high-quality development of the IC industry and to help Shanghai build an ecological highland for the IC industry. During the Reporting period, the Company has participated in the drafting of one industry standard and the review of five industry standards, and actively attended in the industry summit to jointly promote the high-quality development of the industry.

6.2 Community and Charity

In order to enhance the safety awareness of community residents, the Company has provided the “First Aid Course for Accidents” in the community where the headquarters operates, including First Aid knowledge and cardiopulmonary resuscitation, for five years.

The Company is enthusiastic in public welfare undertaking, and persists in organizing voluntary blood donation every year. In addition, the Company has organized employees to regularly visit the elderly in the community nursing home every year, to chitchat, make wontons, and carry out activities, so as to entertain and care for the elderly. During the COVID-19, the Company has actively participated in the volunteer services, helped maintain the order on the spot, and delivered residents' living materials for quarantined buildings. The Company has received many letters of appreciation for its contribution to the community's anti-pandemic work.

Volunteer Service Highlights Performance in 2022

Actively participated in community epidemic nucleic acid testing volunteer service	A total of 4,198 employees participated in volunteer service
Actively participated in the Company's internal epidemic prevention and control	A total of 89 employees, with 1,098 hours of service in aggregate

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7 Appendix

7.1 Quantitative Performance

Environment

Performance Indicators	Unit	2020	2021	2022
Emissions				
Total air emissions	10,000 m ³	1,773,740	2,319,307	2,391,024
Nitrogen oxide (NO _x) emissions	Kg	19,688	36,857	32,650
Sulfur dioxide (SO ₂) emissions	Kg	338	2,239	3,546
Total wastewater discharge	10,000 m ³	603	704	832
GHG emissions ¹	Ton of CO ₂ equivalent	448,614	713,649	497,938
Of which: Direct GHG emissions	Ton of CO ₂ equivalent	18,135	24,803	24,877
Indirect GHG emissions ²	Ton of CO ₂ equivalent	430,479	697,899	473,060
	Ton of CO ₂ equivalent/8-			
GHG emissions per unit output	inch wafers	0.23	0.20	0.12
Total hazardous waste	Ton	9,262	17,363	20,385
Hazardous waste produced per unit output	Kg/8-inch wafers	3.96	4.96	4.88
Total non-hazardous waste ³	Ton	6,143	8,981	9,864
Non-hazardous waste produced per unit output	Kg/8-inch wafers	2.67	2.57	2.36
Use of Resources				
Total electricity consumed	MWh	720,840	867,682	954,667
Electricity consumed per unit product	kWh/8-inch wafers	313	248	228
Natural gas consumed	m ³	10,312,006	11,456,569	10,530,287
Natural gas consumed per unit product	m ³ /8-inch wafers	4.49	3.27	2.52
Total water consumed ⁴	m ³	9,907,631	15,707,212	18,010,226
Of which: Water from municipal water supply	m ³	7,035,272	8,928,040	10,284,063
Wastewater reused ⁵	m ³	2,872,359	6,788,287	7,726,163
Water consumed per unit product ⁶	m ³ /8-inch wafers	2.89	2.55	2.46
Recycled/reused water	m ³	4,042,020	86,119,337	107,163,560
Total packaging materials used for the shipment of finished products	Ton	128	253.5	313.32
Packaging materials used for the shipment of per unit finished product	Kg/8-inch wafers	0.06	0.07	0.07
Recycled packaging materials used for the shipment of finished products	Ton	22	48.5	54.0

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Notes:

- 1 GHG emissions are calculated in accordance with the GB/T 32150 General Guideline for Calculation and Reporting of GHG Emissions from Industrial Enterprises and the GB/T 32151 Requirements on Calculation and Reporting of GHG Emissions published by the Standardization Administration of China.
- 2 In 2022, the indirect GHG emissions in Shanghai and Wuxi production bases were calculated according to the Guidelines for Accounting and Reporting of Greenhouse Gas Emissions in Shanghai (Trial) (Hu Fa Gai Huan Zi [2012] No. 180) and the Notice on the 2023-2025 Corporate Greenhouse Gas Emission Reporting Management in Power Generation Industry, respectively, among which, Shanghai production base uses a default value of electricity emission factor of $4.2\text{tCO}_2/104\text{kWh}$, and Wuxi production base uses the national average grid emission factor of $0.5703\text{tCO}_2/\text{MWh}$ when calculating.
- 3 Non-hazardous waste is sludge produced in wastewater treatment.
- 4 Total water consumption = water consumption from municipal water supply + wastewater reuse.
- 5 In 2022, the Company revised the amount of wastewater recycled in 2021, and the total amount of water consumption in 2021 was revised accordingly. The data in relation to wastewater recycled and total water consumption for 2021 set out in this report shall prevail.
- 6 In calculation, water consumed per unit product only includes water from the municipal water supply.

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Employment and Labor Practice

Performance Indicators	Unit	2020	2021	2022
Employment				
Total number of employees	Person	5,682	6,084	6,760
Including: Number of male employees	Person	4,164	4,426	4,932
Number of female employees	Person	1,518	1,658	1,828
Number of employees working under a labor contract with the employer	Person	5,682	6,084	6,760
Number of employees working under a labor contract with a labor dispatch company	Person	113	85	81
Part-time employees	Person	0	0	0
Number of employees aged under 30	Person	2,542	2,676	2,983
Number of employees aged between 30 and 50	Person	3,018	3,271	3,624
Number of employees aged above 50	Person	122	137	153
Number of employees from Mainland China	Person	5,673	6,075	6,751
Number of foreign employees	Person	9	9	9
Health and Safety				
Occupational disease incidence	%	0	0	0
Number of work-related fatalities	Person	0	0	0
Percentage of work-related fatalities	%	0	0	0
Lost days due to work injury	Day	235	367	83
Employee Training				
Average training hours completed per employee	Hour	100.1	119.9	122.2
Including: Average training hours completed per non-management employee	Hour	101.4	121.5	123.7
Average training hours completed per management member	Hour	18.3	23.5	26.5
Average training hours completed per female employee	Hour	96.8	123.8	124.3
Average training hours completed per male employee	Hour	101.3	118.5	121.4
Percentage of employees trained	%	100	100	100
Including: The percentage of non-management employees trained	%	100	100	100
Percentage of management member trained	%	100	100	100
Percentage of female employees trained	%	100	100	100
Percentage of male employees trained	%	100	100	100

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Product Responsibility and Customer Service

Performance Indicators	Unit	2020	2021	2022
Product Responsibility and Customer Service				
Product return rate	%	0.07	0.05	0.11
Percentage of products sold subject to recalls for safety and health reasons	%	0	0	0
Customer Service				
Number of complaints received in relation to products and services	Case	8	0	0
Percentage of customer complaints resolved	%	100	/	/

Supply Chain Management

Performance Indicators	Unit	2020	2021	2022
Supply Chain Management				
Total number of suppliers	Supplier	535	545	550
Total number of local suppliers	Supplier	399	410	413
Total number of foreign suppliers	Supplier	133	136	138
Number of suppliers assessed ¹	Supplier	110	115	112
Number of suppliers subject to rectification	Supplier	0	0	0
Percentage of raw and auxiliary material suppliers signing the Environmental Protection Undertaking	%	100	100	100
Percentage of raw materials purchased from local suppliers ²	%	28	29	31

Notes:

- 1 The number of suppliers which were assessed by the Company in terms of labor, health and safety, environment, and business ethics.
- 2 Raw materials purchased include silicon slices, quartz, target materials, gases, chemicals, and other raw materials for production.

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Anti-corruption

Performance Indicators	Unit	2020	2021	2022
Anti-corruption				
Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period	Case	0	0	0

Community Investment

Performance Indicators	Unit	2020	2021	2022
Community Investment				
Number of employees participating in volunteer services	Person	449	1,324	4,189
Total hours of volunteer activities	Hour	450	1,986	6,283

a) List of Regulations and Relevant Policies Observed by the Company

Fields	Names of Laws and Regulations
Environmental Responsibility	
Environmental Protection	Environmental Protection Law of the People's Republic of China, Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution, Urban and Rural Planning Law of the People's Republic of China, Marine Environment Protection Law of the People's Republic of China, Energy Conservation Law of the People's Republic of China, etc.
Product Responsibility	
Product and Service	Cyber Security Law of the People's Republic of China, Cryptography Law of the People's Republic of China, Accounting Law of the People's Republic of China, Regulation on the Administration of Commercial Cipher Codes, Company Law of the People's Republic of China, Constitution of the People's Republic of China, Law of the People's Republic of China on Product Quality, Customs Law of the People's Republic of China, Metrology Law of the People's Republic of China, Foreign Trade Law of the People's Republic of China, Anti-Unfair Competition Law of the People's Republic of China, Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH"), Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances ("RoHS"), etc.
Intellectual Property Protection	Patent Law of the People's Republic of China, Copyright Law of the People's Republic of China, Trademark Law of the People's Republic of China, etc.
Responsibility for Employees	
Employee Employment	Law of the People's Republic of China on Employment Contracts, Law of the People's Republic of China on Protection of Women's Rights and Interests, Employment Promotion Law of the People's Republic of China, Social Insurance Law of the People's Republic of China, Civil Code of the People's Republic of China, Labor Law of the People's Republic of China, Criminal Law of the People's Republic of China, Measures for the Administration of Health Insurance, Measures for Application for and Payment of Unemployment Insurance Money, etc.
Occupational Health and Safety	Law of the People's Republic of China on Prevention and Control of Occupational Diseases, Production Safety Law of the People's Republic of China, Regulation on Work-Related Injury Insurances, etc.

During the Reporting Period, no violation against the above-mentioned laws, regulations and relevant provisions has occurred to the Company, nor has any litigation case arising from the above events occurred.

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b) Benchmarking Index

Part B: Mandatory Disclosure Requirements

Mandatory Disclosure Items	Section in the Report
Governance Structure	ESG Management System
Reporting Principles	Preparation of the Report
Reporting Boundary	Preparation of the Report

Part C: “Comply or explain” Provisions

Aspects, General Disclosures and KPIs	Disclosure Section
Subject Area A. Environmental	
Aspect A1. Emissions	
General Disclosure A1	Emissions Management
KPI A1.1	Key Quantitative Performance Statement
KPI A1.2	Climate Change Mitigation and Adaptation
KPI A1.3	Quantitative Performance
KPI A1.4	Quantitative Performance
KPI A1.5	ESG Management Strategy
KPI A1.6	Emissions Management
Aspect A2. Use of Resources	
General Disclosure A2	Energy Management Water Resources Management
KPI A2.1	Energy Management
KPI A2.2	Water Resources Management
KPI A2.3	Energy Management
KPI A2.4	Water Resources Management
KPI A2.5	Quantitative Performance
Aspect A3. Environment and Natural Resources	
General Disclosure A3	Energy Management Water Resources Management
KPI A3.1	Energy Management Water Resources Management
Aspect A4. Coping with Climate Change	
General Disclosure A4	Climate Change Mitigation and Adaptation
KPI A4.1	Quantitative Performance

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Aspects, General Disclosures and KPIs	Disclosure Section
Subject Area B. Social Employment and Labour Practices	
Aspect B1. Employment	
General Disclosure B1	Employee Interests and Benefits
KPI B1.1	Quantitative Performance
KPI B1.2	Quantitative Performance
Aspect B2. Health and Safety	
General Disclosure B2	Employee Health and Safety
KPI B2.1	Quantitative Performance
KPI B2.2	Quantitative Performance
KPI B2.3	Quantitative Performance
Aspect B3. Development and Training	
General Disclosure B3	Employee Development and Training
KPI B3.1	Quantitative Performance
KPI B3.2	Quantitative Performance
Aspect B4. Labor Standards	
General Disclosure B4	Employee Interests and Benefits
KPI B4.1	Employee Interests and Benefits
KPI B4.2	No Violation
Subject Area B. Social Operating Practices	
Aspect B5. Supply Chain Management	
General Disclosure B5	Sustainable Supply Chain Management
KPI B5.1	Quantitative Performance
KPI B5.2	Supply Chain Management
Aspect B6. Product Responsibility	
General Disclosure B6	Customer Service and Protection of Customers' Interests
KPI B6.1	Quantitative Performance
KPI B6.2	Quantitative Performance
KPI B6.3	Customer Service Management
KPI B6.4	Customer Service Management
KPI B6.5	Information Security and Privacy Protection
Aspect B7. Anti-corruption	
General Disclosure B7	Anti-corruption
KPI B7.1	Quantitative Performance
KPI B7.2	Anti-corruption
Aspect B8. Community Investment	
General Disclosure B8	Voluntary Service and Public Charity
KPI B8.1	Voluntary Service and Public Charity
KPI B8.2	Quantitative Performance

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

c) Glossary of Proper Terms and Abbreviations

Proper Terms and Abbreviations	Definition
Tapeout	With the original meaning of “off the line”, it refers to the final step of integrated circuit (IC) or printed circuit board (PCB) design, namely, delivery for manufacturing.
WIP (Working In Progress)	Also known as workshop production management, it refers to the work-in-process area of the work center, which provides the storage space of raw materials, finished products and semi-finished products for the work center.
WAT (Wafer Acceptance Test)	It refers to the test of special test key, which monitors whether each process is normal and stable through electrical parameters.
CDA (Compressed Dry Air)	It refers to Compressed Dry Air.
MAU (Make-up Air Unit)	It refers to a fresh air unit, a kind of air conditioning equipment that provides fresh air.
BCD (Bipolar-CMOS-DMOS)	It is a monolithic integrated process technology, which can produce Bipolar, CMOS and DMOS devices on the same chip.
ERT (Emergency Response Team)	It refers to the emergency response team, or the response team in emergency.
IGBT (Insulated Gate Bipolar Transistor)	It refers to Insulated Gate Bipolar Transistor, which is a composite fully-controlled voltage-driven power semiconductor device composed of BJT (Bipolar Junction Transistor) and MOS (Insulated Gate Field Effect Transistor).
MOSEFT (Metal-Oxide-Semiconductor Field-Effect Transistor)	It refers to Metal-Oxide-Semiconductor Field-Effect Transistor, known as MOSFET.
MCU (Microcontroller Unit)	It is a microcontroller unit, also known as single-chip microcomputer or single-chip computer. It reduces the frequency and specification of the central processing unit appropriately, and integrates peripheral interfaces such as memory, counter, USB, A/D converter, UART, PLC, DMA, and even LCD drive circuit on a single chip to form a chip-level computer for different combination control for different applications.
ASIC (Application Specific Integrated Circuit)	It refers to the Application Specific Integrated Circuit, which is an integrated circuit designed and manufactured in response to the requirements of specific users and specific electronic systems.
OBC (On Board Charger)	It refers to the on-board charger fixed on the electric vehicle.
PMIC (Power Management IC)	Also know as Power Management IC, it is an application specific integrated circuit, with its function to manage the power supply of the master system.
BMS (Battery Management System)	It refers to the battery management system, mainly used to carry out intelligent management and maintenance of each battery cell, prevent overcharge and over discharge of the battery, extend the service life and monitor the status of the battery.

2022 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

d) Preparation of the Report

In the Environmental, Social and Governance Report of Hua Hong Semiconductor Limited 2022 (the “Report”), key issues and opportunities of concern to stakeholders are identified through materiality analysis, and the Company’s actions and achievements in economic, social and environmental aspects are disclosed to various stakeholders.

Scope of the Report

Organizational Scope: The Report covers Hua Hong Semiconductor Limited and its subsidiaries, and is consistent with the scope of the annual consolidated financial statements of the Company.

Reporting Period: From 1 January 2022 to 31 December 2022

Basis of the Report

- Environmental, Social and Governance Reporting Guide (effective from January 2022) published by The Stock Exchange of Hong Kong Limited

Source

There are no material changes in the methods of obtaining and calculating the information in the Report, compared with annual reports for previous years. Data and cases in the Report originate from original records and financial reports of the Company generated in actual operations. In case of any inconsistency, data in the financial reports shall prevail. Unless otherwise specified, all the monetary amounts in the Report are denominated in RMB.

Reporting Principles

- **Materiality principle.** The Company identifies the substantive issues in relation to business operation concerned by investors and other stakeholders as the focus of this Report. The reporting on substantive issues in this Report also focuses on the industry characteristics and regional characteristics involved in the Company’s operation. In the meantime, this Report highlights the ESG matters that may have significant influence on investors and other stakeholders.
- **Quantitative and consistency principle.** This Report discloses key quantitative performance indicators and historical data as much as possible. The statistical and disclosure methods of the same indicator in this Report are consistent in different reporting periods; Any change, where possible, in the statistical and disclosure methods shall be fully explained in the notes to the Report, so that the stakeholders can conduct meaningful analysis and evaluate the quantitative principle for the development trend of the Company’s ESG performance level. The Report has disclosed the basis of calculating the quantitative ESG KPIs and emissions of the Company. For details, see Appendix Quantitative Performance to the Report.
- **Balance principle.** The Report reflects the objective facts and discloses both positive and negative information related to the Company impartially. The Company has searched the objects within the scope of this Report through Shanghai Qingyue Credit Database (data.epmap.org), and did not find any negative events that should be disclosed but not disclosed during the Reporting Period.

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釋義

於本年報內，除非文義另有所指，否則下列詞彙具有下文所載涵義。

「股東週年大會」	本公司擬於二零二三年五月十一日舉行的股東週年大會；
「審核委員會」	董事會審核委員會；
「董事會」	本公司董事會；
「國家集成電路產業基金」	國家集成電路產業投資基金股份有限公司，一家於二零一四年九月二十六日在中國註冊成立的公司。公司股東包括中央財政、集成電路產業聚集區企業、大型國有企業、部份金融機構及民營企業，公司重點投向半導體晶圓製造業，兼顧芯片設計、封裝測試、設備及材料等上下游環節；
「國家集成電路產業基金II」	國家集成電路產業投資基金二期股份有限公司，一家於二零一九年十月二十二日在中國成立的公司；公司股東包括財政部、集成電路產業聚集區企業、大型國有企業、部份金融機構及民營企業。其主要透過股權投資於集成電路產業價值鏈進行投資，其中以集成電路芯片生產及芯片設計、封裝測試以及設備及材料為主。據董事作出一切合理查詢後所深知、全悉及確信，根據上市規則第十四A章，國家集成電路產業基金II並非國家集成電路產業基金的聯繫人；
「中國」	中華人民共和國，但僅就本年報及作地理參考而言，除文義另有所指，否則，本年報中對「中國」的提述不包括台灣、澳門特別行政區及香港；
「本公司」	華虹半導體有限公司，一家於二零零五年一月二十一日在香港註冊成立的有限公司，除非文義另有所指，否則包括其所有子公司，或如文義指其成為其現有子公司的控股公司之前期間，則指其現有子公司；
「公司秘書」	本公司公司秘書；
「董事」	本公司董事；
「EPS」	每股盈利；
「執行董事」	本公司執行董事；
「股東特別大會」	本公司股東特別大會；
「GDP」	國內生產總值；
「Grace Cayman」	Grace Semiconductor Manufacturing Corporation，一家於一九九九年十月五日在開曼群島註冊成立的獲豁免有限公司，為本公司的全資子公司；
「上海宏力」	上海宏力半導體製造有限公司，一家於二零零零年十二月二十日在中國註冊成立的公司，為本公司的全資子公司。已經於二零一八年八月三日註銷；

釋義

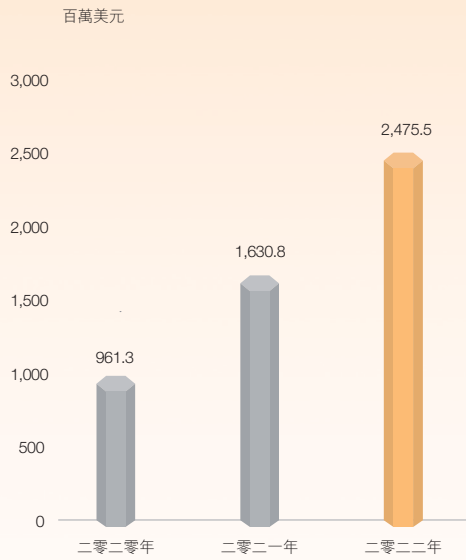
「本集團」	本公司及我們的子公司，或如文義所指為本公司成為我們現有子公司的控股公司之前期間(或成為本公司的該等聯營公司)，則指由該等子公司或其前身公司(視乎情況而定)所經營的業務；
「華虹宏力」	上海華虹宏力半導體製造有限公司，一家於二零一三年一月二十四日在中國註冊成立的公司，為本公司的全資子公司；
「華虹NEC」	上海華虹NEC電子有限公司，一家於一九九七年七月十七日在中國註冊成立的公司，為本公司的全資子公司。已經於二零一八年八月三日註銷；
「港元」	香港法定貨幣港元；
「虹日」	上海華虹虹日電子有限公司，前稱為上海虹日國際電子有限公司(直至二零二一年十二月十六日)，一家由華虹集團擁有51%的公司，為本公司關連人士；
「香港」	中華人民共和國香港特別行政區；
「華虹集團」	上海華虹(集團)有限公司，一家於一九九六年四月九日在中國註冊成立為上海華虹微電子有限公司的公司，並於一九九八年更名為上海華虹(集團)有限公司，為本公司重要股東；
「華虹集團框架協議」	本公司與華虹集團訂立日期為二零二一年十二月三十一日之框架協議，旨在規範本集團與華虹集團、其子公司或聯營公司(定義見上市規則第十四A章)之間截至二零二二年十二月三十一日止年度的銷售及採購交易以及提供服務；
「華虹置業」	上海華虹置業有限公司，一家於二零一一年十月二十八日在中國註冊成立的公司，為華虹科技發展的全資子公司；
「華虹科技發展」	上海華虹科技發展有限公司，一家於二零一零年五月十日在中國註冊成立的公司，一家由華虹集團持有50%並與其合併報表及由華虹宏力持有50%的公司，為關連人士；
「華錦物業管理」	上海華錦物業管理有限公司，一家於二零一二年六月八日在中國註冊成立的公司，為華虹科技發展的全資子公司，為本公司關連人士；
「華力集成」	上海華力集成電路製造有限公司，一家於二零一六年八月八日在中國註冊成立的公司，股東為上海華力微電子有限公司、上海集成電路產業投資基金股份有限公司、國家集成電路產業投資基金股份有限公司；
「華虹無錫」	華虹半導體(無錫)有限公司，一家於二零一七年十月十日在中國註冊成立的公司，由本集團持有51%。於注資協議完成後，華虹無錫的註冊資本將由1,800百萬美元增至約2,536.85百萬美元，且華虹無錫仍為本公司非全資子公司，由本公司、華虹宏力、無錫錫虹聯芯、國家集成電路產業基金及國家集成電路產業基金II分別持有約22.22%、28.78%、20.00%、20.58%及8.42%；
「集成電路研發」	上海集成電路研發中心有限公司，一家於二零零二年在中國註冊成立的公司，截至二零二二年十二月三十一日止年度為本公司關連人士；
「獨立非執行董事」	本公司獨立非執行董事；

釋義

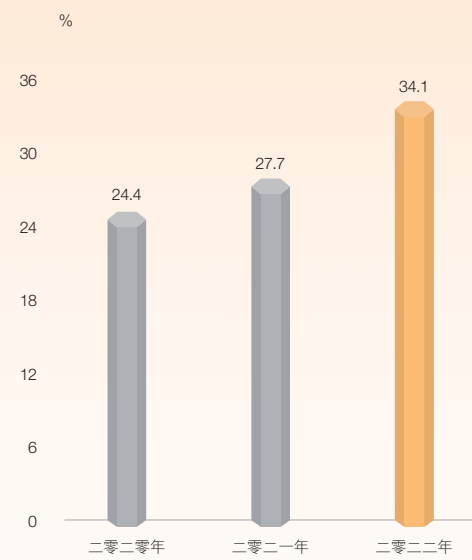
「儀電集團」	上海儀電(集團)有限公司, 前身為上海儀電控股(集團)有限公司, 一家於一九九三年十二月在中國註冊成立的國有公司, 於二零二零年十二月十七日之前為本公司控股股東;
「計通」	計通由華虹集團擁有25.14%權益。據董事所深知、全悉及確信, 華虹集團有權委任計通董事會七名董事中的四名, 因而控制計通董事會的大部分成員。因此, 計通為華虹集團的聯繫人, 故此為本公司的關連人士;
「上市規則」	《香港聯合交易所有限公司證券上市規則》(經不時修訂或補充);
「提名委員會」	董事會提名委員會;
「非執行董事」	本公司非執行董事;
「矽睿科技」	上海矽睿科技有限公司, 一家於二零一二年九月十三日在中國註冊成立的公司, 於二零二零年九月一日之前為本公司的關連人士;
「薪酬委員會」	董事會薪酬委員會;
「人民幣」	中國法定貨幣人民幣;
「上海聯和」	上海聯和投資有限公司, 一家於一九九四年九月二十六日在中國註冊成立的公司, 為本公司主要股東;
「證監會」	香港證券及期貨事務監察委員會;
「證券及期貨條例」	香港法例第571章《證券及期貨條例》(經不時修訂或補充);
「上海艾為」	上海艾為電子技術股份有限公司, 一家於二零零八年六月十八日在中國註冊成立的公司, 其股份在上海證券交易所科創板上市(股份代號: 688798);
「上海華力」	上海華力微電子有限公司, 一家於二零一零年一月十八日在中國註冊成立的公司, 為關連人士;
「股東」	本公司股本中普通股持有人;
「新微」	上海新微技術研發中心有限公司, 一家於二零一三年五月在中國註冊成立的公司, 為本公司關連人士;
「聯交所」	香港聯合交易所有限公司; 及
「無錫錫虹聯芯」	無錫錫虹聯芯投資有限公司, 一家於二零一七年十二月十九日在中國註冊成立的公司, 係由市屬及區級國企聯合設立的專業投資公司。

主要財務指標

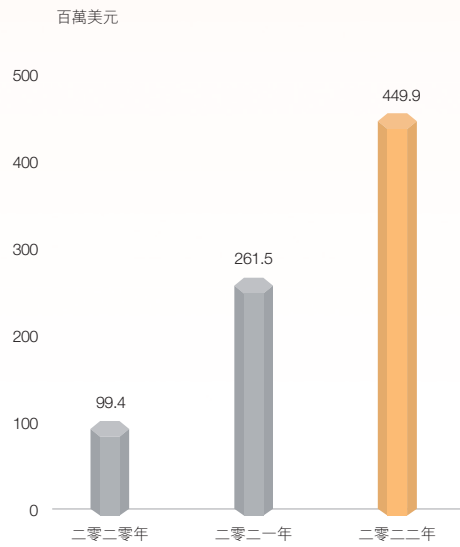
銷售收入



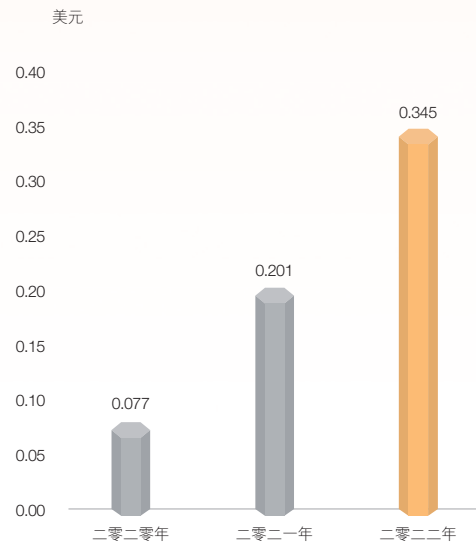
毛利率



母公司擁有人應佔溢利



每股盈利



致股東的信

尊敬的各位股東：

剛剛過去的二零二二年是極不平凡、極具挑戰的一年。這一年，世紀疫情反覆延宕、全球產業鏈格局重塑、疊加地緣政治影響，全世界幾乎所有經濟體都受到了衝擊，半導體行業也進入了調整期。儘管面臨著宏觀環境中的諸多不確定因素，華虹半導體在二零二二年依然逆流勇進、精進不休，增速領跑行業。公司依托「8英寸+12英寸」的佈局優勢，致力於特色工藝技術的持續開拓創新，圍繞嵌入式／獨立式非易失性存儲器、功率器件、模擬與電源管理等特色工藝平台打造產品核心競爭力；堅持先進「特色IC+ Power Discrete」雙引擎驅動戰略，高速滲透下游新興市場，在汽車、新能源、物聯網、數據中心等領域開疆拓土，持續為全球客戶提供卓越的晶圓代工服務和解決方案。

本報告期內，公司銷售收入創歷史新高，達24.755億美元，較上年度增長51.8%；來自美國、歐洲、日本以及中國的區域收入均顯著提升。二零二二年，我們也感受到了細分市場的強勁需求。公司在汽車電子市場碩果累累，汽車電子全年營收同比增長超過100%，新產品導入數量不斷增加；同時在新能源市場穩定發力，在風電／光電／儲能領域為全球產業鏈提供重要的支撐力量。多元化的工藝平台、深厚的海內外客戶資源以及前瞻、專精的產能佈局，使得華虹半導體即使在整個行業處於下行周期時仍舊能保持高於行業的產能利用率。本年度，公司整體毛利率達到了34.1%，較上年度上升6.4個百分點。年內溢利4.066億美元，較上年度上升76.0%；淨資產收益率15.2%，較上年度上升5.5個百分點。

截至二零二二年底，華虹半導體擁有三座8英寸晶圓廠和一座12英寸晶圓廠，近三年折合8英寸年產能分別為248.52萬片、326.04萬片、386.27萬片，年均複合增長率為24.67%。在二零二二年內12英寸工廠以6.5萬片的月產能高位運營。公司計劃將在二零二三年內陸續釋放其月產能至9.5萬片；同時將適時啟動12英寸新產線建設，持續提升製造產能和技術升級。

致股東的信

公司作為半導體產業鏈的關鍵一環，以自身強大的行業影響力輻射全行業。憑借在國內半導體製造領域的深厚實力，公司問鼎「2022中國IC設計成就獎之中國半導體20年特殊貢獻獎」；公司作為上海的知名企業，以精誠之道凝聚城市智慧，推動長三角區域經濟發展，其貢獻亦得到社會各界認可，本年度再度斬獲「浦東新區科技創新突出貢獻獎」。

百舸爭流，奮楫者先。面對更加繁雜激烈的競爭格局，我們將繼續強化在各個特色工藝領域的優勢，緊跟市場趨勢持續優化產品結構，積蓄高質量發展新勢能。在危機育先機，於變局開新局。華虹半導體將矢志不移地以國際化的視野，持續創新，為全球客戶製造「芯」夢想，在構建新發展格局中展現新作為。我們由衷感謝各位股東、客戶及各界朋友對華虹半導體的支持與厚愛，讓我們攜手同「芯」，續寫華章。

張素心先生
主席兼執行董事

唐均君先生
總裁兼執行董事

中國上海
二零二三年三月三十日



“播種希望
收穫夢想”

2020年3月12日，張素心董事長及唐均君總裁與管理團隊一起在華虹廠種下了這棵櫻花樹

公司資料

企業文化

願景

持續創新，
為全球客戶製造
「芯」夢想



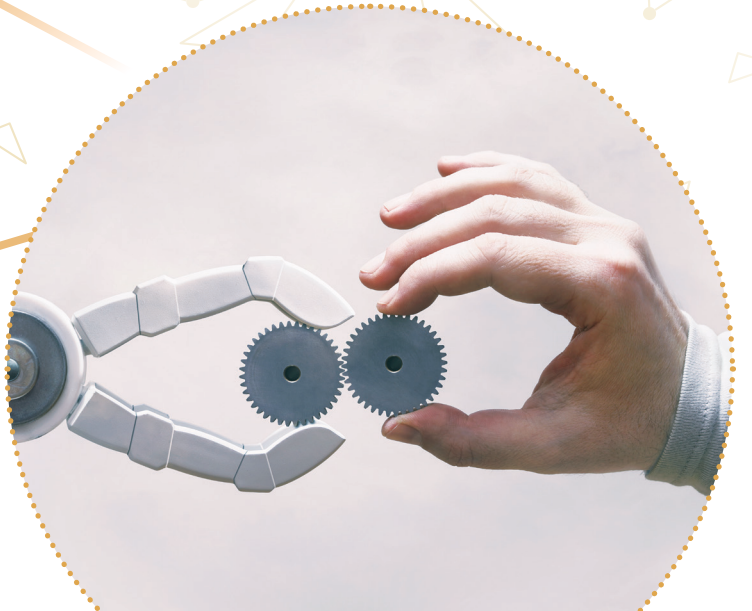
使命

通過協作、創新和優秀的
企業公民性，為股東、客戶
和員工創造價值



企業精神

革新，自信
進取，團結



公司資料

董事會

執行董事

張素心 (主席)
唐均君 (總裁)

非執行董事

孫國棟
王靖
葉峻

獨立非執行董事

張祖同
王桂壘, 太平紳士
葉龍蜚

公司秘書

李瑞霞

授權代表

唐均君
李瑞霞

審核委員會

張祖同 (主席)
葉龍蜚
葉峻

薪酬委員會

王桂壘, 太平紳士 (主席)
葉龍蜚
王靖

提名委員會

張素心 (主席)
王桂壘, 太平紳士
葉龍蜚

網址

www.huahonggrace.com

核數師

安永會計師事務所
執業會計師
香港
鰂魚涌英皇道979號
太古坊一座27樓

法律顧問

史密夫斐爾律師事務所
香港
皇后大道中15號
告羅士打大廈23樓

主要往來銀行

中國建設銀行上海市分行
中國上海市
浦東新區
陸家嘴環路900號

國家開發銀行上海分行
中國上海市
浦明路68號

中國建設銀行股份有限公司香港分行
香港中環
干諾道中3號中國建設銀行大廈28樓

交通銀行股份有限公司香港分行
香港中環
畢打街20號

國家開發銀行江蘇分行
中國江蘇省南京市
江東中路232號

中國農業銀行無錫新吳支行
中國江蘇省無錫市
新吳區和風路26號

中國建設銀行無錫高新技術產業開發區支行
中國江蘇省無錫市
新吳區和風路26號

中信銀行無錫新區支行
中國江蘇省無錫市
新吳區和風路26號

中國銀行無錫高新技術產業開發區支行
中國江蘇省無錫市
新吳區旺莊路140號

公司資料

股份過戶登記處

卓佳證券登記有限公司
香港
夏慤道16號
遠東金融中心17樓

註冊辦事處

香港中環
夏慤道12號
美國銀行中心2212室

主要營業地點

中國上海市
張江高科技園區
哈雷路288號
郵編：201203

中國江蘇省無錫市
新吳區
新洲路30號
郵編：214028

股份代號

1347

董事及高級管理層



張素心先生，59歲，於二零一六年三月十一日獲委任為本公司董事會主席兼執行董事及提名委員會成員兼主席。現擔任華虹集團董事長及黨委書記、華虹宏力及華虹無錫董事長、上海華力董事長、華力集成董事。張先生擁有豐富的高新技術產業戰略發展、能源戰略研究及發電設備製造業經驗，曾歷任上海汽輪機有限公司總裁、上海電氣電站集團執行副總裁、上海西門子燃氣輪機部件有限公司董事長、上海電氣集團股份有限公司執行董事、上海電氣(集團)總公司副總裁、上海金橋(集團)有限公司黨委書記、總經理、上海金橋出口加工區開發股份有限公司董事長及黨委書記、上海市發展和改革委員會副主任、上海市張江高新技術產業開發區管委會副主任等職務。張先生畢業於清華大學，擁有工學學士學位，為教授級高級工程師。



唐均君先生，58歲，於二零一九年五月起獲委任為本公司總裁兼執行董事。唐先生亦為華虹宏力及華虹無錫總裁兼董事。唐先生擁有豐富的集成電路行業資歷與管理經驗，和極強的協調能力與執行力。在加入本公司之前，唐先生自二零一零年二月至二零一九年三月擔任上海華力黨委書記、副總裁及執行副總裁，自二零一六年八月至二零一九年三月兼任華力集成總裁。二零零八年七月至二零一零年二月期間，擔任華虹NEC黨委副書記、工會主席兼行政與政府關係總監。上海華力及華力集成均為上市規則所界定之本公司關連人士，華虹NEC於二零一八年八月撤銷註冊前為本公司全資子公司。此前，唐先生歷任上海儀表電訊工業局副主任科員、上海無線電十七廠技術員、上海半導體器件四廠技術員等職。唐先生於西南交通大學工商管理專業本科畢業，後畢業於中歐國際工商學院，獲工商管理碩士學位；正高級經濟師職稱；全國五一勞動獎章、全國勞模、全國優秀黨務工作者榮譽獲得者。

董事及高級管理層



孫國棟先生，46歲，自二零二零年十二月十日起獲委任為本公司非執行董事，及華虹無錫董事。孫先生於二零零零年加入國家開發銀行，二零零零年至二零一四年，孫先生在國家開發銀行擔任多項職務，包括人事局系統幹部處副處長、湖北省分行人事處副處長及處長，以及黨委組織部副部長及部長。二零一四年十二月至二零一六年七月擔任華芯投資管理有限責任公司的人力資源部總經理，二零一六年七月起至今擔任華芯投資管理有限責任公司的總監。孫先生畢業於中國北京理工大學，獲得計算機應用學士學位，並畢業於中國中央財經大學，獲得工商管理碩士學位。



王靖女士，52歲，自二零一九年六月起為本公司非執行董事，現擔任華虹集團總裁、黨委副書記及董事，華虹宏力及華虹無錫董事、虹日董事長、上海華虹投資發展有限公司執行董事、華虹國際董事。王女士擁有豐富的管理及經濟開發經驗。王女士曾擔任上海市發展和改革委員會產業發展處（服務業發展處）處長、中國（上海）自由貿易試驗區管委會副主任、上海浦東新區副區長、上海推進科技創新中心建設辦公室專職副主任及上海市張江高新技術產業開發區管委會副主任等。王女士於一九九二年畢業於上海交通大學，取得技術經濟專業學士學位。彼亦於二零零三年畢業於復旦大學，取得世界經濟專業碩士學位；正高級經濟師職稱。

董事及高級管理層



葉峻先生，50歲，自二零一二年二月起為本公司非執行董事及華虹宏力董事。葉先生於金融投資領域擁有二十多年經驗。自一九九六年起，葉先生歷任上海聯和投資銀行部經理、業務發展部經理、總經理助理及副總經理等職位，並於二零一八年五月起任上海聯和總經理。葉先生亦為上海銀行的董事，上海兆芯集成電路有限公司、上海宣泰醫藥科技有限公司及中美聯泰大都會人壽保險有限公司的董事長。葉先生畢業於上海交通大學，獲工業外貿學士及工商管理碩士學位。



張祖同先生，74歲，為本公司獨立非執行董事及華虹宏力董事。張先生曾為香港執業會計師，並自一九七八年至二零零三年底為香港會計師公會會員，自一九八三年一月起為英格蘭及威爾士特許會計師公會資深會員，在會計、核數及財務管理方面具有豐富經驗。張先生自一九七六年起於安永會計師事務所擔任多個職位，並於一九八九年成為安永會計師事務所管理委員會成員。他積極參與制定和監督公司內部控制和風險管理政策和程序。他亦曾擔任安永審計和諮詢業務服務的主席四年。之後，他被晉升為專業服務部門的管理合夥人。於二零零三年退休前，張先生為安永會計師事務所合夥人暨中國及香港區主席。張先生為上海復旦大學教育發展基金會及復旦大學教育發展基金會（海外）投資委員會成員。張先生亦為中國國際貿易中心股份有限公司（股票代碼：600007.SH）的獨立非執行董事。張先生曾任中國信達資產管理股份有限公司（股票代碼：1359.HK）、嘉里建設有限公司（股票代碼：683.HK）以及中國人壽保險股份有限公司（股票代碼：2628.HK）的獨立非執行董事。張先生畢業於倫敦大學，獲食品科學及化學理學學士學位。

董事及高級管理層



王桂壘先生，71歲，銀紫荊星章、銅紫荊星章獲得者，太平紳士，為本公司獨立非執行董事及華虹宏力董事。王先生曾於兩所國際律師事務所擔任中國主理合夥人達十五年。在此之前，王先生曾任職於香港特區政府的地政總署、律政司及立法會共達十年。王先生於二零一一年至二零一八年間分別獲委任為香港機場管理局、醫院管理局及競爭事務委員會的成員。王先生為前任香港國際仲裁中心主席，香港律師會及環太平洋律師協會前會長，以及香港版權審裁處前主席。王先生現時為香港稅務上訴委員會主席，維達國際控股有限公司（股票代碼：3331.HK）、新創建集團有限公司（股票代碼：659.HK）的獨立非執行董事；王桂壘先生曾任香港按揭證券有限公司董事及中海油田服務股份有限公司的獨立非執行董事；並於香港大學、香港中文大學、香港城市大學及香港樹仁大學擔任名譽講師、校外評核委員及教授。王先生持有香港中文大學文學學士學位及倫敦大學法律學士學位。



葉龍蜚先生，81歲，為本公司獨立非執行董事及華虹宏力董事。葉先生曾於上海市政府擔任多個職位；於一九九一年獲調派往香港，擔任「Shanghai Desk」（上海市政府與安達信公司為推廣上海而達成的一項合作安排）行政總裁至一九九五年；於一九九五年加入嘉里控股有限公司，並分別於二零零零年十月至二零零三年八月及二零零三年八月至二零零七年三月出任香格里拉（亞洲）有限公司的董事會主席及副主席；於二零零七年三月至二零一八年二月，擔任香格里拉（亞洲）有限公司顧問一職。葉先生畢業於上海復旦大學，獲物理學學士及碩士學位。

董事及高級管理層



王鼎先生，60歲，於二零一二年二月起獲委任為公司董事會秘書。王先生亦為本公司、華虹宏力及華虹無錫執行副總裁，負責財務、信息技術、行政與合規、上市公司工作及外籍人事。王先生於二零零一年四月加入上海宏力，在公司的各個發展階段、合併的籌備與實施及本公司成功上市中起到核心領導作用。加入上海宏力之前，王先生於一九九五年八月至二零零一年三月在加利福尼亞硅谷聖何塞的LSI Logic Corporation擔任寬帶娛樂部部門主管。於加入LSI Logic Corporation之前，王先生任職於美國Franklin Templeton Investments。王先生畢業於美國加州大學伯克利分校工程學院，獲工業工程及營運研究學士學位；後於舊金山大學獲財務及銀行專業工商管理碩士學位。在國際權威財經雜誌Institutional Investor《機構投資者》所發佈的「亞洲（日本除外）執行團隊獎」榜單中，於2018年、2019年、2021年被評為科技／半導體行業版塊「最佳首席財務官」。

高級管理層

截至本報告日期的高級管理層成員列示如下：

張素心先生，59歲，為本公司董事會主席兼執行董事。有關張先生履歷及學術背景的更多資料，請參閱「董事及高級管理層－董事會」一節。

唐均君先生，58歲，為本公司總裁兼執行董事。有關唐先生履歷及學術背景的更多資料，請參閱「董事及高級管理層－董事會」一節。

范恒先生，61歲，於2014年底至2022年3月擔任本公司的執行副總裁，其後擔任本公司顧問直至2022年7月退休離任。

董事及高級管理層



周衛平先生，56歲，為本公司、華虹宏力及華虹無錫執行副總裁，負責市場銷售。周先生於二零一八年初加入本公司。此前，周先生曾任上海貝嶺股份有限公司執行副總裁；寧波杉杉尤利卡太陽能科技發展有限公司總經理；上海貝嶺微電子製造有限公司總經理；上海先進半導體製造股份有限公司黨委副書記、總裁、首席執行官，黨委書記、副總裁等職務。周先生畢業於華東師範大學，獲固態電子技術專業學士學位；後於復旦大學獲工商管理碩士學位；教授級高級工程師職稱。



倪立華先生，54歲，為本公司、華虹宏力及華虹無錫執行副總裁，負責製造工程與安全管理，並兼任七廠廠長。倪先生於二零一八年五月加入華虹宏力。在加入公司之前，倪立華先生曾先後任職於無錫華晶集團公司，上海華虹微電子有限公司，華虹NEC，上海新進半導體製造有限公司部經理，華虹NEC部長，上海華力副廠長。倪立華先生畢業於西安電子科技大學，獲工學學士學位；後於上海交通大學獲工程碩士學位；高級工程師職稱。

王鼎先生，60歲，為本公司、華虹宏力及華虹無錫執行副總裁，負責財務、信息科技、行政與合規、上市公司工作及外籍人事。有關王先生履歷及學術背景的更多資料，請參閱「董事及高級管理層－董事會」一節。

董事及高級管理層



孔蔚然博士，59歲，為本公司、華虹宏力及華虹無錫執行副總裁，負責技術研發與設計服務。孔博士於半導體領域擁有逾30年經驗，於二零零三年三月加入上海宏力，在推動NOR閃存、邏輯及嵌入式閃存領域的創新方面有良好往績。在加入上海宏力之前，孔博士在美國工作，先後任職於Sun Microsystems, Inc., LSI Logic Corporation及ISSI。孔博士畢業於天津南開大學，獲物理學士學位；後於美國俄勒岡科學理工研究學院獲電機工程學碩士及應用物理博士學位。孔博士擁有27項美國專利、67項中國專利，共同發表逾20篇技術論文。

公司秘書



李瑞霞女士，45歲，自二零一九年十一月起擔任本公司公司秘書。李女士目前為君合律師事務所合夥人。彼於一般收購合併及企業融資交易領域上（如協助企業股份於聯交所上市、併購、資本重組及聯交所上市規則相關合規及監管事務）擁有約15年的經驗。李女士於二零零五年取得香港高等法院律師資格。李女士畢業於香港城市大學，獲法學學士學位，後於英國倫敦大學學院取得法學碩士學位。

企業管治報告

董事會欣然匯報截至二零二二年十二月三十一日止年度的企業管治報告。

企業管治常規

本公司致力於提倡良好企業管治，並已就企業管治制定程序，該等程序符合上市規則附錄十四所載的企業管治守則（「該守則」）。

本公司深諳完善的企業管治常規的重要性，並認識到監管環境的變化多端。因此，從實行守則及評估其常規的有效性到回應監管環境的持續發展，本公司持續監控及更新其企業管治常規。

遵守守則條文

截至二零二二年十二月三十一日止年度，本公司一直遵守該守則。

董事的證券交易

本公司已採納上市規則附錄十所載的上市發行人董事進行證券交易的標準守則（「標準守則」）作為本公司關於董事進行證券交易的守則。本公司已向所有董事作特定查詢，每位董事均已確認其於截至二零二二年十二月三十一日止年度全年遵守當中所載的必守標準。

董事會

董事會總體上負責本公司的業務及事務管理，並對轉授予主席及管理層負責的本公司日常管理承擔最終責任。

董事會現時共有八名董事，當中包括兩名執行董事張素心先生（主席）及唐均君先生（總裁），三名非執行董事葉峻先生、王靖女士、孫國棟先生以及三名獨立非執行董事張祖同先生、王桂壩先生、太平紳士及葉龍蜚先生。有關各董事的更多詳情在本年度報告第125至128頁披露。本公司已於本公司網頁及香港聯交所網頁刊載經更新的董事名單，列明其角色和職能。

本公司各非執行董事皆以三年的特定任期委任，除非根據相關委任書或董事服務合約上的條款及條件被終止委任，彼等須於股東大會上接受本公司重新提名及重選。

企業管治報告

於本年度，董事會定期舉行會議。全體董事皆有機會提出商討事項列入董事會定期會議議程。全體董事皆可直接接觸公司秘書，確保董事會議事程序及規則及規例均獲得遵守。董事會會議的完整會議記錄由公司秘書保管，並應在獲得合理通知時，公開有關會議記錄以供查閱。如有需要，各董事可尋求獨立專業意見以履行其責任，費用由本公司支付。

董事會負責制定本集團的策略性方向及政策，並監督管理層。董事會保留的部份職能包括(但不限於)監察及批准重大交易、涉及本公司主要股東或董事利益衝突的事宜、批准季度、中期及全年業績、向公眾或監管機構進行其他披露及內部監控系統，另與前述事項相關的決定亦須由董事會決定。董事會並無具體保留、本公司日常運作所需的事宜則轉授予管理層，管理層由相應董事監督並由主席領導。

本公司已實施多項機制，確保董事會可獲得獨立的觀點和意見：

- **董事會的組成：**截至二零二二年十二月三十一日止年度，董事會無論何時均遵守上市規則第3.10及3.10A條。本公司有三名獨立非執行董事，佔董事會成員三分之一以上。至少一名獨立非執行董事具備適當專業資格或具備適當的會計或相關財務管理專長。
- **獨立性評估：**各獨立非執行董事已根據上市規則第3.13條作出年度獨立性確認書。本公司認為，全體獨立非執行董事根據上市規則第3.13條所載指引屬獨立人士。
- **董事會決策：**倘董事於任何交易、合約或安排中擁有重大權益，則其不可就通過相同事宜的任何董事會決議進行表決，亦不應被計入法定人數。倘主要股東或董事於董事會審議的事宜中擁有利益衝突，且董事會已確定該利益衝突屬重大時，應召開董事會會議而非通過書面決議處理該事宜。
- **主席與獨立非執行董事之間的溝通：**董事會主席高度重視與獨立非執行董事之間的溝通，每年至少與其舉行一次沒有其他董事出席的會議。
- **獨立非執行董事的薪酬：**獨立非執行董事就其董事會及董事會委員會成員的職位收取固定費用。不授予獨立非執行董事與業績掛鈎的股權報酬，以避免其決策時出現潛在偏見或損害其客觀性及獨立性。
- **董事會評估：**董事會評估及審議各獨立非執行董事投入的時間以及董事會及董事會委員會會議參與情況，以確保每名獨立非執行董事於董事會投入足夠時間，履行其作為本公司董事的職責。

每年會對上述機制的執行情況及有效性進行審閱。董事會認為，該等機制於截至二零二二年十二月三十一日止年度得到妥善有效執行。

主席與總裁的角色已予區分。主席負責本公司整體管理及運營，並建議及檢討本公司的企業方向及策略。主席負責制定商業策略，領導董事會，確保董事會有效地運作，包括董事會及時就所有適當事項進行討論。主席確保董事會會議所審議的事項均已向所有董事妥善簡報，而全體董事所收到的資訊亦充分、完備及可靠。董事會主席高度重視與獨立非執行董事的溝通，並在沒有其他董事出席的情況下每年與其舉行至少一次會議。

總裁負責本公司的業務與營運的日常管理並實施本公司的業務策略。

董事和高級人員的責任保險

本公司已為本公司及其子公司的全體董事和高級人員安排適當的保險，以就因本公司的企業行動而可能面對的法律訴訟給予保障。

企業管治報告

董事會的運作

截至二零二二年十二月三十一日止年度，董事會曾舉行五次董事會會議。董事會各成員出席董事會會議、審核委員會會議、提名委員會會議及薪酬委員會會議以及股東週年／特別大會的記錄如下：

	董事會會議	審核委員會會議	提名委員會會議	薪酬委員會會議	股東週年大會	股東特別大會
執行董事						
張素心	6	不適用	1	不適用	1	1
唐均君	7	不適用	不適用	不適用	1	2
非執行董事						
葉峻	6 (附註)	4	不適用	不適用	0	0
王靖	7	不適用	不適用	1	1	1
孫國棟	7	不適用	不適用	不適用	0	0
獨立非執行董事						
張祖同	7	5	不適用	不適用	1	2
王桂壘, 太平紳士	7	不適用	1	1	1	2
葉龍蜚	7	5	1	1	1	2

附註：張素心作為葉峻的替補董事出席了二零二二年十一月十日的董事會會議。

董事會亦傳閱書面決議案，取得董事會相關成員批准，以代替有形的會議。惟若有主要股東或董事在事項中存有董事會認為重大的利益衝突，有關事項則以舉行董事會會議（而非書面決議案）方式處理，以遵守該守則第C.5.7條。

董事會認為各董事的出席記錄令人滿意，每位董事皆付出足夠時間來履行其董事職責。

企業管治報告

持續專業發展

董事應跟進其作為本公司董事的責任，並跟進本公司的行為、業務活動及發展。

根據守則條文第C.1.4條，董事應參與適當的持續專業發展計劃，以建立並更新其知識及技能，確保其對董事會的貢獻是有根據及相關。截至二零二二年十二月三十一日止年度，全體董事獲及時提供有關本公司表現、財務狀況、前景的最新資料以及適用於本集團的法律及法規新的或顯著變化的材料，以便董事會整體及各董事單獨履行其職責。各董事將於下一個財政年度獲安排參與內部舉辦的簡報會，以及在適當時間獲發放相關議題的閱讀資料。本公司鼓勵所有董事參與相關培訓課程，課程費用由本公司負責。

截至二零二二年十二月三十一日止年度，各董事所參與之持續專業發展載列如下：

董事姓名	閱讀有關規則及相關材料及／或出席培訓
張素心(主席)	✓
唐均君(總裁)	✓
葉峻	✓
王靖	✓
孫國棟	✓
張祖同	✓
王桂壘, 太平紳士	✓
葉龍蜚	✓

薪酬委員會

薪酬委員會現時成員包括一名非執行董事王靖女士及兩名獨立非執行董事王桂壘先生，太平紳士及葉龍蜚先生。薪酬委員會主席為王桂壘先生，太平紳士。各成員在釐定公眾公司行政人員薪酬上經驗豐富，並具備適當之技能。董事會認為，委員會成員於處理委員會事務時均能作出獨立判斷。薪酬委員會的角色及功能包括為所有執行董事及高級管理層制定特定薪酬待遇，包括實物利益、退休金權利及報酬，並就非執行董事的薪酬待遇，向董事會提出建議。薪酬委員會應考慮同類公司支付的薪酬及集團內其他職位的僱用條件等因素，以及與工作表現掛鈎的薪酬安排的可取性。薪酬委員會已在本公司網站及聯交所網站上公開其職權範圍。薪酬委員會每年最少須舉行一次會議。

二零二二年八月十一日，薪酬委員會召開了一次會議，討論了根據本公司購股權計劃已授出的若干購股權的歸屬情況，並決議通過了向董事會提交有關該等購股權的歸屬安排建議。

各董事的薪酬詳情已列於財務報表附註8。

企業管治報告

提名委員會

提名委員會現時成員包括一名執行董事張素心先生及兩名獨立非執行董事王桂壠先生，太平紳士及葉龍蜚先生。提名委員會主席為張素心先生。各成員在釐定董事會董事提名上經驗豐富，並具備適當之技能。本公司已為提名委員會提供充足資源以履行其職責。提名委員會或會尋求獨立專業意見以履行其職責，費用由本公司承擔。提名委員會的角色及功能包括檢討董事會的架構、人數及組成，並就任何為補足本公司的公司策略而擬對董事會作出的任何建議變動提出建議；並遵從董事會成員多元化政策，物色具備合適資格可擔任董事的人士，並挑選提名董事人選或就此向董事會提供意見；評估獨立非執行董事的獨立性；就董事委任或重新委任以及董事（尤其是主席及總裁）繼任計劃向董事會提出建議，並監察落實董事會成員多元化政策的情況及適當檢討有關政策，以確保政策有效。提名委員會已書面訂明提名委員會的具體職權範圍，清楚說明其職權和責任。提名委員會已在本公司網站及聯交所網站上公開其職權範圍。提名委員會每年最少須舉行一次會議。

二零二二年十一月十日，薪酬委員會與提名委員會一起召開了一次會議，討論了本公司的薪酬政策及本公司薪酬水平的競爭力等議題。

根據本公司的組織章程細則（「細則」），任何獲委任為董事以填補董事會臨時空缺的人士應留任至本公司下次股東週年大會為止，屆時將符合資格於相關股東大會上膺選連任，而任何獲委任為現有董事會新增成員的董事則應留任至本公司下屆股東週年大會為止，屆時將符合資格於相關股東大會上膺選連任。各董事最少每三年輪席退任一次，屆時應按細則規定膺選連任。細則亦允許以普通決議案罷免董事。

核數師的薪酬

截至二零二二年十二月三十一日止年度，就向本公司提供的核數服務及與核數無關的服務已付或應付本公司核數師安永會計師事務所的薪酬分別為140萬美元及5萬美元。與核數無關的服務主要包括稅務諮詢和風險管理諮詢服務。

企業管治報告

審核委員會

審核委員會中，最少一名成員具備上市規則所要求的適當專業資格，或具備適當的會計或相關的財務管理專長。審核委員會並無成員於緊接各自委任日期前一年內擔任本公司現任外聘核數師的前任合夥人。所有成員皆具備適當的能力和經驗去審閱財務報表，以及解決本公司的重大監控及財務問題。董事會期望審核委員會成員能作出獨立判斷，並將企業管治功能的責任轉授予審核委員會，以遵守該守則的要求。

審核委員會現時成員包括一名非執行董事葉峻先生及兩名獨立非執行董事張祖同先生及葉龍蜚先生。審核委員會主席為張祖同先生。審核委員會的主要職責包括檢討本公司的財務報告系統、審計的性質及範疇，以及內部監控與風險管理系統是否有效。審核委員會同時負責就外聘核數師的委任、重新委任及罷免提供建議，以及檢討及監察外聘核數師是否獨立客觀。另外，審核委員會會就任何因外聘核數師及監管機構所引起的事宜進行討論，以確保適當的建議已予落實。審核委員會已在本公司網站及聯交所網站上公開其職權範圍。審核委員會每年最少須舉行兩次會議。

截至二零二二年十二月三十一日止年度，審核委員會已舉行五次會議，成員均出席會議。審核委員會於截至二零二二年十二月三十一日止年度進行的主要工作包括檢討及建議續聘外聘核數師、批准外聘核數師的聘用條款（包括薪酬）及審核計劃、審查未經審核季度業績公告、審查截至二零二二年六月三十日止六個月的未經審核中期報告及中期業績公告、審查截至二零二二年十二月三十一日止年度的經審核財務報表及末期業績公告、檢討本集團審計部門的工作及評估本集團風險管理及內部控制系統的有效性。審核委員會亦與管理層進行討論，以確保本公司會計及財務匯報職能方面之資源、員工資歷及經驗、培訓課程及預算之足夠性。

董事會成員多元化

董事會採納董事會成員多元化政策（該「政策」），以遵守上市規則第13.92條。

本公司視董事會層面日益多元化為維持其競爭優勢的關鍵元素。本公司在設定董事會成員組合時，將從多個方面考慮董事會成員多元化，包括但不限於天賦、技能、地區及行業經驗、背景、性別、年齡及董事會成員的其他素質，令董事會上各種天賦、技能、經驗及背景維持適當的範疇及平衡。向董事會建議選擇董事候選人時，提名委員會將按照客觀標準考慮候選人的功績，並充分顧及董事會成員在多元化方面的益處。提名委員會就達致董事會成員多元化的可計量目標，作出討論及達成一致，並向董事會作出建議，由董事會採用。在任何特定時間，董事會可在一個或多個方面改善其多元化，並相應檢討其進展。

董事會認為，在所有可計量目標中，性別多元化為董事會成員多元化的代表性特徵。本公司有一名女性董事，此符合上市規則第13.92條。董事會認為本公司已在董事會層面達到性別多元化，並希望其女性成員比例至少維持在現時水平。除性別多元化外，於截至二零二二年十二月三十一日止年度，薪酬委員會認為在相當程度上已達致董事會成員多元化的可計量目標。提名委員會專注董事會成員文化及教育背景、專業及技能專長以及本領，並審閱執行董事及獨立非執行董事之組成，以確保董事會內適當之獨立性。

本公司將繼續在適合並有利於本公司發展的董事會多元化範疇保持平衡性。

員工多元化

於二零二二年十二月三十一日，本集團員工（包括本公司高級管理層）的男女性別比例約為73%：27%。本公司以用人唯才及非歧視為原則進行招聘。董事會信納，本公司的員工已滿足性別多元化。

企業管治報告

企業管治職能

董事會負責執行該守則內第A.2.1條所列明的職能。

董事會已檢討本公司的企業管治政策及常規、董事及高級管理人員的培訓及持續專業發展、本公司在遵守法律和監管規定方面的政策及常規、遵守標準守則、以及本公司遵守該守則的情況及在企業管治報告內的披露。

投資者關係

本公司已採納股東通訊政策，該政策需每年進行檢討，以確保其執行情況及有效性。該政策旨在確保股東能夠平等及時地獲取有關本公司的資料，以使股東能夠以知情方式行使其權利，同時積極參與本公司事務。

本公司股東通訊政策的概要載列如下。

本公司透過其向聯交所提交發佈的財務報告（包括季度、中期及年度報告）、通函、公告等披露資料向股東提供資料。

為進一步推動有效之溝通，本公司設有網站 www.huahonggrace.com 以刊登本公司業務發展及營運的最新資訊、董事名單及其角色與職能、組織章程文件、董事會及其轄下委員會的職權範圍、提名董事候選人的程序、企業管治常規、財務報告、通函、公告，以及其他資訊。

股東大會是董事會與股東之間的主要溝通渠道。本公司鼓勵股東出席及參與股東大會，以確保高問責水平，以及使其保持對本公司的目標及策略的了解。董事會主席、其他董事會成員及各董事會委員會主席（若主席未能出席，則由委員會其他成員出席）將在場為股東解答任何問題。股東會獲提供大會的充分通知，且載有詳細表決程序的通函將連同大會通告一起寄發予股東。

除上述外，本公司亦透過其微信公眾號發佈通訊。股東可訂閱該帳號以獲取本公司最新資訊。

為促進投資者對本公司業務的了解，本公司為投資者組織路演及現場參觀無塵室及展覽廳。本公司亦參加大量投資論壇並通過各種方式與證券分析師、基金管理公司及個人投資者進行多次交流。

為使本公司徵詢及了解股東及利益相關者的意見，股東及利益相關者可透過投資者關係聯繫人（郵箱：IR@hhgrace.com）向本公司提出問詢。

截至二零二二年十二月三十一日止年度，本公司已對其股東通訊政策的執行情況及有效性進行審閱，包括於股東大會採取的行動、對所接收問詢的處理以及現有的多種溝通渠道。本公司認為該項政策具有有效性且已妥善實施。

企業管治報告

公司秘書

公司秘書李瑞霞女士向董事會負責，以確保董事會程序獲得遵守，董事會活動亦獲有效率地進行。她亦負責確保董事會已全面評估與本公司有關的相應法律、法規及企業管治發展，協助董事的入職及專業發展。

公司秘書向董事會主席及總裁匯報，在本公司與其股東的關係中擔當重要角色，協助董事會向股東履行其責任，以遵守上市規則。

截至二零二二年十二月三十一日止年度期間，李瑞霞女士已出席相關專業講座以更新其技能及知識，並遵守上市規則第3.29條的規定。

股東召開股東特別大會的程序

一名或多名持有本公司繳足股本不少於二十分之一的股東可請求董事，或根據香港法例第622章公司條例（「公司條例」）第566至568條提出請求的股東（「請求方」）（視情況而定）可提出召開股東特別大會的請求。請求書須列明召開大會的目的，由請求方簽署，並送至本公司的註冊辦事處。股東召開股東特別大會時須遵守公司條例第580至583條所列明的要求及程序。

於股東大會上提出要求及將股東查詢轉達董事會的程序

股東可於任何時間以書面形式向本公司提出其要求、計劃、查詢及想法，信件抬頭請註明董事會主席或公司秘書，其聯絡地址為：

中國上海張江高科技園區哈雷路288號，郵編：201203
 電話：(86) 21 38829909
 傳真：(86) 21 50809999
 電子郵件：IR@hhgrace.com

以投票方式表決

根據上市規則第13.39(4)條，股東於股東大會上的任何表決均須以投票方式進行。

風險管理和內部監控

風險管理及內部監控目標

風險管理目標

在合規層面上，本公司依據香港聯交所的《公司管治守則》執行，確保適時符合有關規定。

在營運層面上，本公司管理層深知公司未來發展過程中所面臨的風險。因此，本公司的風險管理目標是要識別、評估這些風險，並採取降低、轉移、規避或接受等風險應對策略管理這些風險。本公司持續開展風險監控體系建設，搭建風險管理監平台，明確風險管理機制，完善風險地圖，實行年度風險評估，形成滿足該守則監管要求的，符合公司實際情況的簡潔、科學、務實、高效的風險管控模式。

企業管治報告

內部控制體系目標

本公司內部控制體系充分吸收COSO(反虛假財務報告委員會的發起人組織委員會)的風險管理框架要求和香港會計師公會關於風險管理的指南,兼顧本公司實際情況和業務特點,將公司風險地圖的三級風險細化下沉到流程層面,形成風險導向的內部控制評價體系,目標是評價內部監控系統的有效性和適用性,為確保本公司經營活動的有效性、其財務報告的可靠性和法律法規的遵循性提供合理保證。

風險管理及內部監控體系

為保障風險管理工作有效開展並形成長效機制,本公司已建立風險管理「三線模型」的監控體系。它包含下列多個不同層面的角色和責任:

第一線	<p>業務部門</p> <ul style="list-style-type: none"> • 建立與維護本部門風險管理的各項機制; • 於日常工作中持續收集風險原始信息; • 持續開展本部門風險監控與預警工作; <p>協助落實公司風險管理工作,包括提供必要的資料與樣本,確定與本部門相關的重大風險,並確定重大風險應對措施;</p>
第二線	<p>業務監督管理部門</p> <ul style="list-style-type: none"> • 提供補充專業性知識,發揮支持和監督作用,幫助持續實施、改善風險管理工作;對風險管理的準確性和有效性進行分析和報告;
第三線	<p>內部審計條線</p> <ul style="list-style-type: none"> • 對各業務部門和風險管理條線的風險管理工作開展情況進行獨立的監督檢查,評價公司風險管理機制是否有效落實; <p>開展年度全面風險評估工作,基於風險評估結果,界定重大風險應對責任主體,組織並指導相關部門制定重大風險應對方案,並對方案的實施進行跟蹤;</p> <ul style="list-style-type: none"> • 對於審計及風險評估過程中的發現點,督促相關部門或機構進行整改,並持續跟蹤整改情況; • 向公司審核委員會匯報各項審計及風險評估結果。

企業管治報告

風險管理及內部監控聲明

董事會負責本公司的風險管理及內部監控系統，以及確保檢討該系統的有效性。董事會已指派內部審計部門執行內部審計職能，並充分保證其權威性及獨立性。內部審計師已根據經批准的檢查範圍及按企業管治守則內守則條文D.2條款規定，每半年對本公司風險管理及內部監控系統的有效程度進行檢查，並無出現重大缺失。

根據內部審計部門的工作成果，本公司董事會認為，本公司的風險管理及內部監控系統充分、令人信任且有效地運作。但我們也必須承認，公司的風險管理和內部監控架構旨在管理、而非完全消除影響本公司達致業務目標能力的風險，僅可對重大錯誤的陳述或損失提供合理而非絕對的保證。

為根據證券及期貨條例識別、處理及傳播內幕消息，本集團已實施若干程序，包括管理層指定人員進行本公司證券交易須獲得事先批准、告知相關董事及僱員常規禁售期及證券交易限制、通過代號識別項目以及按既定目的及按須知基準傳播信息，以防範本集團內部可能出現的內幕消息處理失誤。

一般資料

董事負責編製本公司每個財政期間的財務報表，使這些財務報表能真實和公平地反映本公司的業務狀況，並符合法定要求及適用會計準則。在編製截至二零二二年十二月三十一日止年度的財務報表時，董事已挑選並貫徹地應用適當的會計政策、作出審慎、公平及合理的判斷及估計，並按持續經營基準編製財務報表。

核數師的財政申報責任聲明載於本年度報告中第221至228頁的獨立核數師報告內。

代表董事會
張素心先生
主席

董事會報告

董事會謹提呈本公司二零二二年度報告和二零二二年一月一日至二零二二年十二月三十一日經審核的財務報表（「財務報表」）。

主要業務

截止二零二二年底，華虹半導體是一家兼具8英寸與12英寸的純晶圓代工企業，長期專注於開發與應用嵌入式／獨立式非易失性存儲器、功率器件、模擬及電源管理和邏輯及射頻等「8英寸+12英寸」差異化特色工藝技術，為客戶提供晶圓製造服務。華虹半導體主要子公司的業務說明請參考財務報表附註1（第237至238頁）。

業務回顧

營收分析

華虹半導體二零二二年度營業收入為24.755億美元，較上一年度有較大幅度增長，達到51.8%。截至二零二二年末，公司已連續四十八個季度保持盈利。本年度良好的業績表現主要受益於公司的產品結構的不斷優化和產能擴充。儘管二零二二年全球半導體市場環境遭遇較大變化，但公司敏捷調整產線佈局，快速迎合市場需求，在汽車、工業控制、數據中心及新型能源發電與新型能源應用等領域積極拓展，實現了高速增長。依托於公司「8英寸+12英寸」佈局的逐步落實，12英寸生產平台不斷擴產的同時亦獲得市場的支持，在先進「特色IC+Power Discrete」特色工藝戰略的多樣化支持下，產品質量與性能均受到市場的廣泛認可，傳統消費類市場亦保持較好成績。二零二二年，公司嵌入式／獨立式存儲器、分立器件、模擬與電源管理平台均保持了增長勢頭，他們將在二零二三年繼續為股東及市場創造價值。

按服務劃分營業收入

	二零二二年 千美元	二零二二年 %	二零二一年 千美元	二零二一年 %	同比變化 千美元	同比變化 %
半導體晶圓	2,376,659	96.0%	1,561,846	95.8%	814,813	52.2%
其他	98,829	4.0%	68,908	4.2%	29,921	43.4%
合計	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- 二零二二年，公司96.0%的營業收入來自半導體晶圓的銷售收入。

按客戶類型劃分營業收入

	二零二二年 千美元	二零二二年 %	二零二一年 千美元	二零二一年 %	同比變化 千美元	同比變化 %
系統公司和無廠芯片設計公司	2,267,446	91.6%	1,496,782	91.8%	770,664	51.5%
整合器件製造商(IDMs)	208,042	8.4%	133,972	8.2%	74,070	55.3%
合計	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- 公司來自系統公司和無廠芯片設計公司客戶類型的營業收入佔比91.6%。

董事會報告

按區域劃分營業收入

	二零二二年 千美元	二零二二年 %	二零二一年 千美元	二零二一年 %	同比變化 千美元	同比變化 %
中國	1,811,269	73.2%	1,205,149	73.9%	606,120	50.3%
北美區	297,683	12.0%	159,281	9.8%	138,402	86.9%
亞洲其他區域	210,610	8.5%	169,227	10.4%	41,383	24.5%
歐洲區	114,728	4.6%	70,627	4.3%	44,101	62.4%
日本區	41,198	1.7%	26,470	1.6%	14,728	55.6%
合計	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- 二零二二年北美區是公司營收增速最快的市場，營收同比增長86.9%。

按技術類型劃分營業收入

	二零二二年 千美元	二零二二年 %	二零二一年 千美元	二零二一年 %	同比變化 千美元	同比變化 %
嵌入式非易失性存儲器(eNVM)	767,568	31.0%	459,104	28.2%	308,464	67.2%
獨立式非易失性存儲器(sNVM)	208,171	8.4%	88,796	5.4%	119,375	134.4%
分立器件	774,638	31.3%	557,893	34.2%	216,745	38.9%
邏輯與射頻	274,384	11.1%	272,053	16.7%	2,331	0.9%
模擬(Analog)與電源管理(PM)	448,648	18.1%	250,466	15.4%	198,182	79.1%
其他	2,079	0.1%	2,442	0.1%	(363)	(14.9%)
合計	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- 二零二二年，嵌入式非易失性存儲器技術保持增長，其中MCU產品持續表現亮麗的業績成長。
- 二零二二年，分立器件營收同比增長38.9%，仍是公司第一大業務板塊。

董事會報告

	按工藝節點劃分營業收入					
	二零二二年 千美元	二零二二年 %	二零二一年 千美元	二零二一年 %	同比變化 千美元	同比變化 %
55納米及65納米	355,161	14.3%	157,854	9.7%	197,307	125.0%
90納米及95納米	505,233	20.4%	280,235	17.2%	224,998	80.3%
0.11微米及0.13微米	426,387	17.2%	302,920	18.6%	123,467	40.8%
0.15微米及0.18微米	206,733	8.4%	164,260	10.1%	42,473	25.9%
0.25微米	15,027	0.6%	22,926	1.4%	(7,899)	(34.5)%
≥0.35微米	966,947	39.1%	702,559	43.0%	264,388	37.6%
合計	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- 來自55納米及65納米工藝節點的營收高速增長，同比增速達到125.0%。

	按終端市場劃分營業收入					
	二零二二年 千美元	二零二二年 %	二零二一年 千美元	二零二一年 %	同比變化 千美元	同比變化 %
消費電子	1,599,116	64.6%	1,039,325	63.7%	559,791	53.9%
工業和汽車電子	550,342	22.2%	316,194	19.4%	234,148	74.1%
通信	248,033	10.0%	218,946	13.4%	29,087	13.3%
計算	77,997	3.2%	56,289	3.5%	21,708	38.6%
合計	2,475,488	100.0%	1,630,754	100.0%	844,734	51.8%

- 二零二二年公司的營業收入中各終端市場均呈現較好的增長，特別是工業和汽車電子市場的74.1%高成長。

董事會報告

晶圓廠 (千片晶圓每月)	產能及產能利用率		
	二零二二年	二零二一年	同比變化
華虹一廠	65	65	-
華虹二廠	60	60	-
華虹三廠	53	53	-
8英寸晶圓月產能合計	178	178	-
華虹七廠 (12英寸晶圓產能)	65	60	5
產能利用率 (折合8英寸晶圓)	107.4%	107.5%	(0.1)%

- 二零二二年度折合8英寸晶圓產能利用率107.4%。

千片晶圓	付運晶圓		
	二零二二年	二零二一年	同比變化
付運晶圓 (折合8英寸晶圓)	4,087	3,328	22.8%

- 二零二二年公司付運晶圓同比上升22.8%。

技術研發

華虹半導體堅持致力於差異化技術的研發、創新和優化，主要聚焦於嵌入式非易失性存儲器、獨立式非易失性存儲器、分立器件(Discrete)、模擬(Analog)和電源管理、及邏輯(Logic)與射頻等差異化技術，持續為客戶提供滿足市場需求的特色工藝技術和服務。二零二二年，華虹半導體繼續擴大「8英寸+12英寸」生產平台建設，先進「特色IC+Power Discrete」工藝組合因12英寸生產平台的擴展而變得更加豐富。

嵌入式非易失性存儲器相關的技術平台依然是華虹半導體二零二二年主要營收來源之一，主要包括智能卡芯片和微控制器兩大類芯片應用。智能卡方面，具有自主知識產權的90納米嵌入式閃存技術在相關智能卡產品領域繼續保持平穩出貨外，55納米工藝順利實現量產，嵌入式非易失性存儲器平台競爭力保持在較高水平。在微控制器方面，12英寸嵌入式閃存MCU進入量產，新產能的加入，確保了二零二二年公司微控制器產品線實現銷售量、銷售額雙位數增長。公司嵌入式閃存工藝組合豐富，擁有較好市場口碑。行業領先的0.11微米及公司獨立研發的90納米低功耗及超低漏電嵌入式閃存工藝平台保持着較高的市場認可度，廣泛用在通用型MCU、Type-C接口控制芯片、觸控芯片、智能電表控制芯片、高可靠性汽車電子等領域。同時，具備自主知識產權的55納米高速MCU嵌入式閃存工藝平台出貨量快速提升。進一步提升了該工藝平台的工藝豐富度與平台競爭力，向客戶提供差異化工藝製造服務的能力逐步增長。

董事會報告

二零二二年，新型能源發電及新型能源終端應用如電動車等領域的持續增長，家電、通訊及其他工業領域公司功率類器件市佔比逐步提高，仍然將會在一個較長的時間尺度內推動公司功率分立器件工藝平台持續增長。其中絕緣柵雙極型晶體管(IGBT)技術平台表現持續優異，已連續八年保持高增長，12英寸IGBT更達到銷量銷售額三位數百分比增長的好成績，有力補充與緩解了產能緊張的問題。其在大電流、高可靠性、小尺寸等各方面全力優化之下，在電動車主逆變器以及新能源發電等領域展示出了極強的競爭力。同樣在12英寸大放異彩的還有Super Junction超級結金屬氧化物半導體場效應管(MOSFET)，順利完成了產能爬坡，全年出貨量實現三位數百分比增長。其特色的新一代深溝槽(Deep-Trench)技術積累了寶貴的量產經驗和良好的客戶口碑，在數據中心電源、充電樁、新能源車載充電機(OBC)得到廣泛應用。整體功率器件工藝平台方面，公司將在更小線寬、更低導通電阻方向持續開發，加大汽車電子市場拓展，不斷滿足終端市場需求，為客戶帶來更高質量的產品與代工服務。

公司BCD(Bipolar-CMOS-DMOS)工藝平台在二零二二年繼續實現強勁增長，營業額保持高雙位數百分比增長。工藝範圍涵蓋中低壓、高壓及超高壓產品。其中12英寸中低壓90納米BCD工藝平台快速上量，成功應用於數字電源、數字音頻功放等市場領域。在模擬電源與電機驅動芯片應用領域，8英寸0.18微米及以上中低壓BCD工藝平台保持高雙位數百分比增長，市場認可度不斷提高，技術水平匹配業界領先指標。高壓及超高壓領域，公司開發有600-700伏BCD工藝平台，應用在照明控制與工業及家用電機驅動芯片領域，工藝與可靠性亦不斷精進完善，以滿足未來市場需求。隨着汽車電子架構變革以及依托於公司優勢的嵌入式閃存和功率器件工藝，公司已開發各類集成的BCD工藝，應對持續高度集成化、智能化的車用電源管理芯片需求。

除上述主要技術平台之外，華虹半導體仍不斷拓展新的差異化技術領域。隨着智能家居、可穿戴硬件、汽車電子等應用對半導體產品用量與性能要求不斷提高，公司持續加強了射頻、標準式存儲器等工藝平台的研發，並在二零二二年取得豐碩回報。專利方面，公司全年申請654項，累計獲得中美發明授權專利超過4,100件。公司承諾持續創新並為客戶提供豐富的特色工藝平台選擇、廣泛的IP支持。

二零二二年是充滿機遇與挑戰的一年，面對多重挑戰，公司依然完成了全部生產與研發目標。得益於華虹宏力長期堅持與實踐的先進「特色IC+Power Discrete」工藝組合部署，在傳統消費市場遭遇較大變化時，公司仍然保持了穩健的業績增長。展望未來，全球新能源應用發展迅速，汽車及其他工業領域半導體需求快速成長，公司工藝研發將快速向相關領域匹配靠攏。長期看，隨着終端系統產品半導體含量的不斷提高，數字化、信息化進一步滲透到日常生產與生活當中，全球半導體零部件需求必將呈現長期向好態勢。二零二三年，公司將進一步擴充無錫一期產能，並適時啟動無錫二期產能建設計劃，為市場提供更加豐富的工藝組合與產能支持。

董事會報告

展望

展望二零二三年，全球經濟復蘇仍面臨諸多不確定因素。權威機構預測二零二三年全球國內生產總值(GDP)增長率預計下降至1.7%，中國GDP增速預計增長至5%。全球經濟增長放緩，傳統消費類需求下滑或成為半導體產業新年度面臨的共同挑戰。華虹半導體在面對外需下降，內需加速轉型升級的國內環境下，積極佈局新興市場如電動汽車、新能源等領域，加速匹配新的市場需求，順應市場保持業務的持續健康發展。二零二三年，公司12英寸生產平台將進一步提高自身競爭力。更加豐富、先進的特色工藝及與客戶長期持續的戰略合作和互相信任，成為新年度公司業績保持發展的主要引擎。產能方面，為更好的滿足半導體市場的長期需求，公司將發揮好「8英寸+12英寸」戰略，保持現有8英寸平台優化及12英寸一期持續擴產，並適時啟動無錫二期的產能建設。產品與技術提升方面，公司全部晶圓廠均已覆蓋IATF16949質量體系確認，二零二三年繼續深化推動汽車電子產品線，抓住本土汽車市場供應鏈對半導體零部件需求爆發的市場機遇。公司將持續提升特色工藝技術能力，特別是嵌入式閃存與功率分立器件工藝平台，保持優勢地位，助力公司長期持續發展。

董事會報告

管理層討論及分析

財務表現

	二零二二年 千美元	二零二一年 千美元	變動
銷售收入	2,475,488	1,630,754	51.8%
銷售成本	(1,631,832)	(1,179,156)	38.4%
毛利	843,656	451,598	86.8%
其他收入及收益	70,986	60,758	16.8%
投資物業的公平值收益	78	183	(57.4)%
銷售及分銷費用	(12,464)	(10,673)	16.8%
管理費用	(266,666)	(198,920)	34.1%
其他費用	(111,360)	(165)	67,390.9%
財務費用	(40,331)	(13,226)	204.9%
分佔聯營公司溢利	12,171	6,765	79.9%
稅前溢利	496,070	296,320	67.4%
所得稅開支	(89,499)	(65,349)	37.0%
年內溢利	406,571	230,971	76.0%
下列人士應佔：			
母公司擁有人	449,912	261,476	72.1%
非控股權益	(43,341)	(30,505)	42.1%

銷售收入

銷售收入創歷史新高，達24.755億美元，較上年度增長51.8%，乃由於付運晶圓增加及平均銷售價格上漲所致。

銷售成本

銷售成本為16.318億美元，較二零二一年增長38.4%，主要由於付運晶圓及折舊費用增加所致。

毛利

毛利為8.437億美元，較二零二一年增長86.8%，主要由於平均銷售價格上漲及產品組合優化，部分被折舊費用增加所抵銷。

其他收入及收益

其他收入及收益為7,100萬美元，較二零二一年增加16.8%，主要由於政府補助和利息收入增加所致。

銷售及分銷費用

銷售及分銷費用為1,250萬美元，較二零二一年增加16.8%，主要由於人工費用增加所致。

管理費用

管理費用為2.667億美元，較二零二一年增加34.1%，主要由於研發開支政府補助下降以及人工費用增加所致。

其他費用

其他費用為11,140萬美元，二零二一年為20萬美元，主要由於外匯匯兌虧損而上年度外匯匯兌收益所致。

董事會報告

財務費用

財務費用為4,030萬美元，較二零二一年增加204.9%，主要由於銀行借款增加所致。

分佔聯營公司溢利

分佔聯營公司溢利為1,220萬美元，較二零二一年增加79.9%，乃由於聯營公司實現溢利增加所致。

所得稅開支

所得稅開支為8,950萬美元，較二零二一年增加37.0%，主要由於應課稅溢利增加所致。

年內溢利

在上述因素的累計影響下，年內溢利由二零二一年的2.310億美元增至4.066億美元。淨利率為16.4%，而二零二一年為14.2%。

財務狀況

	二零二二年 十二月三十一日 千美元	二零二一年 十二月三十一日 千美元	變動
非流動資產			
物業、廠房及設備	3,367,716	3,116,501	8.1%
投資物業	169,363	184,883	(8.4)%
使用權資產	78,425	75,331	4.1%
於聯營公司的投資	130,721	122,040	7.1%
指定按公平值計入其他全面收益的權益工具	178,632	257,788	(30.7)%
其他非流動資產	54,794	54,364	0.8%
非流動資產總額	3,979,651	3,810,907	4.4%
流動資產			
存貨	578,060	432,917	33.5%
貿易應收款項及應收票據	291,856	181,042	61.2%
應收關聯方款項	13,006	6,910	88.2%
其他流動資產	182,996	157,935	15.9%
已凍結及定期存款	1,042	2,248	(53.6)%
現金及現金等價物	2,008,765	1,610,140	24.8%
流動資產總額	3,075,725	2,391,192	28.6%
流動負債			
貿易應付款項	236,999	194,385	21.9%
計息銀行借款	426,756	195,024	118.8%
應付關聯方款項	6,096	7,501	(18.7)%
政府補助	37,714	66,837	(43.6)%
其他流動負債	674,851	616,654	9.4%
流動負債總額	1,382,416	1,080,401	28.0%
流動資產淨額	1,693,309	1,310,791	29.2%
非流動負債			
計息銀行借款	1,481,580	1,395,279	6.2%
租賃負債	14,644	16,137	(9.3)%
遞延稅項負債	41,268	25,735	60.4%
非流動負債總額	1,537,492	1,437,151	7.0%
資產淨額	4,135,468	3,684,547	12.2%

董事會報告

就二零二一年十二月三十一日至二零二二年十二月三十一日同比變動超過10%的項目的闡釋

指定按公平值計入其他全面收益的權益工具

指定按公平值計入其他全面收益的權益工具由2.578億美元減至1.786億美元，主要由於公平值下降及出售權益工具所致。

存貨

存貨由4.329億美元增至5.781億美元，主要由於客戶需求增加所致。

貿易應收款項及應收票據

貿易應收款項及應收票據由1.810億美元增至2.919億美元，主要由於銷售收入增加所致。

應收關聯方款項

應收關聯方款項由690萬美元增至1,300萬美元，主要由於若干關聯方的應收款項增加所致。

其他流動資產

其他流動資產由1.579億美元增至1.830億美元，主要由於發展中物業增加所致。

已凍結及定期存款

已凍結及定期存款由220萬美元減至100萬美元，主要由於已抵押存款減少所致。

現金及現金等價物

現金及現金等價物由16.101億美元增至20.088億美元，主要由於下文現金流量分析所述之原因。

貿易應付款項

貿易應付款項由1.944億美元增至2.370億美元，主要由於材料採購增加所致。

應付關聯方款項

應付關聯方款項由750萬美元減至610萬美元，主要由於若干關聯方貿易應付款項減少所致。

政府補助

政府補助由6,680萬美元減至3,770萬美元，主要由於收到政府補助資金減少所致。

董事會報告

計息銀行借款

計息銀行借款總額由15.903億美元增至19.083億美元，乃由於提取銀行借款增加所致。

遞延稅項負債

遞延稅項負債由2,570萬美元增至4,130萬美元，主要由於預估分派股息之代扣代繳稅金增加所致。

現金流量

	二零二二年 千美元	二零二一年 千美元	變動
經營活動所得現金流量淨額	750,865	518,471	44.8%
投資活動所用現金流量淨額	(930,156)	(863,059)	7.8%
融資活動所得現金流量淨額	672,177	1,014,640	(33.8)%
現金及現金等價物增加淨額	492,886	670,052	(26.4)%
年初現金及現金等價物	1,610,140	922,786	74.5%
外匯匯率變動影響，淨額	(94,261)	17,302	(644.8)%
年末現金及現金等價物	2,008,765	1,610,140	24.8%

經營活動所得現金流量淨額

經營活動所得現金流量淨額為7.509億美元，較二零二一年增加44.8%，主要由於銷售收入增加，部分被材料、保養及薪金支出增加所抵銷。

投資活動所用現金流量淨額

投資活動所用現金流量淨額為9.302億美元，主要由於(i)資本投資9.962億美元，(ii)於一家聯營公司投資670萬美元，被收到(i)政府補助3,840萬美元，(ii)利息收入2,850萬美元，(iii)出售權益工具570萬美元，及(iv)出售固定資產10萬美元所抵銷。

融資活動所得現金流量淨額

融資活動所得現金流量淨額為6.722億美元，包括(i)銀行借款所得款項5.146億美元，(ii)非控股權益注資3.920億美元，(iii)政府補助利息開支1,110萬美元，及(iv)發行股份所得款項620萬美元，被(i)償還銀行借款19,970萬美元，(ii)利息付款4,730萬美元，(iii)支付租賃付款的本金部份320萬美元，(iv)支付上市費用80萬美元，及(v)支付已凍結存款80萬美元所抵銷。

現金及現金等價物增加淨額

在上述因素的累計影響下，現金及現金等價物由截至二零二一年十二月三十一日的16.101億美元增至截至二零二二年十二月三十一日的20.088億美元。

董事會報告

財務風險

利率風險

我們面臨市場利率變動的風險，主要與本集團浮動利率計息銀行借款有關。我們的政策為運用固定及浮動利率債務組合管理利率風險。

於二零二二年十二月三十一日，倘利率增加或減少100基點，而所有其他變量維持不變，年內稅前溢利將減少或增加1,450萬美元，乃主要由於浮動利率銀行借款的利息開支增加或減少所致。

外幣風險

我們面臨交易性貨幣風險，該等風險主要產生自我們於中國內地營運的主要子公司以美元而非以該子公司的功能貨幣人民幣進行的買賣。於年內，我們的銷售額中約27%乃以進行銷售的子公司的功能貨幣以外的貨幣計值，與此同時，銷售成本中71%乃以子公司的功能貨幣計值。

此外，我們面臨來自計息銀行借款的外幣風險，該借款由我們在中國內地經營的子公司持有。於二零二二年十二月三十一日，賬面值為17.758億美元的計息銀行借款以美元計值，而非以該子公司的功能貨幣人民幣計值。

於二零二一年十二月三十一日，倘美元對人民幣升值或貶值5%，而所有其他變量維持不變，我們的年內稅前溢利將減少或增加約6,050萬美元。

信用風險

我們僅與獲認可及信譽良好的第三方及關聯方交易。根據我們的政策，所有擬按信用條款交易的客戶均須通過信用核實程序。此外，由於持續對應收款項結餘進行監控，故我們的壞賬風險並不重大。

我們的金融資產中面臨最大信用風險的項目為：綜合財務狀況表內現金及現金等價物、貿易應收款項及應收票據、計入預付款項、其他應收款項及其他資產的金融資產、應收關聯方款項以及已凍結及定期存款的賬面值。我們並無其他存在重大信用風險的金融資產。

流動資金風險

我們的政策為定期監控現時及預期流動資金需要，以確保維持充裕的現金儲備及從主要金融機構獲得足夠的融資承擔額度，以應對短期及長期流動資金需要。

資本管理

我們資本管理的首要目標為維護持續經營能力及維持良好的資本比率，以支持我們的業務及實現股東價值最大化。

我們根據經濟狀況的變動管理及調整資本架構。為此，我們或會調整派付予股東的股息、向股東返還資本或發行新股。我們不受任何外部施加的資本要求規限。年內，管理資本的目標、政策或程序概無任何變動。

董事會報告

資產負債比率

資產負債比率的詳情載於財務報表附註38。

業績

本集團截至二零二二年十二月三十一日止年度的業績及於該日的事務狀況載於本報告第229至232頁的財務報表。

末期股息

為了更好地滿足市場需求、提升公司在晶圓代工行業的市場地位和核心競爭力及應對多變的市場環境，本公司秉承穩健、謹慎、對股東負責的態度，以及立足可持續經營、長遠發展的原則，董事會不建議派付截至二零二二年十二月三十一日止年度之任何股息(二零二一年：無)。本公司將保持足夠的現金來持續其投資活動，為股東謀取最大利益。

股息政策

本公司決定自二零一五年度起，在本集團實現利潤、經營環境趨勢穩定且無重大投資行為的情況下，於本公司股東同意及合乎法例要求下，將對股東派發股息。計劃連續三年所派股息的平均額將不低於該三年平均可分配淨利潤的30%；其餘部份將用於本集團發展與經營。

有關股息政策仍會不時檢討，不保證會在任何指定期間派付任何特定金額的股息。如董事會建議派付股息，股息形式及金額將視乎董事評估不時影響本集團的因素而定。

可供分派儲備

截至二零二二年十二月三十一日，本公司並無可供分派儲備可供分派予股東。

銀行貸款

本集團截至二零二二年十二月三十一日的銀行貸款的詳情載於財務報表附註26。

於二零二二年十二月三十一日，本集團若干銀行貸款由本集團資產作抵押。有關進一步詳情，請參閱財務報表附註26。

財務摘要

本集團於過往五個財政年度的已公佈業績及資產以及負債摘要載於第348頁。本摘要並不構成經審核財務報表之一部份。

物業、廠房及設備

本集團旗下物業、廠房及設備和投資物業於截至二零二二年十二月三十一日止年度的添置及其他變動詳情載於財務報表附註13及14。

此外，投資物業詳情載列如下：

位置	用途類別	租期	本集團權益	建築樓面面積 (平方米)
中國上海 浦東新區 張江高科技園區 郭守敬路818號 9幢樓宇的一部份	工業用途	按於二零一五年三月八日屆滿的土地使用權持有	100%	91,563.11

董事會報告

報告期後重大事項

本集團於二零二二年十二月三十一日後概無發生任何重大期後事項。

股本及購股權計劃

本公司截至二零二二年十二月三十一日止年度的股本變動詳情載於財務報表附註30。由二零一四年三月三日起按新公司條例(第622章)附表11第37條,這些變動包括自動將股份溢價賬的進賬額列入股本中,為過渡至無面值股份制度的一部份。

購股權計劃(「購股權計劃」)已經於二零一五年九月一日舉行的本公司股東特別大會批准。購股權計劃的概要如下:

購股權計劃的目的:	購股權計劃的目的是吸引、挽留參與者(定義見下文)及對其提供獎勵,以讓其有機會獲得本公司股份及將其利益與本公司的經營業績及股價表現密切相連,旨在提升本公司價值。
參與者:	購股權計劃參與者(「參與者」)包括(1)本集團任何成員公司的現時執行及非執行董事;或(2)對本集團任何成員公司的經營業績及可持續發展有直接影響的高級管理層以及主要管理及技術人員之人士(視乎購股權計劃列明的任何限制及約束而定),惟不包括任何獨立非執行董事。
各參與者的最高配額:	倘在任何12個月期間內所配發及因授出及將予授出的全部購股權(「購股權」,包括已行權、已註銷及尚未行使的購股權)獲行使而向參與者配發的股份總數超過本公司當時已發行股本的1%,則不得向該參與者進一步授出購股權。經股東於股東大會上批准,可在任何12個月期間內向任何參與者授予超出1%個人限額的購股權。在授出日期(定義見購股權計劃),任何持有本公司5%以上附有表決權股份的人員,未經股東於股東大會上批准,不得被授予購股權。
購股權可予行使前須持有的最短期間(如有):	2年(除非購股權授予通知另有規定)。
申請或接納購股權所應付的款項及須予付款或催繳或就此須支付貸款的期間:	1.00港元乃由各被授予人自建議授出日期起計28日內支付,作為授出購股權的代價。
於二零二二年一月一日可供授出的購股權數目:	93,944,356
購股權計劃的餘下期限:	購股權計劃有效期間為採納日期起計七(7)年。因此其已於二零二二年九月一日屆滿。自該日起,購股權計劃項下將不再授出購股權且概無授出購股權。
於本報告日期,購股權計劃項下可供發行的股份總數為23,438,871股,佔已發行股份總數的約1.79%。	

董事會報告

根據購股權計劃授出的購股權

於二零一五年九月四日，本公司根據購股權計劃向若干個人授出30,250,000份購股權（「二零一五年購股權」），以認購合共30,250,000股本公司普通股。二零一五年購股權的詳情如下：

授出日期：	二零一五年九月四日
所授出購股權的行使價：	6.912港元
所授出購股權的數目：	30,250,000份（佔本公司截至二零二二年十二月三十一日止已發行股份的2.31%）。
購股權的有效期間：	自二零一五年九月四日起至二零二二年九月三日（七(7)年）止（包括首尾兩日）。
購股權的歸屬期間：	購股權的三分之一應分別於二零一七年九月四日、二零一八年九月四日及二零一九年九月四日歸屬。

每股行使價6.912港元較以下較高者溢價0%：(i)於授出日期聯交所每日報價表所報每股收市價6.87港元；(ii)於緊接授出日期前五個交易日聯交所每日報價表所報平均每股收市價6.912港元；及(iii)於緊接授出日期前一天聯交所每日報價表所報每股收市價6.800港元。

於二零一八年十二月二十四日，本公司根據購股權計劃向若干個人授出34,500,000份購股權（「二零一八年購股權」），以認購合共34,500,000股本公司普通股。二零一八年購股權的詳情如下：

授出日期：	二零一八年十二月二十四日
所授出購股權的行使價：	15.056港元
所授出購股權的數目：	34,500,000份（佔本公司截至二零二二年十二月三十一日止已發行股份的2.64%）
購股權的有效期間：	自二零一八年十二月二十四日起至二零二五年十二月二十三日（七(7)年）止（包括首尾兩日）
購股權的歸屬期間：	就本公司副總裁（及董事）或以上級別的僱員而言，二零一八年購股權的四分之一應分別於二零二零年十二月二十四日、二零二一年十二月二十四日、二零二二年十二月二十四日及二零二三年十二月二十四日歸屬；就本公司其他僱員而言，二零一八年購股權的三分之一應分別於二零二零年十二月二十四日、二零二一年十二月二十四日及二零二二年十二月二十四日歸屬

每股行使價15.056港元為以下各項的較高者：(i)於授出日期聯交所每日報價表所報每股收市價14.440港元；(ii)於緊接授出日期前五個營業日聯交所每日報價表所報平均每股收市價15.056港元；(iii)於緊接授出日期前一天聯交所每日報價表所報每股收市價14.380港元；及(iv)股份的面值。

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於二零一九年三月二十九日，本公司根據購股權計劃向一人授出500,000份購股權（「二零一九年三月購股權」），以認購合共500,000股本公司普通股。二零一九年三月購股權的詳情如下：

授出日期：	二零一九年三月二十九日
所授出購股權的行使價：	18.400港元
所授出購股權的數目：	500,000份（佔本公司截至二零二二年十二月三十一日止已發行股份的0.04%）
購股權的有效期間：	自二零一九年三月二十九日至二零二六年三月二十八日（七(7)年）止（包括首尾兩日）
購股權的歸屬期間：	購股權的四分之一將分別於二零二一年十二月二十三日、二零二二年八月十二日、二零二三年三月二十九日及二零二四年三月二十九日歸屬

每股行使價18.400港元為以下各項的較高者：(i)於授出日期聯交所每日報價表所報每股收市價18.400港元；(ii)於緊接授出日期前五個營業日聯交所每日報價表所報平均每股收市價18.176港元；(iii)於緊接授出日期前一天聯交所每日報價表所報每股收市價18.220港元；及(iv)股份的面值。

於二零一九年十二月二十三日，本公司根據購股權計劃向若干個人授出2,482,000份購股權（「二零一九年十二月購股權」），以認購合共2,482,000股本公司普通股。二零一九年十二月購股權的詳情如下：

授出日期：	二零一九年十二月二十三日
所授出購股權的行使價：	17.952港元
所授出購股權的數目：	2,482,000份（佔本公司截至二零二二年十二月三十一日止已發行股份的0.19%）
購股權的有效期間：	自二零一九年十二月二十三日至二零二六年十二月二十二日（七(7)年）止（包括首尾兩日）
購股權的歸屬期間：	就華虹無錫副總裁或以上級別的僱員而言，購股權的四分之一將分別於二零二一年十二月二十三日、二零二二年十二月二十三日、二零二三年十二月二十三日及二零二四年十二月二十三日歸屬；就華虹無錫其他僱員而言，購股權的三分之一將分別於二零二一年十二月二十三日、二零二二年十二月二十三日及二零二三年十二月二十三日歸屬

每股行使價17.952港元為以下各項的較高者：(i)於授出日期聯交所每日報價表所報每股收市價17.260港元；(ii)於緊接授出日期前五個營業日聯交所每日報價表所報平均每股收市價17.952港元；(iii)於緊接授出日期前一天聯交所每日報價表所報每股收市價17.200港元；及(iv)股份的面值。

於二零一九年三月購股權中，500,000份購股權已授予本公司董事，惟須待彼等接納。

董事會報告

購股權於截至二零二二年十二月三十一日止年度的變動詳情如下：

購股權數目	參與者姓名或類別				總數
	董事		其他僱員		
	唐均君先生				
於二零一五年九月四日授出	-	29,262,000	-	-	30,250,000
於二零一八年十二月二十四日授出	-	-	33,820,000	-	34,500,000
於二零一九年三月二十九日授出	500,000	-	-	-	500,000
於二零一九年十二月二十三日授出	-	-	-	2,482,000	2,482,000
於二零一五年註銷	-	-130,000	-	-	-130,000
於二零一六年註銷	-	-1,458,000	-	-	-1,458,000
於二零一七年註銷	-	-1,353,399	-	-	-1,353,399
於二零一八年註銷	-	-754,595	-	-	-754,595
於二零一九年註銷	-	-58,000	-1,035,000	-36,000	-1,729,000
於二零二零年註銷	-	-	-993,904	-84,000	-1,276,904
於二零二一年註銷	-62,500	-	-5,751,868	-592,993	-6,407,361
期內行使	-	4,738,332	847,614	59,209	5,645,155
期內註銷	-	-	-530,077	-73,483	-603,560
期內失效	-	-	-13,651	-500	-14,151
於二零二二年一月一日尚未行使	437,500	4,738,332	22,781,065	1,744,840	29,701,737
於二零二二年十二月三十一日 尚未行使	437,500	-	21,389,723	1,611,648	23,438,871
購股權之歸屬期：	二零一九年 三月二十九日 至二零二六年 三月二十八日	二零一五年 九月四日至 二零二二年 九月三日	二零一八年 十二月二十四日 至二零二五年 十二月二十三日	二零一九年 十二月二十三日 至二零二六年 十二月二十二日	
購股權之行使期	二零二一年 三月二十九日至 二零二六年 三月二十八日	二零一七年 九月四日至 二零二二年 九月三日	二零二零年 十二月二十四日 至二零二五年 十二月二十三日	二零二一年 十二月二十三日 至二零二六年 十二月二十二日	
購股權之行使價	18.400港元	6.912港元	15.056港元	17.952港元	
股份於緊接購股權獲行使日期 之前的加權平均收市價		28.29港元	30.71港元	30.89港元	

除上文披露者外，本公司於截至二零二二年十二月三十一日止年度並未採納任何其他購股權計劃。

董事會報告

儲備

本集團截至二零二二年十二月三十一日止年度的儲備變動詳情載於本報告第233至234頁之綜合權益變動表。

持續關連交易及關連交易

持續關連交易

本集團已於二零一四年十月三日發佈的招股章程中披露有關與(其中包括)上海華力、華虹置業及華錦物業管理之間的持續關連交易。具體交易詳情概要載於下表。本公司已申請並獲聯交所豁免(其中包括)就有關交易嚴格遵守公告及獨立股東批准之規定(視情況而定)。本集團持續關連交易以及二零二二年期間執行的其他一些持續性的關聯交易詳情載列如下:

交易	交易日期	交易雙方	關連關係	交易	二零二二年 實際交易金額	二零二二年 建議年度上限
(1)	二零二二年一月一日	華虹集團(作為買方) 本公司(作為賣方)	華虹集團為本公司的主要股東。 虹日及華虹華芯分別由華虹集團擁有51%及93.02%。 集成電路研發於二零二二年期間被華虹集團視為其子公司。	本公司根據華虹集團框架協議向華虹集團、其子公司及聯營公司(包括虹日、華虹華芯及集成電路研發)銷售半導體產品。	17,447,000美元	30,036,000美元
(2)	二零二二年一月一日	華虹集團(作為賣方) 本公司(作為買方)	華虹集團為本公司的主要股東。 虹日及華虹華芯分別由華虹集團擁有51%及93.02%。	本公司根據華虹集團框架協議自華虹集團、其子公司及聯營公司(包括虹日及華虹華芯)購買晶圓及化學品。	19,247,000美元	25,920,000美元
(3)	二零二二年一月一日	華虹集團(作為服務提供方) 本公司(作為服務接收方)	華虹集團為本公司的主要股東。 上海華力由華虹集團擁有53.79%。 華虹集團控制計通董事會的大部分成員。	根據華虹集團框架協議, (i)上海華力提供晶圓代工服務及(ii)計通提供一般配套服務。	89,000美元	5,179,000美元
(4)	二零二二年三月二日	新微(作為買方) 本公司(作為賣方)	新微由本公司主要股東上海聯和持有80%且為上海聯和的子公司。	本公司(作為賣方)與新微(作為買方)訂立的銷售協議,內容有關向新微出售晶圓及其他半導體產品。	344,000美元	1,500,000美元
(5)	二零二一年一月一日	華虹宏力(作為服務提供方) 華虹無錫(作為服務接收方)	華虹無錫為非全資子公司,由本公司主要股東國家集成電路產業基金持有約20.58%。 因此,華虹無錫為本公司的關連子公司。	華虹宏力(作為服務提供方)與華虹無錫(作為服務接收方)訂立的服務協議,內容有關華虹宏力向華虹無錫提供公司服務。	人民幣145,000,000元 (約21,529,000美元)	人民幣145,000,000元 (約21,529,000美元)
(6)	二零一零年 二月二十五日 (連同日期為二零一 一年六月十日及 二零一四年 七月二十五日的 補充協議)	上海華力(作為承租人) 本公司(作為出租人)	上海華力由本公司主要股東華虹集團擁有53.79%。	上海華力(作為承租人)與本公司(作為出租人)訂立的租賃協議,內容有關本公司將位於中國上海浦東新區張江高科技園區13街坊2丘晶圓廠的物業出租予上海華力,供其設置300mm晶圓生產線。總出租建築面積為96,099.2平方米。	人民幣95,809,000元 (約14,254,000美元)	人民幣107,000,000元 (約16,041,000美元)

董事會報告

交易	交易日期	交易雙方	關連關係	交易	二零二二年 實際交易金額	二零二二年 建議年度上限
(7)	二零一三年一月十日 (連同日期為 二零一四年 六月十日的 補充協議)	華虹置業(作為出租人) 本公司(作為承租人)	華虹置業為華虹科技發展的全資子公司，華虹科技發展為由本公司主要股東華虹集團持有50%並與其綜合入賬及由本公司全資子公司華虹宏力持有50%的公司。	華虹置業(作為出租人)與本公司(作為承租人)訂立的租賃協議，內容有關本公司向華虹置業租賃位於中國上海浦東新區錦綉東路2777弄華虹創新園的宿舍物業(「宿舍物業」)以用作本公司僱員的員工宿舍。租賃總建築面積為17,412.87平方米。	人民幣11,504,000元 (約1,696,000美元) ⁽¹⁾	人民幣12,000,000元 (約1,799,000美元)
(8)	二零二一年一月一日	華錦物業管理 (作為物業管理公司) 本公司(作為承租人)	華錦物業管理為華虹科技發展的全資子公司，華虹科技發展為由本公司主要股東華虹集團持有50%並與其綜合入賬及由本公司全資子公司華虹宏力持有50%的公司。	華錦物業管理(作為物業管理公司)與本公司(作為承租人)訂立的物業管理協議，內容有關本集團委聘華錦物業管理就宿舍物業提供物業管理服務。	人民幣2,445,000元 (約362,000美元)	人民幣4,000,000元 (約600,000美元)
(9)	二零二二年九月七日	華虹置業(作為出租人) 本公司(作為承租人)	華虹置業為華虹科技發展的全資子公司，華虹科技發展為由本公司主要股東華虹集團持有50%並與其綜合入賬及由本公司全資子公司華虹宏力持有50%的公司。	華虹置業(作為出租人)與本公司(作為承租人)訂立的租賃協議，內容有關本公司向華虹置業租賃位於中國上海浦東新區錦綉東路2777弄華虹創新園的宿舍物業(「新增宿舍物業」)以用作本公司僱員的員工宿舍。租賃總建築面積為7,726.32平方米。	人民幣1,622,000元 (約229,000美元)	人民幣1,800,000元 (約270,000美元)
(10)	二零二二年九月七日	華錦物業管理 (作為物業管理公司) 本公司(作為承租人)	華錦物業管理為華虹科技發展的全資子公司，華虹科技發展為由本公司主要股東華虹集團持有50%並與其綜合入賬及由本公司全資子公司華虹宏力持有50%的公司。	華錦物業管理(作為物業管理公司)與本公司(作為承租人)訂立的物業管理協議，內容有關委聘華錦物業管理就新增宿舍物業提供物業管理服務。	人民幣268,000元 (約38,000美元)	人民幣450,000元 (約67,000美元)

附註：

- (1) 本集團在採納香港財務報告準則第16號之前就華虹置業的若干宿舍物業訂立一項為期二十年的租約。因此，本集團毋須重新遵守須予公佈或關連交易規則。本集團根據該項租約應付的租金為每年1,696,000美元。於二零二二年十二月三十一日，該等使用權資產及租賃負債的結餘分別為12,229,000美元及14,772,000美元。

董事會報告

如上所述持續關連交易的價格及條款乃根據本公司相關公告所載的定價政策及指引釐定。董事會(包括獨立非執行董事)已審閱以上持續關連交易,並確認所訂立之該等交易實則上於二零二二年持續進行:

- (i) 於本公司日常業務過程中進行;
- (ii) 按照一般商務條款進行,或如可供比較的交易不足以判斷該等交易的條款是否為一般商務條款,對本公司而言,該等交易的條款不遜於獨立第三方可取得或提供(視屬何情況而定)的條款;及
- (iii) 根據有關的協議條款進行,而交易條款公平合理,並且符合本公司股東的整體利益。

本公司核數師已致函董事會,認為就上文所述於二零二二年訂立之持續關連交易:

- (i) 核數師並不知悉任何事項使核數師相信,已披露的持續關連交易尚未得到本公司董事會的批准;
- (ii) 就涉及本集團提供商品或服務的交易而言,核數師並不知悉任何事項使核數師相信,這些交易未能在所有重大方面符合本公司的定價政策;
- (iii) 核數師並不知悉任何事項使核數師相信,這些交易的訂立未能在所有重大方面符合關於這些交易的相關協議的規定;及
- (iv) 就各持續關連交易之總額而言,核數師並不知悉任何事項使核數師相信,對於各項已披露的持續關連交易,其交易金額已超過相關公告所披露的相關年度上限。

關連交易

注資協議

於二零二二年六月二十九日,本公司、華虹宏力、無錫錫虹聯芯、國家集成電路產業基金、國家集成電路產業基金II及華虹無錫訂立注資協議,據此同意華虹無錫的註冊資本由1,800百萬美元增至約2,536.85百萬美元,其中本公司、華虹宏力、無錫錫虹聯芯及國家集成電路產業基金II各自以現金方式分別出資約177.78百萬美元、230.22百萬美元、160百萬美元及232百萬美元作為對華虹無錫的注資。於注資完成後,華虹無錫仍為本公司一家非全資子公司,由本公司、華虹宏力、無錫錫虹聯芯、國家集成電路產業基金及國家集成電路產業基金II分別持有約22.22%、28.78%、20.00%、20.58%及8.42%。

由於華虹無錫於注資前由國家集成電路產業基金(本公司一名主要股東)持有約29%股權,因此其為本公司一家關連子公司。此外,由於無錫錫虹聯芯作為華虹無錫的主要股東,持有其20%股權,無錫錫虹聯芯為子公司層面的關連人士。因此,華虹無錫及國家集成電路產業基金均為本公司關連人士,且注資協議項下擬進行之交易根據上市規則第十四A章構成本公司的關連交易。

注資協議於二零二二年八月二十九日經股東在本公司股東特別大會上批准。有關注資協議的進一步詳情,請參閱本公司日期為二零二二年六月二十九日的公告以及本公司日期為二零二二年八月九日的通函。

關聯方交易

於截至二零二二年十二月三十一日止年度,本集團根據適用會計準則與被視為「關聯方」的人士進行若干交易。本集團於截至二零二二年十二月三十一日止年度訂立的關聯方交易的詳情於財務報表附註35披露。本公司已遵守上市規則第十四A章所載之披露規定。除本年報「持續關連交易及關連交易」一節所披露者外,於附註35披露的其他關聯方交易並不被視為關連交易,或根據上市規則獲豁免申報、公佈及獲股東批准之規定。

董事會報告

股權投資之表現

下表載列截至二零二二年十二月三十一日止年度有關股權投資之表現詳情。

	上海華力 (千美元)	矽睿科技 (千美元)	上海艾為 (千美元)
初始投資成本	229,133	1,704	6,290
於年初之賬面值	241,242	2,236	14,310
贖回	–	–	(5,707)
公平值變動	(48,601)	(28)	(5,079)
匯兌調整	(18,471)	(188)	(1,082)
於年末之賬面值	174,170	2,020	2,442
已收股息	–	–	–
出售之收益	–	–	1,943
認購出資額／持有股數	人民幣1,400,000,000元	10,377,050	178,000
所持股權百分比	6.3428%	0.6220%	0.1072%
與本公司資產總值比較之規模	2.5%	0.0%	0.0%

於截至二零二二年十二月三十一日止年度，本集團按5,707,000美元出售上海艾為350,000股股份。本公司於上海華力、矽睿科技及上海艾為股權投資之公平值減少分別為48,601,000美元、28,000美元及5,079,000美元。

上海華力起步於二零一零年。作為行業內領先的集成電路晶圓製造企業，上海華力擁有先進的工藝制程和完備的解決方案，專注於為設計公司、IDM公司及其他系統公司提供65/55納米至28/22納米不同技術節點的一站式晶圓製造技術服務。上海華力在中國有兩座12英寸全自動晶圓工廠。

於二零二二年財政年度，本公司於上海華力的股權投資賬面值減少67,072,000美元，包括公平值減少48,601,000美元及外幣報表虧損約18,471,000美元。因此，董事會認為，上海華力於二零二二年財政年度之表現符合預期。

董事會報告

矽睿科技成立於二零一二年九月，具有全面的知識產權組合，擁有逾83項授權專利。矽睿科技為一家領先的傳感器平台公司，致力於創新型MEMS傳感器及解決方案的開發及營銷，以簡化先進感知、測量及於消費者、汽車的控制及工業應用。

於二零二二年財政年度，本公司於矽睿科技的股權投資賬面值減少216,000美元，包括公平值減少28,000美元及外幣報表虧損約188,000美元。由於矽睿科技業務仍處於早期發展階段，董事會認為矽睿科技於二零二二年的業績表現及戰略規劃符合預期。

上海艾為創立於二零零八年六月，為一家專注於為手機、人工智能、物聯網、汽車電子、可穿戴和消費類電子提供高品質及高性能的數模混合、模擬、射頻IC設計的高科技公司。上海艾為是上海證券交易所科創板上市公司。

於二零二二年財政年度，本公司出售上海艾為350,000股股份。公平值減少5,079,000美元且外幣報表虧損約1,082,000美元。儘管進行了出售，董事會仍將其於上海艾為的投資視為長期戰略投資的一部分，本集團將與上海艾為在模擬、BCD(包括12英寸90納米)、eFlash、功率器件、射頻和IC技術開發、擴大產能等領域合作，以期為客戶提供更具競爭力、更高性能和質量的產品。董事會認為上海艾為於二零二二年財政年度的業績表現符合預期。

本公司確認，其已遵守本公司截至二零二二年十二月三十一日止年度的年報所載的投資及其他金融資產之會計政策(自二零一八年一月一日起適用的香港財務報告準則第9號項下的政策)。

本公司預期上述投資的未來前景將與去年基本一致，且投資策略或資金來源預計於來年不會發生重大變動。

股東週年大會

股東週年大會將於二零二三年五月十一日(星期四)舉行。

暫停辦理股份過戶登記手續

為釐定股東出席股東週年大會並於會上投票的資格

交回股份過戶文件以作登記的最後時限

二零二三年五月五日下午四時三十分

暫停辦理股份過戶登記手續

二零二三年五月八日至五月十一日(包括首尾兩日)

記錄日期

二零二三年五月十一日

為確保符合資格出席股東週年大會並於會上投票，尚未登記的股份持有人要確保將全部股份過戶文件連同有關股票於上述最後時限前送達本公司的股份過戶登記分處卓佳證券登記有限公司辦理股份過戶登記手續，地址為香港夏慤道16號遠東金融中心17樓。

董事會報告

董事及董事服務合約

年內及截至本報告日期，本公司的董事如下：

執行董事：

張素心先生 (主席)
唐均君先生 (總裁)

非執行董事：

孫國棟先生
王靖女士
葉峻先生

獨立非執行董事：

張祖同先生
王桂壘先生，太平紳士
葉龍蜚先生

本公司各董事以三年特定任期獲委任，並須於股東大會上由本公司再次提名及重選，除非其委任已按照相關委任函或董事服務合約的條款及條件提早終止。

孫國棟先生、葉峻先生及張祖同先生將於股東週年大會上輪席退任董事職務，孫國棟先生、葉峻先生及張祖同先生符合資格並願按照本公司的組織章程膺選連任。

概無擬於股東大會上膺選連任的董事已訂立本集團可於一年內終止而無須補償(法定補償除外)的服務合約。

本公司已接獲現任各獨立非執行董事按照上市規則第3.13條發出的年度獨立性確認書。本公司認為根據上市規則，所有獨立非執行董事均為獨立人士。

董事及高級管理層履歷

本公司董事及高級管理層的履歷載於本報告第125至131頁。

最高薪人士及董事及高級管理層的薪酬

董事及5名最高薪人士的薪酬詳情分別載於本年報綜合財務報表附註8及9。

董事會報告

董事及最高行政人員於本公司股份及相關股份的權益

於二零二二年十二月三十一日，除下文披露者外，概無本公司董事及最高行政人員於本公司或任何相聯法團（定義見證券及期貨條例第XV部）的股份、相關股份或債權證中擁有載入根據證券及期貨條例第352條須予存置的登記冊內的任何權益或淡倉，或須按照上市規則所載上市的標準守則須知會本公司及聯交所的任何權益或淡倉。

董事姓名	身份	以好倉持有的 相關股份數目 ⁽¹⁾	概約權益百分比
唐均君先生	實益擁有人	437,500	0.03%

附註：

(1) 按購股權計劃授出的購股權項下於本公司相關股份的好倉。

董事於競爭業務的權益

於本年度，概無本集團董事於與本公司或本集團業務直接或間接競爭的業務中擁有任何權益。

董事於重大交易、安排或合約的權益

於二零二二年六月二十九日，本公司、華虹宏力、無錫錫虹聯芯、國家集成電路產業基金、國家集成電路產業基金II與華虹無錫訂立注資協議。本公司非執行董事孫國棟先生為華芯投資管理有限責任公司的董事總經理，而華芯投資管理有限責任公司為國家集成電路產業基金及國家集成電路產業基金II的基金管理人。因此，彼被視為於注資協議中擁有重大權益。有關注資協議的進一步詳情，請參閱「持續關連交易及關連交易－關連交易－注資協議」一節。

除上文披露者外，本公司或其任何子公司或聯營公司並無訂立於截至二零二二年十二月三十一日止年度完結時或年內任何時間仍然生效，且有董事或與董事相關之實體直接或間接擁有重大權益的重大交易、安排或合約。

董事的證券交易

本公司已自行頒佈董事買賣本公司證券的行為守則（「公司守則」），條款不比標準守則寬鬆。經向全體董事進行具體查詢，董事確認他們於二零二二年整個年度一直遵守公司守則及標準守則。

彌償保證及保險

本公司為董事及高級職員提供D&O保險。D&O保險承保日常管理責任及每年續保。

董事會報告

子公司的董事

於截至二零二二年十二月三十一日止年度或於二零二二年末起至本報告日期期間，在本公司子公司董事會任職的董事姓名如下：

子公司名稱	註冊成立地點	董事姓名
Grace Cayman	開曼群島	張素心先生 葉峻先生
華虹宏力	中國上海	張素心先生 唐均君先生 王靖女士 馬玉川先生 森田隆之先生 葉峻先生 張祖同先生 王桂壘先生，太平紳士 葉龍蜚先生
華虹無錫	中國無錫	張素心先生 韋俊先生 唐均君先生 孫國棟先生 王靖女士 陳琦女士 ¹ 金新先生 朱小明先生 ²
華宏置業(無錫)有限公司	中國無錫	周衛平先生
華虹半導體製造(無錫)有限公司	中國無錫	張素心先生
力鴻科技有限公司	中國香港	王鼎先生 傅城先生
HHGrace Semiconductor USA, Inc.	美國加州	王鼎先生 傅城先生
HHGrace Semiconductor Japan Co., Ltd.	日本東京	中村真紀女士 王鼎先生 傅城先生

附註：

- (1) 陳琦女士獲委任為華虹無錫董事，已於二零二三年一月十三日在相關市場監督管理部門登記。
- (2) 朱小明先生辭任華虹無錫董事，已於二零二三年一月十三日在相關市場監督管理部門登記。

董事會報告

主要股東及其他人士於本公司股份和相關股份的權益

於二零二二年十二月三十一日，除本公司董事或最高行政人員外，於本集團股份及相關股份中擁有5%或以上權益或淡倉的人士如下：

主要股東	身份及權益性質	持有股份數目	佔已發行股本權益總額的概約百分比*
上海華虹國際有限公司(「華虹國際」) ⁽²⁾	法定及實益擁有人	347,605,650 ⁽¹⁾	26.60%
華虹集團 ⁽²⁾	受控制法團權益	347,605,650 ⁽¹⁾	26.60%
Sino-Alliance International, Ltd. (「Sino-Alliance International」)	法定及實益擁有人	160,545,541 ⁽¹⁾⁽³⁾	12.29%
Sino-Alliance International	受控制法團權益	28,415,606 ⁽¹⁾	2.17%
上海聯和	受控制法團權益	188,961,147 ⁽¹⁾⁽⁴⁾	14.46%
鑫芯(香港)投資有限公司	法定及實益擁有人	178,705,925 ⁽¹⁾	13.67%
巽鑫(上海)投資有限公司	受控制法團權益	178,705,925 ⁽¹⁾	13.67%
國家集成電路產業基金	受控制法團權益	178,705,925 ⁽¹⁾	13.67%

附註：

- (1) 於本公司股份中的好倉。
- (2) 華虹國際為華虹集團的全資子公司。
- (3) 包括Sino-Alliance International根據一項託管安排，以託管方式持有的3,084股股份。
- (4) 上海聯和透過兩家全資子公司包括Sino-Alliance International間接持有本公司權益。

* 百分比乃按本公司於二零二二年十二月三十一日已發行的股份總數(即1,306,836,740股股份)計算。

除上文披露者外，就本公司董事及最高行政人員所知，於二零二二年十二月三十一日，概無本公司董事或最高行政人員以外的其他人士或法團於本公司任何股份或相關股份中有任何權益或淡倉並已記入根據證券及期貨條例第336條本公司須予存置的記錄冊內。

董事會報告

購買股份或債權證的安排

於截至二零二二年十二月三十一日止年度任何時間，概無向任何董事或彼等各自之配偶或未成年子女授出任何權利以收購本公司股份或債權證方式得到利益，亦無上述人士曾行使上述權益；再者，本公司或其任何控股公司、子公司或同系子公司亦無訂立任何安排，使董事或彼等各自之配偶或未成年子女可購買任何其他法人團體之上述權利。

主要客戶及供應商

於截至二零二二年十二月三十一日止年度，本集團前五名供應商合共應佔的採購額低於總採購額的30%，本集團前五名客戶合共應佔的營業額低於總營業額的30%。

薪酬政策

截至二零二二年十二月三十一日，本集團僱用合共6,753名員工。本集團按其優點及發展潛能招聘及擢升人員。本集團僱員的薪酬政策由薪酬委員會按其優點、資質及勝任程度設立。

董事薪酬由薪酬委員會決定，並會考慮到本集團的經營業績及個人表現。董事薪酬按姓名載列於截至二零二二年十二月三十一日止年度的財務報表附註8。

買賣、銷售或贖回證券

截至二零二二年十二月三十一日止年度，本公司或其任何子公司概無買賣、銷售或贖回本公司任何上市證券。

優先購買權

本公司的組織章程或香港法律概無優先購買權條文，規定本公司須按比例向現有股東提呈新股份發售。

企業管治

本公司致力保持企業管治在高水平，以保障股東權益及提升企業價值及問責性。

本公司所採納的企業管治常規資料載於本年報企業管治報告內。

董事會報告

遵守相關法律法規

據董事會所知，本公司在各重大方面均已遵守對本公司業務及營運具有重大影響的相關法律法規。

環境及社會責任

本公司已將環境、社會及管治深刻融入到戰略、管理和長期發展目標中，貫穿企業運營的全過程。本公司堅信環境、社會及管治三方面之間互相影響，促進其有效管理能夠推動我們業務的長遠發展，並為所有的利益相關方創造和分享價值。

有關本公司二零二二年度所採納的環境、社會及管治常規的詳細資料，載於2022年度環境、社會及管治報告。

本公司聚焦綠色產品與綠色生產，致力於降低運營對環境的負面影響，為客戶提供更加環保的產品。本公司積極響應「雙碳」目標，持續提高節能減排的投入，並制定能源使用及溫室氣體減排目標，加強應對氣候變化風險應對能力。

二零二二年，本公司積極開展安全與環保技術專項改造。所有工廠通過ISO14001環境管理體系認證。此外，公司運用新能源領域的技術研發取得重大進展，第七代IGBT技術順利完成開發並進入量產，已應用於主流新能源汽車及光伏發電領域，為全價值鏈綠色產品發展提供堅實的技術支持。

作為負責任的企業公民，本公司致力於推動可持續價值鏈的建設。二零二二年，公司新增針對可持續供應鏈的ESG管理目標：「開展供應商衝突礦產盡職調查率達100%，且合規礦產使用率達100%」，加強對供貨商衝突礦產的管理，構建和諧的產業生態系統。

遵守不競爭契據及優先購買權契據

華虹集團、上海聯和及儀電集團（作為本公司當時的控股股東）訂立日期為二零一四年九月二十三日的「不競爭契據」（「不競爭契據」），詳情載於日期為二零一四年十月三日的本公司招股章程（「招股章程」）「與控股股東的關係」一節中「不競爭承諾」一段。另外，華虹集團和上海聯和亦訂立日期為二零一四年六月十日的優先購買權契據（「優先購買權契據」），詳情載於招股章程「與控股股東的關係」一節中「優先購買權」一段。本公司於截至二零二二年十二月三十一日止年度已覆核上述各控股股東有關他們遵守不競爭契據及優先購買權契據（視情況而定）內承諾的書面聲明。獨立非執行董事已覆核遵守情況，並確認不競爭契據及優先購買權契據（視情況而定）下的全部承諾均獲有關訂約方遵守。

董事會報告

足夠公眾持股量

按本公司可公開取閱的資料，就董事於本報告日期所知，董事信納本公司已維持上市規則下的指定最低公眾持股量。

核數師

股東週年大會上將提呈一項決議案，續聘安永會計師事務所為本公司的核數師。

代表董事會
張素心先生
主席
二零二三年三月三十日

2022年度環境、社會及管治報告

董事會聲明

公司堅持「家國情懷、一諾千金、敬業風險、使命必達」的核心價值觀，秉承「開放、創新、合作」的理念，積極推動行業交流與合作，用實質行動響應客戶、員工、投資人等利益相關方的期望，攜手推動可持續發展。

公司積極踐行促進環境友好與可持續發展理念，通過提供綠色環保產品，推進綠色科技的運用，全面提升公司環境、社會及管治履責水平。

公司成立了自上而下的環境、社會及管治(ESG)架構，由董事會對ESG承擔以下職責：

- a) 指導公司ESG管理方針及策略的制定，確保其與時並進、切合所需，並符合適用的法律及監管要求；
- b) 指導公司重要ESG議題的識別和重要性程度判定；
- c) 監督公司ESG目標的制定和實施，包括：制定公司ESG管理績效目標；監督目標實現的進度，並就實現目標所需採取的行動提供建議；
- d) 審閱並批准公司年度的《環境、社會及管治報告》及其他ESG相關披露信息。

本報告中ESG議題的管理與實踐進展，在2023年3月召開的董事會第3次會議審議通過。

2022年度環境、社會及管治報告

1 ESG管理體系

1.1 ESG管理架構與管理策略

公司秉承「持續創新，為全球客戶製造「芯」夢想」的願景，成立了自上而下的ESG管治架構，並持續完善管理體系，創新驅動發展，培養創新人才，努力降低運營對環境產生的影響，並推進供應鏈表現改善，促進企業商業價值和社會價值的共同創造。

董事會是公司ESG管理的最高決策機構，負責監督ESG目標的制定與實施，指導並檢討ESG管理策略及方針，妥善管理公司可能面對ESG風險並對其最終負責。董事會成立跨部門的ESG工作組，ESG工作組在董事會的授權下，協助開展及落實ESG管理工作，並定期向董事會報告ESG關鍵績效指標的進度，推進公司ESG管理目標的實現。

ESG管理架構



公司把ESG管理融入產品、業務運營及企業發展中，形成了「員工責任」「產業責任」「民生責任」「投資人責任」四大維度完善的ESG管理策略。

2022年度環境、社會及管治報告

ESG管理策略

為員工實現“心”價值

- 尊重員工價值
- 關愛員工成長
- 保障職業健康

員工責任



產業責任



為客戶創造“芯”夢想

- 品質產品服務
- 客戶權益保障
- 繁榮產業經濟

持續創新
為全球客戶
製造“芯”夢想

為社會構建“欣”生態

- 推動綠色發展
- 資源高效利用
- 共促社會和諧

民生責任



投資人責任



為股東創造“新”利潤

- 創新驅動發展
- 夯實誠信經營
- 共享中國發展

2022年度環境、社會及管治報告

1.2 ESG管理目標與進展

公司根據業務發展情況、自身運營過程中的ESG表現，制定了用水效益、能源使用效益、減少溫室氣體排放及減少廢棄物目標，董事會每年審視公司上一年度ESG績效及ESG績效目標達成情況，並在ESG報告中披露，從而推動ESG績效目標的實現。

2022年，公司增加了「可持續供應鏈」議題上的管理目標，明確設置了衝突礦產盡職調查目標，以深化公司衝突礦產管理。

ESG管理目標及2022年度進展

層面	目標	2022年度進展
水資源管理	2030年單位產品用水量(立方米/8英寸晶圓)較2015年減少12%	提前達成目標 2022年單位產品用水量為2.46立方米/8英寸晶圓，較2015年減少23%
能源使用管理	2030年單位產品綜合能源消耗量(兆瓦時/8英寸晶圓)較2015年減少7%	提前達成目標 2022年單位產品綜合能源消耗量為0.25兆瓦時/8英寸晶圓，較2015年減少33%
溫室氣體排放管理	2030年單位產品溫室氣體排放量(噸二氧化碳當量/8英寸晶圓)較2015年減少12%	提前達成目標 2022年單位產品溫室氣體排放量為0.12噸二氧化碳當量/8英寸晶圓，較2015年減少52%
廢棄物排放管理	秉承精益生產管理理念，採取減量化措施，不斷減少單位產品有害廢棄物產生量、單位產品無害廢棄物產生量	達成目標 <ul style="list-style-type: none"> 2022年單位產品有害廢棄物產生量為4.88千克/8英寸晶圓，較2021年下降2% 2022年單位產品無害廢棄物產生量為2.36千克/8英寸晶圓，較2021年下降8%
可持續供應鏈管理 ¹	開展供應商衝突礦產盡職調查率達100%，且合規礦產使用率達100%	達成目標 <ul style="list-style-type: none"> 對「衝突礦產」供應商進行盡職調查，覆蓋率達100%，並完成最新版衝突礦產和擴展礦物調查報告 調查發現，供應商全部使用合規原物料，合規礦產使用率達100%

1 可持續供應鏈管理目標為2022年度新增目標

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2022年所獲社會認可

序號	榮譽
	全國
1	2022年全國五一勞動獎狀
2	2022中國IC設計成就獎之中國半導體20年特殊貢獻獎
3	2021高可靠型MCU優秀（工藝）解決方案獎
	上海市
4	2022年上海市工人先鋒號
5	2022年上海市三八紅旗集體
6	上海市「十三五」節能先進集體
7	上海市質量協會質量技術獎
8	2021年度浦東新區科技創新突出貢獻獎
	江蘇省
9	江蘇省五一勞動獎狀
10	江蘇省工人先鋒號
11	無錫市工人先鋒號

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1.3 利益相關方參與

根據公司自身業務和運營特點，並對標國內外行業的經驗和實踐，華虹半導體將主要利益相關方確定為股東、客戶、員工、政府及監管機構、合作夥伴、社區及公眾，並通過網站、媒體、會議、報告、活動等渠道和方式積極與之溝通。

利益相關方溝通及關注議題

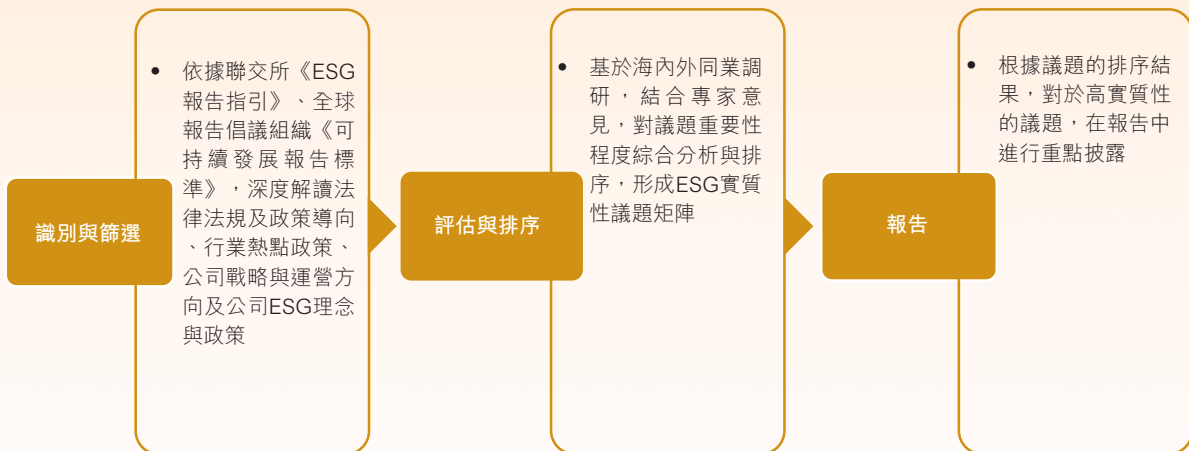
關鍵利益相關方	相關方說明	關注的議題	溝通與回應
股東及高級管理層	對公司進行股權、債權投資的國內外投資人及公司高級管理層員工	合規經營、風險管理、反腐敗、客戶關係管理、水資源管理	股東會、財務報告、業績報告、路演等
客戶	集成器件製造商及無廠半導體公司	數據安全與隱私保護、產品質量與安全、客戶關係管理、研發創新	產品展覽、客戶調研、技術研討會，B2B（例如E-tapeout系統、WIP報告、WAT報告等），客服熱線、客戶滿意度調查等
員工	公司員工，以及常年服務於公司業務的人員	員工權益與福利、員工健康與安全、員工發展與培訓	員工活動、職代會、企業內網、員工培訓、員工自助系統、員工手冊、企業內部刊物等
政府及監管機構	製造業、稅務、環保、安全等部門、地方政府、證監會等政府或監管機構	合規經營、綠色產品、排放物管理、能源管理	機構考察、政策執行、信息披露等
合作夥伴	供應商、研究院校、行業協會等	行業發展、產品質量與安全、客戶關係管理、研發創新、可持續供應鏈管理	公開招投標會議、戰略合作洽談、交流互訪等
社區及公眾	運營所在地社區、社會公眾、媒體等	綠色產品、排放物管理、社區與公益	社區活動、員工志願者活動、公益活動、社會事業支持項目等

2022年度環境、社會及管治報告

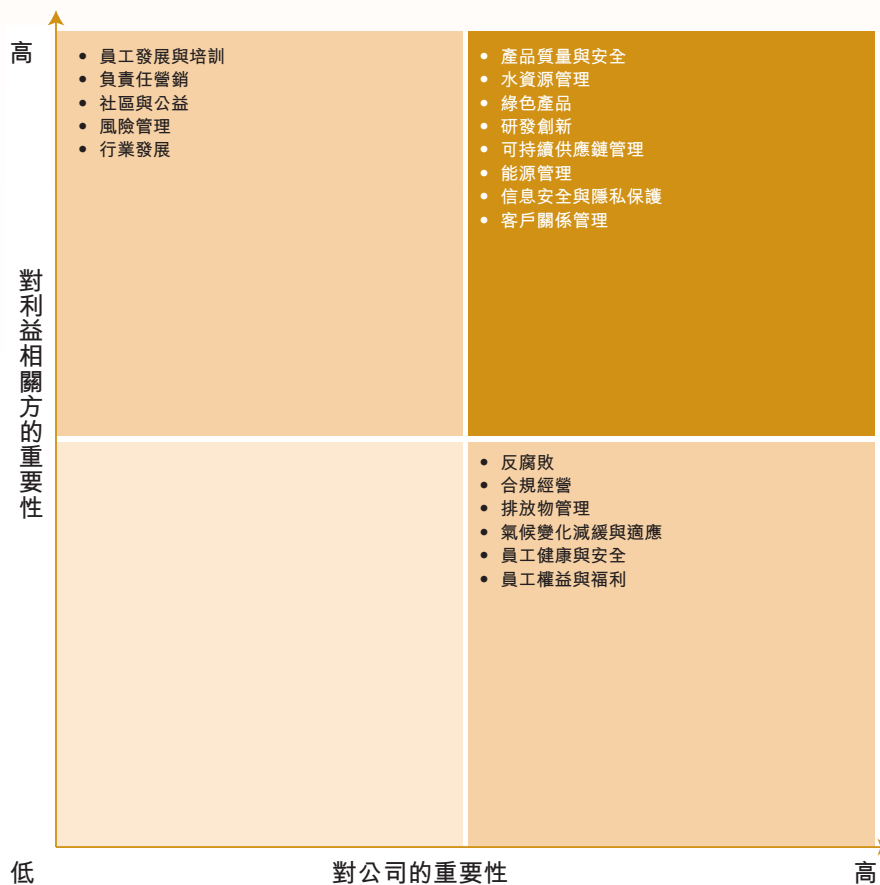
1.4 實質性議題識別與分析

2022年，公司依據香港聯合交易所有限公司《環境、社會及管治報告指引》和全球報告倡議組織（Global Reporting Initiative，簡稱「GRI」）《可持續發展報告標準》，結合公司內外部利益相關方關注重點、政策調研與同業對標分析等，識別出19項實質性議題。

實質性議題分析過程



實質性議題矩陣圖



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議題調整說明

議題	釋義	調整形式	說明
負責任營銷	公司確保向客戶／消費者提供的產品信息真實、準確性，營銷過程中沒有誤導、誇大及欺詐客戶／消費者的行為	新增議題	此調整更全面地回應香港聯交所《環境、社會及管治報告指引》的披露要求
水資源管理	公司所利用水資源的類型及利用管理、資源的節約使用等情況，包括管理方法及資源利用相關數據披露	調整名稱	此調整更符合行業特徵及公司的ESG目標及策略
能源管理	公司所利用的能源類型及利用管理、能源的節約使用等情況，包括管理方法及能源利用相關數據披露	調整名稱	此調整更符合行業特徵及公司的ESG目標及策略
研發創新	公司在科技創新領域的開發管理，包括公司在研發創新方面的管理、計劃、在研產品的情況進展	調整名稱	此調整更符合行業特徵及公司的ESG策略
可持續供應鏈管理	供應商的分類、環境及社會風險管理、綠色採購，包括供應商統計、風險評估等數據披露	調整名稱	此調整更符合行業特徵
信息安全與隱私保護	公司規範數據處理活動，保障數據安全的情況，包括管理方法、管理行動等	調整名稱	—
客戶關係管理	公司在客戶關係方面的管理制度及措施等，包括客戶服務、客戶投訴與處理、客戶教育，包括客戶滿意度、客戶服務與投訴相關數據披露	調整名稱	—

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2 環境責任

2022年主要進展

具體舉措	取得成效
安全與環境技術改造	安全與環保技術專項改造項目累計49項 安全環保投入達1,759萬元
制定「3000噸標煤的節能項目規劃」，涵蓋高效低能設備置換、工藝改造等措施	節能減排經濟效益713萬元 減少34.44萬立方米天然氣 減少412.66千瓦時用電量 減少2,487.21噸碳排放

2.1 環境管理體系

公司堅持環境友好與可持續發展理念，嚴格遵守《中華人民共和國環境保護法》等法律法規，依據環境管理體系ISO 14001修訂了廢氣排放管理制度、相關方管理程序、輻射設備管理程序、廢棄物管理程序、用水管理制度、資源、能源管理程序等，搭建了涵蓋全生命周期環境管理體系，通過不斷優化環境管理措施，提升公司環境管理水平。

此外，公司通過打造綠色建築，減少營運過程的能源及資源消耗，積極推動自身節能減排工作，降低生產對環境的影響。2022年，公司投入1,759萬元用於安全與環保技術專項改造項目，累計優化改造49項。

報告期內，公司足額繳納了環境保護相關稅費，各工廠均通過ISO 14001體系認證，公司未發生違反環境保護相關法律法規的事件。

華虹半導體環境責任相關認證

認證名稱	認證內容	覆蓋範圍
	ISO 14001: 2015環境管理體系	所有工廠
	「能源與環境設計先鋒」(LEED v4)金獎	華虹無錫
	二星級綠色建築設計標識證書	華虹無錫
	QC 080000有害物質過程管理體系	所有工廠

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公司EHS部門負責統籌公司環境管理體系事宜，涵蓋對能源與資源使用、排放物管理等方面的管理制度制定、績效分析及評估，協助外部機構對公司的環境管理體系開展的審核及檢測工作。此外，公司運用安全管理審核追蹤系統，對在日常管理中發現的不符合環保規定的事項進行整理、列出清單，並通過系統定時提醒的方式，進行後續整改的跟蹤記錄。

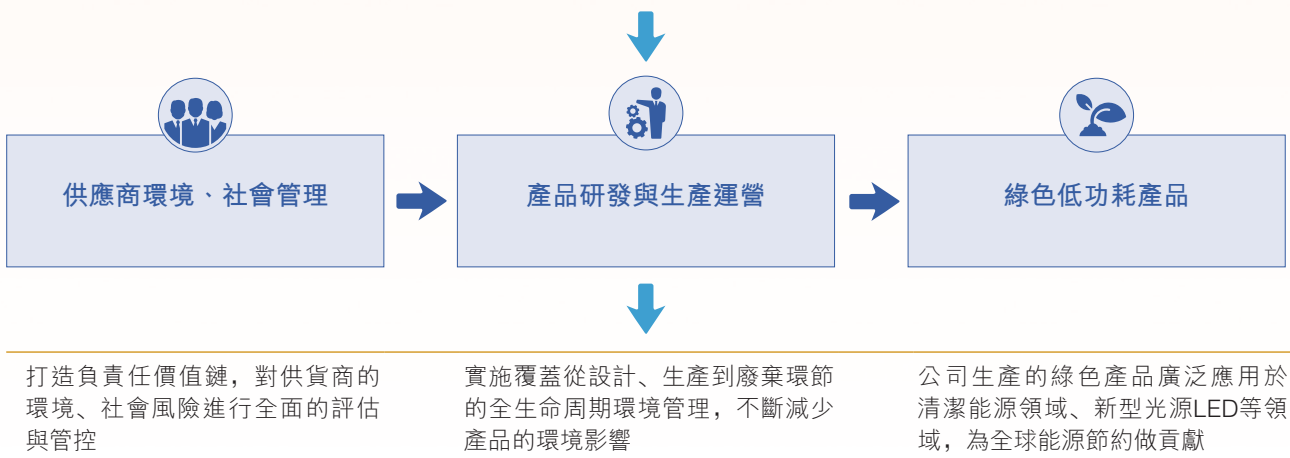
使用主要資源及管理制度

主要能源與資源	管理制度
能源	電力、熱力、天然氣及少量汽油、柴油 《資源、能源管理程序》 《用水，電，蒸汽，燃氣計量管理制度》
水源	市政供水 《用水，電，蒸汽，燃氣計量管理制度》 《用水管理制度》 《工業用水供水系統標準作業程序》等
原材料	硅片、石英、靶材、氣體、化學品 《對供應商CSR & RBA宣導書》 《原物料有效期管控方針》 《關鍵物料的風險識別及應對措施》 《關鍵物料風險分析表》 《物料管理科儲存化學品及氣體作業管理規範》等

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環境管理績效概覽

水資源	
用水總量	18,010,226立方米
其中，市政用水	10,284,063立方米
廢水回用	7,726,163立方米
單位產品用水量	2.46立方米／8英寸晶圓
循環用水量	107,163,560立方米
能源	
用電總量	954,667兆瓦時
單位產品用電量	228千瓦時／8英寸晶圓
天然氣用量	10,530,287立方米
單位產品天然氣用量	2.52立方米／8英寸晶圓
包裝材料	
製成品包裝材料使用總量	313.32噸
製成品包裝材料回收總量	53.94噸
其他原材料	
硅片、石英、靶材、氣體、化學品等生產原材料	



廢氣	
有害廢棄物總量	20,385噸
單位產品有害廢棄物產生量	4.88克／8英寸晶圓
無害廢棄物總量	9,864噸
單位產品無害廢棄物產生量	2.36克／8英寸晶圓
廢棄物	
廢氣排放總量	2,391,024萬立方米
氮氧化物(NO _x)排放量	32,650克
二氧化硫(SO ₂)排放量	3,546克
溫室氣體	
溫室氣體排放量	497,938噸二氧化碳當量
單位產品溫室氣體排放量	0.12噸二氧化碳當量／8英寸晶圓
廢水	
廢水排放總量	832萬立方米

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綠色文化

公司持續推廣環保理念，定期召開環境管理分享會，組織各生產工廠在分享會上分享優秀環境管理案例及措施，提高員工環境保護、節約使用辦公資源和能源的意識。

綠色文化實踐

節約辦公用紙	<ul style="list-style-type: none"> 推行信息化辦公，減少紙張使用。 大力提倡使用再生紙張，包括打印員工名片等，以支持循環再造。
節約用電	<ul style="list-style-type: none"> 下班或長時間離開時關閉電源。 合理設置空調溫度，夏季不低於26℃，冬季不高於20℃。
節約用水	<ul style="list-style-type: none"> 培養員工的節約意識，張貼節約用水貼士。
廢棄物處置	<ul style="list-style-type: none"> 對各廠區的生活垃圾進行乾、濕、可回收、有害垃圾4類分類，並張貼垃圾分類海報，提高員工的意識。
員工出行	<ul style="list-style-type: none"> 鼓勵員工使用公共交通上下班。 公司班車使用新能源汽車。

2.2 能源管理

公司能源消耗主要是電力、熱力、天然氣（及少量汽油、柴油）。公司嚴格遵守《中華人民共和國節約能源法》等法律法規及相關規定，設定節能管理目標，制定《資源、能源管理程序》《用水，電，蒸汽，燃氣計量管理制度》等管理制度，不斷優化完善能源管理體系，通過開展各類節能技改及使用節能設備，持續提升能源使用效率。

能源管理體系

管理理念

- 在滿足和提高生產率的同時進行源頭控制、持續改善，在降低生產成本的同時減少對環境的影響

管理目標

- 到2030年，公司單位產品綜合能源消耗較2015年減少7%

管理制度

- 《資源、能源管理程序》
- 《用水管理制度》
- 《用水，電，蒸汽，燃氣計量管理制度》

管理措施

- 開展節能技術改造
- 委託有資質的第三方機構開展能源審計工作
- 組織節能宣貫活動、張貼節能標識

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為確保電力穩定供應，確保生產順利進行，公司制定了《緊急卸載應急預案》《緊急停電應急預案》《供電停止情況時動力部現場處置方案》管理制度，並在各廠區定期開展能源應急預案培訓及應急演練，通過日常檢查、專項系統排查，配合應急演練，保障電力供應無虞。

公司積極開展一系列的節能宣貫活動，貫徹節能低碳理念，包括分享既有節能行動案例，開展相關法律法規普及等，提高全體員工節能意識。

報告期內，公司響應上海市經濟和信息化委員會的《上海市工業和通信業節能降碳「百一」行動》，制定「3000噸標煤的節能項目規劃」，涵蓋高效低能設備更換、工藝改造、餘熱回收等措施。此外，公司開展了內外部能耗審計工作，從而更好地梳理與分析公司能源使用情況，提高管理水平，達到節能增效的目標。

2022年能源節約工作及成果

工廠	具體措施	全年節約能源
華虹一廠	• 冷凍機以新換舊節能降耗	61.8萬度電 全年節約用電
華虹二廠	• 優化產品流程，降低純水天然氣使用量	1.17萬立方米 全年節約天然氣 6,048噸 全年節約純水
華虹三廠	• 三廠DUPS替換改造項目	256.23萬度電 全年節約用電
華虹七廠	• NORD Flash Cell新工藝項目	189萬度電 全年節約用電 1.6萬噸水 全年節約用水 0.8萬噸廢水 全年減少廢水排放

2.3 氣候變化減緩與適應

公司認識到減緩氣候變化對於企業自身和全球都具有重要意義，響應國家「30·60」雙碳目標，設定碳減排制度《碳交易管理制度》，定期在適用生產工廠開展碳排放核查，在生產、經營過程中不斷提高能源使用效率，開發低能耗產品，助力「雙碳」目標的實現。

公司溫室氣體排放主要來源於天然氣使用的直接溫室氣體排放及外購電力等產生的間接溫室氣體排放。公司從管理層面 and 技術層面開展溫室氣體減排工作，減少公司運營活動產生的碳排放，進而減少對於氣候變化的影響。

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主要溫室氣體排放來源

溫室氣體類型	來源
範圍一	公司天然氣、自有車輛汽油、自有車輛柴油消耗
範圍二	公司外購電力和蒸汽消耗產生的溫室氣體排放

公司屬於溫室氣體重點排放單位，在上海和無錫均設有生產基地。報告期內，公司對上海生產基地的所有工廠進行了第三方碳排放核查，落實碳履約工作。

應對氣候變化管理措施

層面	內容
管理	<ul style="list-style-type: none"> • 建立突發事件應急預案，定期組織應急演練和培訓教育； • 及時跟進相關法律法規及政府新增要求，制定相關改進計劃以符合新增要求 • 開展溫室氣體核查、碳盤查等工作
技術	<ul style="list-style-type: none"> • 建設和維護應急設備，替換高效節能設備等 • 使用綠色能源、高效節能設備等，提高能源使用效率，減少碳足跡
產品	<ul style="list-style-type: none"> • 使用綠色技術及綠色原材料，減少有害物質生成，降低對環境的影響 • 開發更低功耗與更高效能的產品，助力產業能效提升，減少碳排放

綠色產品

綠色產品指在產品設計、製造、使用、報廢、再使用的閉環過程中，將綠色理念貫穿其中，持續打造兼顧資源能源消耗少、污染物排放低、低毒少害、易回收處理和再利用、安全環保和質量品質高等特徵的產品。公司基於產品全生命周期的環境足跡，積極打造綠色產品，通過實施綠色採購、改進工藝技術等措施，不斷降低產品生產對環境的影響。同時，公司生產綠色產品廣泛運用在多個產業，助力其他產業減少對環境影響。

產品全生命周期環境管理



原材料入庫

- 對原材料進行有害物質審查與系統管控
- 對供應商開展資質、環境合規情況的審查，並要求供應商簽署《環保承諾書》



產品生產

- 選擇低能耗高效能的生產設備
- 實施水資源回收項目，提升水整體利用率
- 實施綠色採購



產品運輸

- 對產品包裝材料進行回收與重複利用，減少包裝材料用量及廢棄物產生量



終端產品使用

- 通過幫助客戶生產低能耗產品，減少終端電子產品的使用對環境的影響



產品廢棄

- 公司生產的晶圓均通過有害物質監測，意味着使用晶圓製造的終端電子產品在廢棄後能減少對環境的影響
- 可回收的廢棄物交由有資質的第三方回收處理

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目前，公司產品已經廣泛應用於工業變頻、智能電網、新能源汽車、光伏和風力發電、新型光源LED等領域。公司持續優化化合物半導體功率器件能效使用，開發更高能效的硅基功率器件，開發BCD600V Highside及HiPower等新工藝集成方案來為變頻家電及新能源車提供綠色環保方案，降低終端使用的環境影響。

貢獻全球氣候減緩行動



2.4 水資源管理

公司嚴格遵守《中華人民共和國水法》，設定水資源管理目標，制定水資源管理的策略，引進更高效的設備與工藝，持續優化水資源管理措施，提高用水效率。

水資源管理目標

2030年單位產品用水量(立方米/8英寸晶圓)較2015年減少12%。

公司的用水主要來源是市政供水，少部分來源於純水製造過程中的回收用水和空調冷凝水。公司持續對工廠運營區域水資源現狀開展監測，通過使用外部工具－世界資源研究所(World Resources Institute, 簡稱「WRI」)「輸水道水源風險地圖」(Aqueduct Water Risk Atlas)，對工廠生產運營的用水合理性及取水可能造成的影響進行分析，並制定有效措施，降低風險以確保水資源能支持公司長期發展。

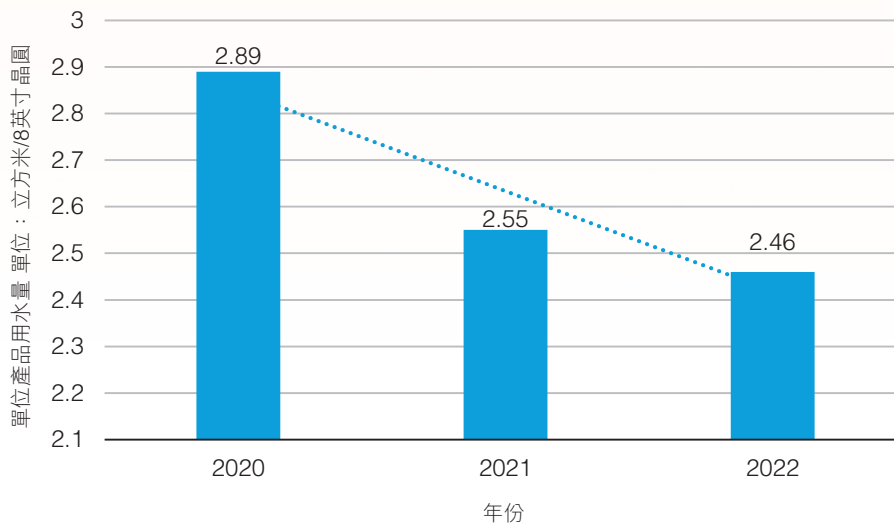
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公司WRI風險監測結果及應對措施

水風險檢測指標	<ul style="list-style-type: none"> • 物理風險數量：用水風險、乾旱、地下水位下降等 • 物理風險質量：海岸侵蝕、未處理水 • 法律法規及聲譽風險：飲用水質量、衛生條件等
檢測結果	<ul style="list-style-type: none"> • 中風險區域：無錫晶圓廠 • 高風險區域：上海晶圓廠
應對措施	<ul style="list-style-type: none"> • 建立了用水監測點，定期開展水平衡測試，計算廠內制程用水、回收水、廢水、生活用水 • 掌握用水流向、流量與回收再利用情形，分析是否存在用水異常，並預估各用水單位之間的水量合理調配 • 打造綠色建築，升級或替換耗水較多的設備，提高用水效率 • 拓展水資源來源，回收利用空調冷凝水、有機廢水等，並將回收水再精煉處理為工業用水 • 開展節水意識宣貫活動，張貼節水標識

公司持續完善水資源的精細化管理，制定《工業用水供水系統標準作業程序》《自來水異常處置流程》等管理制度，建立健全的台賬管理，定期對使用情況進行統計、分析和改善。公司在保證合理的用水需求的同時節約水資源，維護可持續的水平衡，通過開展節水宣貫等措施，全方位減少各環節水資源消耗，持續降低生產系統和工藝系統的耗水量。另外，公司致力於在生產運營中開展節水技改與廢水回用等節水措施，不斷提升工廠的水資源使用效率。

近三年單位產品用水量



報告期內，公司榮獲2022年上海市工業水重複利用及雨水綜合利用案例二等獎。

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2022年水資源管理工作及成果

行動	措施	取得成效
<ul style="list-style-type: none"> 工藝清洗水回收利用 	<ul style="list-style-type: none"> 用管道單獨收集生產中排放的含無機酸有機物且較潔淨的清洗水至中轉槽，將水質不合格排放至工業廢水系統，水質合格則通過活性炭、陰樹脂處理後回收至純水系統二次利用，以減少自來水用量和廢水處理量。 	回收水7,575立方米／日
<ul style="list-style-type: none"> 一級RO濃水回收利用 	<ul style="list-style-type: none"> 反滲透處理超純水制水系統中產生的一級RO濃水，並回收利用。 	回收水2,300立方米／日
<ul style="list-style-type: none"> 冷凝水回收利用 	<ul style="list-style-type: none"> 回收空調系統產生的冷凝水，用於冷卻塔及廢氣洗滌補水。 	回收水440立方米／日

此外，公司在《供應商問卷》中要求合作的主要供應商披露在水資源使用可持續管理方面的信息，包括供應商生產以及運營的耗水量統計、節水措施、供應商的節水目標等，以此不斷降低產品水足跡。報告期內，公司對硅片供應商開展水資源管理相關行動與績效調查，覆蓋率達100%。

2.5 排放物管理

公司嚴格遵守《中華人民共和國大氣污染防治法》《中華人民共和國固體廢物污染環境防治法》《中華人民共和國土壤污染防治法》《中華人民共和國水污染防治法》等法律法規及相關規定，規範管理廢氣、廢水及廢棄物排放，確保達到排放標準，減少對環境的影響。報告期內，公司未發生污染物超標或違規排放的事件，也未有上述事項引起的訴訟案件發生。

廢氣排放管理

公司嚴格遵守《半導體行業污染物排放標準》(DB31/374-2006)等國家及地方排放要求，針對生產過程中包括硫酸霧、氯化氫(HCl)、氮氧化物(NOx)、氨(NH₃)、揮發性有機物(VOCs)等廢氣排放，制定了完善的檢測方案及管理措施。另外，公司根據生產情況對主要廢氣制定了檢測方案，定期進行檢測和評估，確保廢氣排放的合規性。

廢氣排放管理

類型	處理方式
酸性廢氣	通過預處理和洗滌塔集中處理，去除絕大部分成分後達標排放
鹼性廢氣(主要為氨氣)	通過洗滌塔進行淨化
有機廢氣	通過活性炭吸附或濃縮後燃燒處理進行淨化
粉塵廢氣(主要為二氧化硅的細小顆粒物)	通過除塵裝置去除

公司對有機廢氣在線監測管理方面做了規範化要求，提升了生產工廠的現場監管能力；公司的廢氣處理設施通過年度檢修等工作保持處理效率等維持在較高水平。

此外，公司優化改進有機廢氣處理系統處理工藝，提升系統處理效率，減少了有機廢氣的排放。

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廢棄物管理

公司在廢棄物管理制度執行方面保持一貫的高標準嚴要求。公司制定了《廢棄物管理程序》《工業廢棄物管理作業規範》等管理制度，規範管理廢棄物管理操作流程，並通過政府統一的環保管理系統對廢棄物處理進行登記和管理，確保每一筆運輸記錄都可追溯、受控。

公司生產運營活動中所產生的危險廢棄物包括廢酸、廢異丙醇等。對於有害廢棄物，公司已委託有處理資質的第三方公司進行處理，處理方式主要包括焚燒、物理化學處理、以及再利用。對於無害廢棄物，公司採取回收利用或交由有資質第三方收集處理，提高使用效率。

廢棄物管理方式

廢棄物廠內管理	委外回收再利用	其他產業再使用
<ul style="list-style-type: none"> 廠內循環利用原料，例如生產原料及辦公類物品等，延緩原料成為廢棄物 	<ul style="list-style-type: none"> 交由有資質的第三方回收處置 	<ul style="list-style-type: none"> 廢棄物回收，循環利用於其他產業

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廢棄物分類及處理方式

類型		處理方式
無害廢棄物	生活垃圾、廚餘垃圾	交由營運所在地環衛部門定期進行統一清運
	污泥等	填埋
有害廢棄物	廢酸液、異丙醇、廢磷酸等	利用
	廢玻璃瓶、200L化學桶、實驗室廢液等	物理化學處理
	抹布、塑料瓶、有機廢液、廢活性炭、廢樹脂、含砷廢物等	焚燒

公司建立廢棄物排放管理體系，秉承「源頭減量」及「循環經濟」的理念，通過工藝改造及二次利用廢棄物的方式降低對環境的影響。公司自2017年開始每年開展針對各類危險廢棄物的削減排放工作，不斷減少危險廢棄物排放對環境的影響。

2022年，華虹三廠新建並啟用氨氮處理水槽，無害化處理含氮元素廢棄物，並將處理過程中的廢硫酸交由鈦白粉生產企業回收做二次利用，提高資源使用效率。

廢水排放管理

公司嚴格遵守《電子工業水污染物排放標準》(GB39731-2020)《污水綜合排放標準》(DB31/199-2018)《污水排入城鎮下水道水質標準》(GBT 31962-2015)－B級標準，制定造排水廢棄物管理制度，並通過不斷優化工藝製造及廢水回收等措施，減少廢水生成。

在排污監控和信息公示方面，公司執行廢水在線監控管理，上海工廠的相關數據在環境信息公開平台上公示，增加公司環境信息的透明性。

廢水排放管理

類型		處理方式
廢水	pH, COD, 氨氮, 氟離子等	經處理達標後通過管道排入指定城市污水管網

2022年，上海工廠按照上海市生態環境局《工業企業土壤和地下水自行監測技術指南》(HJ1209)的要求開展土壤和地下水自行監測，編製完整的土壤地下水監測報告，保障廢水排放符合法律法規及相關規定的標準。

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3 員工責任

3.1 員工權益與福利

員工權益

公司嚴格遵守《中華人民共和國勞動法》《中華人民共和國勞動合同法》等法律法規，堅持公平用工，貫徹同工同酬的原則，確保員工不因其年齡、性別、籍貫、宗教信仰、婚姻狀況或殘疾等非工作因素受到歧視或差別待遇，並嚴禁僱用童工或強制勞工。

公司制定了《僱傭規程》和《實習生管理規程》相關管理制度，嚴格核查員工身份信息，不招聘未滿16周歲的員工。截至報告期末，公司擁有正式員工6,760人，截至報告期末，公司未發生任何侵犯員工權益行為，也未受到監管部門的投訴或處罰。

員工權益概覽

招聘與離職	薪酬	工時與休假制度	民主參與
<ul style="list-style-type: none"> 招聘：堅持公平、公正、公開的原則； 離職：公司與員工依照相關法律法規及《離職管理規程》辦理離職手續。 	<ul style="list-style-type: none"> 為員工提供有競爭力的薪酬，高於運營地最低工資標準。 	<ul style="list-style-type: none"> 標準工時制度，部分崗位經政府勞動人事部門批准，實行綜合工時制或不定時工時制； 在國家規定節假日的基礎上，為員工提供補充年假。 	<ul style="list-style-type: none"> 設立工會、職工代表大會等保障員工民主參與公司決策。

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員工溝通

通暢的溝通渠道有利於打造和諧的勞動關係。公司致力於建設和完善員工溝通與反饋機制，制定了《員工溝通規程》，通過創建多樣的溝通渠道，鼓勵公司與員工之間、主管與下屬之間、員工相互之間的多向溝通。

2022年5月，公司舉辦了主題為「奉獻時代，奮進新征程」的青年員工座談會，公司領導、工會主席及多名一線青年員工共同出席會議並共同交流工作體會與感受，增進了員工之間的凝聚力。

員工多元化

華虹重視員工的多樣性，制定相關規定與流程，持續營造一個開放、包容、尊重、多元的用工環境。我們尊重各類員工的生活方式，盡量為員工提供滿足其生活習慣的便利條件，為員工創造更好的辦公與生活服務設施，提高員工的幸福感知。

創建良好職場環境舉措



辦公

- 安裝空氣淨化系統，改善辦公室空氣質量；
- 在辦公室區域增加綠化。



飲食

- 各廠區設立員工餐廳、咖啡廳；
- 成立食品安全監督小組，建立食材集中採購及合格供應商管理模式，邀請員工、部門代表等進行監督；
- 推出食堂菜餚製作指導書，對員工食堂飲食進行營養均衡搭配和控油控鹽管理。



住宿

- 建立員工宿舍，內含獨立衛生間、24小時熱水和WIFI網絡等；
- 住宿區內設有圖書室、電腦室、桌球室、洗衣房、電視房、豐巢快遞櫃等設施。

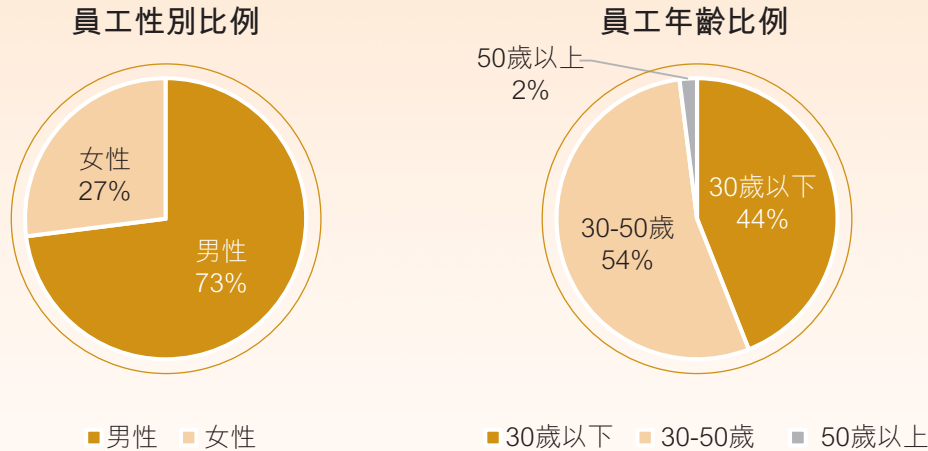


出行

- 為全體員工發放交通補貼；
- 在園區、地鐵站、員工宿舍區之間提供免費班車服務；
- 對交通不便區域的員工開行通勤班線、以及對有周末需求的部門安排加班車。

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在女性員工關懷方面，我們關注女性員工的福利和發展，每年組織女員工專項體檢，並持續健全哺乳期員工的人性化管理並提供相關服務設施，保證懷孕和哺乳期間的女性員工享受到工作中的便利。



此外，公司建立了員工幫扶機制，除了日常傷病慰問外，在特殊節日如春節、五一、中秋等，為困難職工提供慰問扶持；對遭遇重大變故的同事，第一時間送去關心和支助，通過愛心捐款、愛心幫困、愛心關懷、愛心護理多種形式幫助員工盡早走出困境。

3.2 員工健康與安全

公司重視員工的職業健康與安全，嚴格遵守《中華人民共和國職業病防治法》《中華人民共和國安全生產法》《工傷保險條例》等法律法規及有關規定，以「安全生產零事故」為安全目標建立完善的職業健康安全管理體系，明確職業健康安全方針，為員工提供良好的工作環境和職業健康保障。

職業健康與安全管理體系

職業健康與安全管理方針

嚴格遵循安全健康環保法規，致力於清潔生產，持續改善，為員工營造出安全健康舒適的工作環境，不懈追求「零災害」和永續經營的最高目標，成為模範全球企業公民。

制度構建	<ul style="list-style-type: none"> 公司貫徹執行安全生產委員會安全生產責任制實施辦法，成立安全生產委員會，並落實安全例會制度； 逐級覆蓋全員人人簽署《安全責任書》，落實全員安全生產責任制。 	管理要素	<ul style="list-style-type: none"> 危險源／環境因素緊急響應； 特種設備與特殊崗位； 化學品管理； 職業健康監控與防護。
內審、檢查及隱患排查	<ul style="list-style-type: none"> 安全技術改造； 建立安全風險分級管控與隱患排查治理雙重預防工作機制。 	安全文化建設	<ul style="list-style-type: none"> 安全意識與安全培訓； 應急演練。

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安全生產

完善制度建設

公司重視員工生產過程中員工安全保障，嚴格遵守《中華人民共和國安全生產法》，制定《安全生產委員會安全生產責任制實施辦法》，建立安全生產管理委員會與安全生產周例會制度，管理公司安全生產體系穩固運行。公司根據《中華人民共和國安全生產法》要求，優化安全生產各項管理制度，夯實安全責任、深化雙控體系、強化應急機制、保障安全投入、加強企業安全文化建設。

2022年，公司積極踐行安全工作標準化、系統化、智能化建設，健全全員安全生產責任體系。公司按照「一崗一責」和「誰主管誰負責，誰使用誰負責」的原則，結合崗位職能，編製「通用普適條款+職能部門+業務科室」的覆蓋全員的《安全責任書》，並實現全員100%簽訂。同時，要求承包商簽訂《安全環保承諾書》，做到層層負責、人人有責、各負其責，深化了全員安全生產責任制。

此外，公司結合運行經驗完善系統化程序管理，建立健全安全事故／事件／隱患排查跟蹤系統、特種設備登記系統、設備端紅外檢測記錄系統等安全管理系統，用數據記錄保障整改措施的落實，讓流程得以規範化執行，提高公司的安全管理效率及安全運營水平。

目前，公司上海與無錫所有生產基地均已通過了國際職業健康安全管理體系ISO 45001認證。

生產基地名稱	通過ISO 45001認證的情況	認證有效期
華虹上海生產基地	已通過	2024年4月18日
華虹無錫生產基地	已通過	2024年4月18日

安全生產文化創建

為深入開展安全生產文化建設，加強全員安全文化意識，公司組織開展「安全生產月」、「安康杯」、「消防月」等活動系列專題活動，開展加強宣傳教育培訓、安全知識技能競賽活動。通過各種安全宣傳和展示主題活動，有效提升員工安全意識、安全知識儲備，促進全員履行安全承諾與安全責任。

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2022年安全生產文化創建行動

行動名稱	行動內容及成效
深化安全培訓	<ul style="list-style-type: none"> 開展「新員工安全、返崗復工安全、安全生產標準化、消防技能、職業健康、應急管理體系、治安及防範電信詐騙、餐廳&交通安全」等多樣化安全主題培訓，確保安全教育培訓參訓率100%、人員持證上崗率100%，教育培訓約24,423人次。 組織全員參加全國「新安法知多少」網絡知識競賽，不斷提升全員安全意識和能力。
強化應急能力	<ul style="list-style-type: none"> 各生產基地共組織實施70余次綜合與專項應急預案演練，1,000余次現場處置卡跑位訓練，達訓率100%。 完成生產安全應急預案的專家評審及備案，建立完善生產基地異常快速應急處置流程等規範性文件，並做到了周周訓練、季季拉練、年年比賽。 舉辦ERT個人技能競技大賽及ERT消防技能比賽，以活動的形式搭建應急管理體系交流平台。 組織開展「消防月」消防知識展板宣傳，全員消防技能訓練和疏散逃生演習，提升全員安全意識和應急響應能力。
評選優秀案例	<ul style="list-style-type: none"> 進行年度優秀安全技改評比，並組織學習交流。 開展典型事故隱患評比，共有24個優秀案例獲獎。

員工安全風險防範設施和措施



消防設施

- 建立完備的消防系統、自動報警系統。



報警監控系統

- 潔淨廠房內設有有毒、有害、易燃氣體報警系統、液體洩漏檢測器以及超高感度煙檢測器。



應急措施

- 成立應急搶險隊，制定針對不同災害的緊急處置預案；
- 定期組織專題防災演練，對發現的問題及時整改。

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化學品安全管理

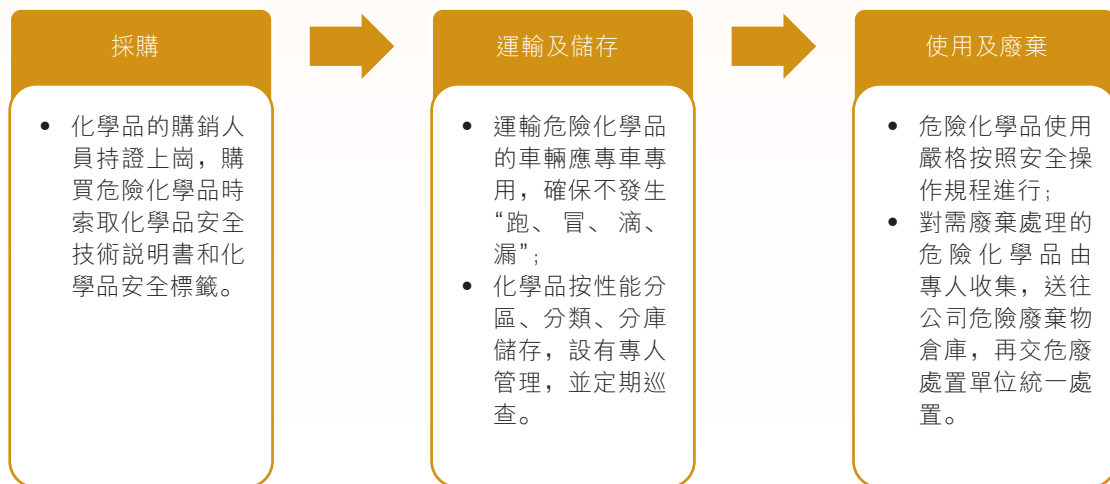
針對化學品安全保障，公司建立多項化學品管理制度，如《化學品管理程序》、《化學物質審查規程》、《化學品洩漏專項應急預案》及《化學品出入庫核查登記制度》、《化學品turn on管理辦法》等管理制度和作業規程。

華虹半導體芯片製造過程中使用的危險化學品

類型	名稱
易燃液體	異丙醇、光刻膠、柴油
氧化劑和有機過氧化物	過氧化氫
有毒品	磷化氫、氟
腐蝕品	硫酸、鹽酸、氫氟酸、磷酸、混酸、氨水、氫氧化鈉
壓縮氣體和液化氣體	氫氣、甲烷、硅烷、氮氣、氧氣、氫氣、氬氣、氦氣、氬、氬

公司設立了工廠化學品審查委員會，事前綜合評估化學品供應商環保安資質與風險防控能力，運用化學物質管理系統實施化學品使用、保管、廢棄的管理，管控化學品最大保管量，對使用消耗情況進行動態監控。此外，公司通過優先採用新技術，無毒化學品替代有毒易燃危險化學品等措施，消除現場危險源，源頭降低安全風險。

華虹危險化學品管理流程



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員工健康

職業病危害因素管理

公司嚴格遵守《中華人民共和國職業病防治法》等法律法規，開展員工職業病危害因素識別並制定相應防護措施，為員工提供職業健康保障。公司涉及職業病危害因素的崗位主要包括離子注入、擴散、刻蝕、化學機械研磨、動力氣化等設備作業崗位。

員工職業病危害因素識別及防護

職業病危害崗位	職業病危害因素	防護措施
離子注入、擴散、刻蝕、化學機械研磨、動力氣化等設備作業崗位	氟及其無機化合物、氫氟酸、鹽酸、硝酸、硫酸、磷酸、氨水、過氧化氫、砷及其化合物、磷及其化合物、異丙醇等	<ul style="list-style-type: none"> 潔淨室機台設備為自動化密閉運行，並設有密閉式工藝設備排氣系統 為員工配備個人防護用品和應急防護用品，定期點檢器材確保防護用品的有效性

此外，公司每年委託外部機構對生產環境進行職業病危害因素檢測，確保生產環境符合有害因素職業接觸限值標準，並將檢測結果通報給全體員工。2022年，公司已將工廠廢水處理工藝中使用的有毒甲醇的替換為無毒的25%食品級葡萄糖溶液，不斷降低員工職業危害接觸風險。

改善員工健康

公司為全體員工提供一年一次的健康體檢，包含多發性癌症項目篩查等項目，並建立員工健康檔案用於系統性的追蹤員工健康狀況的變化。公司通過開展各項活動向員工普及健康生活方式，例如開展主題健康講座「如何遠離『三高』風險」「新冠病毒感染者居家指引」「季節交替防面癱」等，倡導員工以健康方式的生活和工作。

3.3 員工發展與培訓

員工培訓

公司建立了完善的員工教育培訓體系，制定了《內部培訓體系審核操作規程》、《教育培訓規程》和部門級培訓規程，根據戰略發展和員工需求不斷進行調整，滿足不同崗位員工全方位、多層次的培訓需求。

公司擁有完善的培訓設施(專用的培訓教室與設備)和學習分享平台(包括在線培訓報名管理、培訓教材與崗位題庫，多媒體學習課件等)，必要時利用外部的資源，為員工的學習與發展提供了基本保障。

2022年，公司持續深入開展「新進大學生特訓營」培養項目，除專業理論與實踐訓練等內容提煉濃縮形成「芯時代」「芯揭秘」「芯達人」三大系列課程，進一步開設企業文化、政治素養課程，參觀紅色基地，幫助企業新人迅速融入團隊，並以飽滿的熱情迎接未來工作的挑戰。

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員工體系

培訓對象	培訓內容	2022年績效
基層管理者	角色認知、自我管理、管理他人、工作管理	<ul style="list-style-type: none"> 員工培訓覆蓋率100%
一線主管	一線班組長管理技能，培養高素質、高業務能力的一線管理隊伍，夯實公司管理基礎	
新進大學生	職業素養、企業文化、專業入門等課程	<ul style="list-style-type: none"> 人均培訓小時數123.7小時
一線員工	半導體製造工藝模塊的理論與實訓課程	

職業發展

公司為員工提供明確、透明的晉升通道，定期評估員工績效並為員工提供個人工作表現反饋，為員工的發展提供個人職業發展規劃。公司根據行業特點，建立了管理、技術、職能支持三個職稱系列和相應的崗位培訓。員工可以按照自己的特長、潛能和意願，可以在單一的職稱系列中不斷成長，也支持員工從技術走向管理。

此外，公司制定了《學歷教育補貼實施辦法》，鼓勵員工提高專業技術知識水平，2022年為16名員工提供在職學歷教育補貼，以促進工作績效和效率提升，持續培養符合公司現有及未來對高素質人才的需求，從而進一步提高公司綜合競爭力。

截至報告期末，公司員工整體流失率為12%，其中，按員工性別、年齡及地區的流失率如下。

華虹半導體2022年員工流失率

員工類型	流失率(%)
男性員工	12.83
女性員工	9.74
小於30歲員工	18.34
30-50歲員工	7.23
大於50歲員工	0.65
大陸員工	12
海外員工	0

4 產品與服務

4.1 產品研發與創新

創新技術研發體系建設

研發與創新是推動產品不斷升級，保障公司持續向前發展的關鍵基礎。華虹在產品研發與創新過程中遵守《中華人民共和國科學技術進步法》《中華人民共和國專利法》等法規要求，緊密圍繞「持續創新，為全球客戶製造『芯』夢想」的企業願景，不斷開發與升級新型技術，引領晶圓製造工藝與芯片設計發展。

為激發員工投入創新研發的動力，公司建立公司價值工程(Value Engineering, 簡稱VE)提案系統，通過標準化申報流程、評審及獎勵程序，支持員工發揮探索潛能，為產品創新竭心盡力。該系統涉及降低原材料以及能源消耗、人力資源優化與產能提升、工藝的優化與改善流程，可實現支持公司各環節的完善改進與創新發展。所有在管理、技術、質量控制、製造工程和其他相關支持部門的員工均可通過該系統參與VE提案的量化評審、表彰獎勵等活動。

此外，公司重視科研創新和開放合作，成立了上海市集成電路行業第一家院士專家工作站、第一家企業科學技術協會，通過專家引進、項目合作、人才培養、學術交流等多種形式努力建設產學研技術創新體系，促進科技成果向生產力轉化。

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把握清潔能源機遇

隨着全球能源結構調整加速推進，促進清潔能源使用成為越來越多企業發展關注的重點。華虹積極把握清潔能源機遇，將主要工藝平台運用在不同應用領域，賦能下游價值鏈綠色產品發展。

華虹在如新能源發電與新型能源應用領域上游零部件的製造工藝方面積累了大量的技術與經驗，有效支持能源轉型發展。目前已處於國際先進水平的新能源用半導體零部件將進一步深化8寸工藝平台技術及可靠性，同時逐漸向12英寸工藝平台轉移。華虹堅持「8+12」雙平台並舉，大力推進先進「特色IC+Power Discrete」產品佈局為核心發展戰略，全力支持新能源基礎設施與應用領域零部件本土化高質量供應能力。華虹功率分立器件及非易失性存儲器工藝在支持新能源運用領域產品發展上起着重要作用，如新能源汽車、節能家電等。

支持清潔能源發展產品

分立器件 (Discrete)

功率分立器件是新能源發電與新型能源應用領域的重要設備零部件。如光伏及風能發電設備、電動汽車、電動兩輪車，需要大量使用絕緣柵雙極型晶體管 (IGBT)、金屬-氧化物半導體場效應晶體管 (MOSFET) 等器件。

公司在該領域積累了大量客戶，並長期保持領域內頭部企業的良好合作關係，與深度的共同開發合作。至今，功率分立器件營收規模已經成為公司佔比較大的部分。

非易失性存儲器工藝

非易失性存儲器工藝被大量使用在如微處理器 (MCU)、專用集成電路 (ASIC) 等芯片應用中，同時這些芯片種類被大量應用於新能源終端應用，如電動工具、電動兩輪車、電動汽車等。

根據IC Insights統計，全球MCU消耗市場中，車用市場佔比超過30%。華虹所有製造工廠均通過IATF 16949國際車規認證，為支持本土製造車用半導體作出重要貢獻。

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2022年，公司運用於新能源領域的技術研發取得重大進展，助力全球清潔能源轉型進程。

2022年助力新能源轉型技術開發進展

第七代IGBT技術順利完成開發並進入量產，目前已經大量應用於主流的新能源汽車以及光伏發電領域。

全新超級結技術完成開發，已應用於電動汽車充電樁及車載充電器(OBC)方案，且與原有超級結工藝相比，優化的工藝方案優化減少了25%的工藝步驟，產品平均生產能耗降低約10%，進一步提升了節能減排效果。

未來，公司將進一步推動能夠實現更高能效的硅基功率器件的開發，並啟動具備高功率密度、低能耗等特性的化合物半導體功率器件的開發工作，為變頻家電、新能源汽車等清潔能源運用領域產品提供不斷優化的解決方案，進一步提升能源使用效率。

知識產權保護

公司重視自主創新，尊重知識產權，尤其是在從事智能卡芯片、信息安全芯片等專用集成電路的研究和開發中。公司嚴格遵守《中華人民共和國專利法》《中華人民共和國著作權法》《中華人民共和國商標法》等法規，並制定《知識產權管理制度》等內部管理制度，加強公司知識產權保護管理工作。

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公司積極進行專利申報，對侵犯知識產權行為進行責任追究，同時我們也承諾不侵犯任何單位或個人的知識產權，對上下游合作夥伴的產品技術信息進行嚴格保密。為避免因製造涉及侵犯他人知識產權的半導體器件或終端產品而遭到申訴的風險，我們在接受產品訂單前對客戶進行聲譽及潛在風險的相關審核，並與主要技術公司訂立多項技術授權協議。

2022年專利申請情況

專利類型	專利數量(項)
全年申請專利數	654
全年申請已獲批專利數	331
累計獲得中美發明授權專利	4,139

4.2 產品質量與安全

質量管理體系

公司嚴格遵守《中華人民共和國產品質量法》等質量法規要求，制定《質量手冊》《質量目標管理實施規程》等制度開展質量管理工作。目前，華虹生產基地均已通過了ISO 9001質量管理體系和IATF 16949汽車行業質量管理體系認證。公司致力推行涵蓋質量系統及客戶滿意、供貨商管理及原材料分析、質量保證、可靠性保證、失效分析5個綜合模塊的全方位質量管理模式。

生產基地名稱	認證的情況	認證有效期
華虹上海生產基地	ISO 9001質量管理體系	2024.5.21
	IATF 16949汽車行業質量管理體系	2024.5.21
華虹無錫生產基地	ISO 9001質量管理體系	2025.11.11
	IATF 16949汽車行業質量管理	2023.12.29

公司嚴格按照以下方針進行質量管理：全面推行卓越績效管理，深度推進工業化與信息化融合；積極履行企業社會責任，嚴格秉承零缺陷理念，按時交付綠色優質的產品，持續提供有競爭力的服務；全面滿足客戶要求，不懈提升客戶滿意，實現互利與雙贏。

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全流程質量保障舉措

多重制度保障

通過人員管理、設備管理、供應鏈管理、環境管理、體系管理、過程管理、客戶質量管理等多重管理制度，追求卓越品質。

實時監測及預防

借助可靠的質量管理系統，從產品研發與生產到售後反饋對產品全週期進行實時監控測試，對整個生產與應用過程中可能出現的異常情況進行失效分析，挖掘問題本質，針對性的制定糾正及預防措施。

在日常質量管理過程中，公司在整體質量體系要求下通過各級日常管理會議保障產品質量符合預期，如材料審查會議、變更管理委員會會議、生產會議及安全周會等。同時，公司定期組織質量月會、安全月會向管理層匯報相關工作，確保產品質量問題及時溝通並及時解決。2022年公司開展「特色工藝零缺陷、華虹發展高質量」質量項目活動，年底評審結項部門級項目186個，按期完成率為100%。

產品安全保障

在產品安全保障方面，公司建立有害物質管理體系，制定《有害物質管理規程》及三級管理制度對產品有害物質進行有效管控。

產品有害物質管控體系

流程	舉措內容
產品研發	將產品有害物質的管理納入產品研發過程，在源頭降低有害物質使用風險。
原料檢測	要求供應商提供產品有害物質檢測報告並簽署《不使用有害物質承諾書》，確保原料安全性。
第三方定期檢測	委託第三方機構進行年度《關於限制在電子電器設備中使用某些有害成分的指令》(RoHS)、《關於化學品註冊、評估、許可和限制規定》(REACH)檢測，確保產品安全。

不合格品管理

針對不合格品，公司制定《不合格品控制規程》管理制度，並已建立健全的產品召回制度，對於規定功能不合規或不符合有害物質管理要求的產品，客戶可於質保期內退還不合格產品。截至2022年，公司產品在終端客戶端的失效率低於十億分之一。

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4.3 客戶服務與權益保護

客戶服務管理

公司注重客戶體驗，秉承「為客戶提供更加便捷安全的服務」的理念，建立了完善的客戶服務體系，包括客戶交流、客戶投訴與客戶滿意度三大層面，不斷提升客戶服務能力。

客戶服務體系



客戶交流

- 客戶調研、定期季度／年度業務回顧、技術研討會、培訓等多種與客戶交流的方式。



客戶投訴

- 設立客戶投訴渠道並制定《客戶投訴處理規程》，及時處理並反饋客戶投訴。



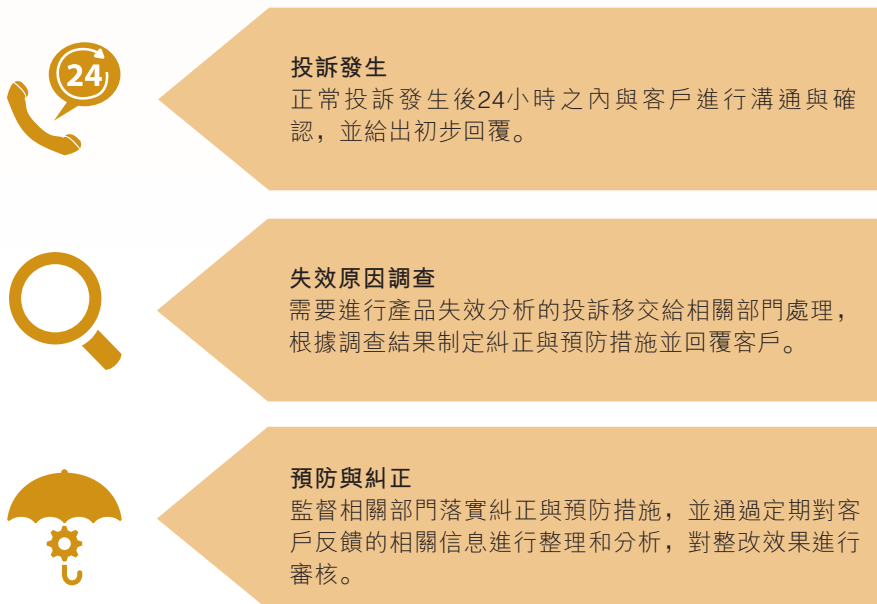
客戶滿意度調查

- 每年抽樣實施滿意度調查，根據調查結果制訂改善計劃。

為更好地實現客戶服務要求，公司每年制定客戶服務年度工作計劃並按計劃實施客戶服務相關工作。此外，公司在產品導入、客戶特殊要求協商、客戶審核等工作流程中採取線上線下同步開展，實現更充分、更高效的溝通以達到客戶期望。

公司重視客戶投訴與反饋，制定《客戶投訴處理規程》，對客戶投訴的處理，以及糾正與整改措施的執行等進行規範。客戶可通過電子郵件、熱線、信函、傳真等渠道向公司進行投訴與反饋。報告期內，公司未收到來自客戶的投訴。

客戶投訴處理流程



2022年度環境、社會及管治報告

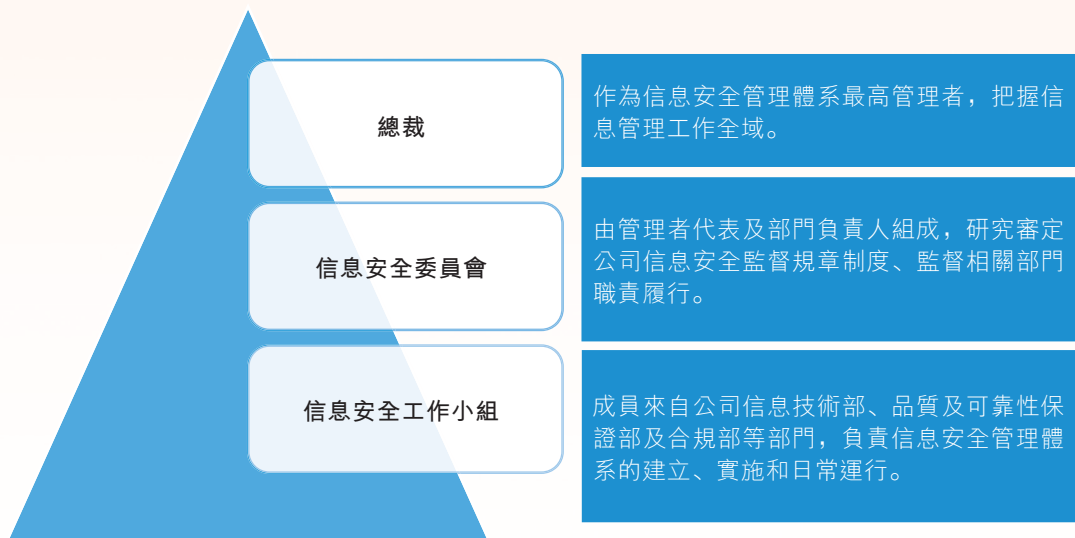
公司定期開展客戶滿意度調查。2022年度，公司採用調查問卷方式開展客戶滿意度調查，收集客戶意見，客戶調查問卷滿意度均分為8.86(滿分10分)。公司管理層評審年度滿意度調查結果，組織開展差異分析並實施改善措施，將相應改進舉措及結果答覆給客戶。

信息安全與隱私保護

公司重視自身信息安全與客戶隱私保護，嚴格遵守《中華人民共和國網絡安全法》《中華人民共和國密碼法》《商用密碼管理條例》等法律法及有關規定，開展信息安全保護工作。同時，公司制定並實施《信息安全體系手冊》《信息安全適用性聲明(SOA)》等信息安全管理制度，對網絡安全、計算機安全、加密控制管理、用戶訪問控制、定期備份等方面進行管理，確保在數據處理安全與客戶隱私保護的合法合規。

公司成立信息安全委員會，全面負責公司的信息安全保護工作，建立信息安全管理體系(ISMS)，從信息資產管理、人員安全、物理管控、邏輯管控等方面層層把控信息安全風險，保障信息安全，並通過了ISO 27001認證(有效期至2025年2月)。

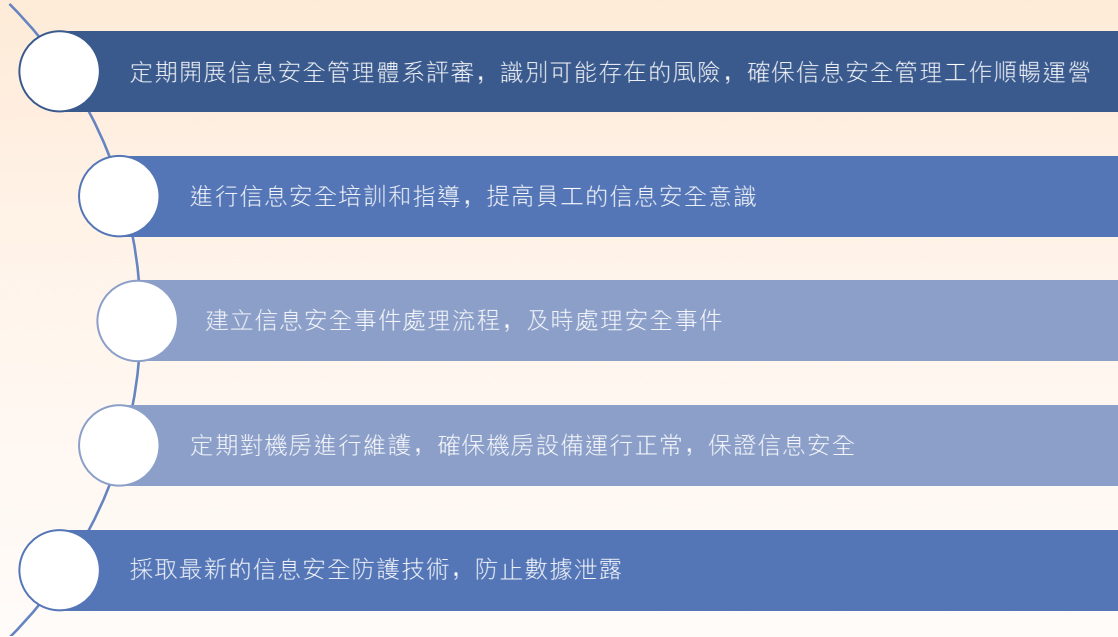
信息安全管理體系架構



在信息安全管理體系穩定運行過程中，公司通過開展信息安全管理培訓、信息安全管理評審、採用最新安全防護技術等措施，有效地保護客戶信息與隱私安全，同時也為公司提供更安全、更高效的信息管理服務。

2022年度環境、社會及管治報告

信息安全管理舉措



2022年，公司在各生產運營基地開展了系列信息安全保護相關培訓，強化員工信息安全保護意識及信息安全保護能力，提升公司整體信息安全保護水平。

2022年信息安全保護培訓

培訓主題	覆蓋範圍	參與人數
信息安全管理體系培訓2022Q1		5,741
信息安全管理體系培訓2022Q2		6,180
信息安全管理體系培訓2022Q3	華虹上海&無錫生產基地員工	5,018
保密、信息安全合規性培訓		6,400
質量月活動之高管講堂信息安全意識培訓		108

負責任營銷

開展負責任營銷，保障營銷信息完整、準確及真實是華虹對客戶應盡的責任。公司嚴格遵守《中華人民共和國商標法》《中華人民共和國廣告法》等法律法規，在產品標籤管理方面按照相關規定流程執行，並將合規意識貫穿在業務拓展與合同管理的全流程中，努力杜絕因主觀因素造成不當營銷的可能性。

報告期內，公司在標籤使用及宣傳信息方面未發生任何違法違規的事件。

2022年度環境、社會及管治報告

5 負責任運營

5.1 可持續供應鏈管理

打造責任供應鏈

打造責任供應鏈是公司長遠發展的重要戰略。公司已建立了完善的供應鏈管理體系，遵從責任商業聯盟(RBA)等行業行為標準規範，制定了《供貨商社會責任要求》《供應商風險識別策劃控制管理程序》等制度對供應商進行全面管理。

華虹主要供應商

供應商類型	數量(家)
硅片	21
化學品	91
氣體	48






良好的供應商協作是公司保障生產運營穩定運行的基礎。公司建立了涵蓋供應商選擇與准入、供應商審核與評估、支持供應商成長以及供應商淘汰等環節的供應商管理體系。

供應商管理體系

供應商管理環節	管理行動
供應商選擇與准入	<ul style="list-style-type: none"> • 遵從責任商業聯盟行為準則(RBA)制定《供貨商社會責任要求》，對供貨商提出在勞工、健康與安全、環境保護、商業道德以及管理體系五大方面的要求； • 對於在環境、勞工、道德方面表現突出的供應商，在供貨和採購方面會優先採用； • 除了要求所有合作的供貨商遵守《供貨商社會責任要求》以外，公司也要求其上游的供貨商認同並依照《供貨商社會責任要求》進行管理。
供應商審核與評估	<ul style="list-style-type: none"> • 制定《供應商風險識別策劃控制管理程序》，每年對供貨商的環境、社會風險進行全面的評估與管控，識別供應商環境及社會風險，並有制定相應對策； • 對於有重大違規記錄的供應商，要求其開展第三方社會責任風險稽核，並提供稽核通過的證明，或者取消其供應商資格； • 公司反腐敗政策覆蓋所有供應商，要求供應商符合反腐敗要求，並在年度評價時，對供應商合規情況進行確認。
支持供應商成長	<ul style="list-style-type: none"> • 每年對供應商定期開展「企業社會責任」「RBA行為準則」等的主題宣導培訓，內容包含環境、勞工、道德等方面； • 2022年開展的供應商培訓宣導覆蓋了硅片、化學品、氣體、靶材等類別的供應商。
供應商淘汰	<ul style="list-style-type: none"> • 對在環境、勞工、道德方面表現不佳的供應商，公司督促其整改，並確認整改達到要求。對於不能滿足整改要求的供應商，將取消其供應商資格。

2022年度環境、社會及管治報告

《華虹半導體供應商社會責任要求》概覽

 勞工	<ul style="list-style-type: none"> • 自由選擇職業 • 青年員工 • 工作時間 	<ul style="list-style-type: none"> • 工資與福利 • 人道的待遇 • 非歧視 	<ul style="list-style-type: none"> • 自由結社
 職業與健康	<ul style="list-style-type: none"> • 職業安全 • 應急準備 • 職業傷害與疾病 	<ul style="list-style-type: none"> • 衛生管理 • 體力需求高的工作 • 機器防護 	<ul style="list-style-type: none"> • 公共衛生，餐廳和宿舍 • 健康與安全溝通
 環境保護	<ul style="list-style-type: none"> • 環境許可和報告 • 預防污染和節約資源 • 有害物質 	<ul style="list-style-type: none"> • 固體廢棄物 • 空氣排放 • 材料限制 	<ul style="list-style-type: none"> • 水資源管理 • 能源消耗和溫室氣體排放
 商業道德	<ul style="list-style-type: none"> • 廉潔經營 • 無不正當利益 • 信息披露 	<ul style="list-style-type: none"> • 知識產權 • 公平交易，廣告和競爭 • 身份保密 	<ul style="list-style-type: none"> • 在採購礦物時秉承負責任的態度 • 隱私
 管理體系	<ul style="list-style-type: none"> • 管理職責與責任 • 法律和客戶要求 • 風險評估和風險管理 	<ul style="list-style-type: none"> • 附有實施計劃和措施的績效指標 • 培訓 • 溝通 	<ul style="list-style-type: none"> • 員工反饋、參與和投訴 • 審核與評估 • 矯正措施

公司致力於扶持供應商成長，助力國內芯片行業發展。2022年，公司與硅片供應商中環領先半導體材料有限公司（簡稱「中環領先」）協作開展了共同發展與成長行動，通過雙方彼此團結協作，共同促進質量管理改進、產品質量提升。公司與中環領先質量技術成員組成攻堅團隊，深入中環領先日常生產過程進行前置管理，推動中環構建適配半導體行業的管理系統、故障檢測控制系統、統計過程管理系統等生產過程管控系統。同時，公司開展專項審核協助其完善管理流程，針對關鍵質量管控點，幫助中環領先按半導體行業要求執行，推動其自主開展持續改善活動，不斷提升質量管理意識。此外，中環領先的系列行動亦運至其上游供應商的管理，促進半導體行業供應鏈的良性發展。

負責任的礦產管理

「衝突礦產」是通過當地武裝民兵長期以暴力脅迫勞工童工、破壞環境生態的方式取得，也是資助非法武裝組織的主要資金來源。根據《多德－弗蘭克華爾街金融改革與消費者保護法》和部分國際非政府組織的研究報告，此類礦產很可能被信息、通信和技術（ICT）產業應用於手機，計算機等電子電氣產品中。

公司在生產運營過程中會涉及到金（Au）、鉭（Ta）、鎢（W）、錫（Sn）、鈷（Co）等金屬礦產資源的使用。公司認識到在受衝突影響和高風險區域從事礦產開採、交易、處理與出口存在可能形成重大負面影響的風險。為有效降低公司該風險，公司依據負責任礦物計劃（RMI）制定《衝突礦產管理政策》。除開展自身管理外，公司也要求所有供貨商必須承諾不採購受衝突影響和高風險區域的「衝突礦產」，確保負責任礦產有效管理。

2022年度環境、社會及管治報告



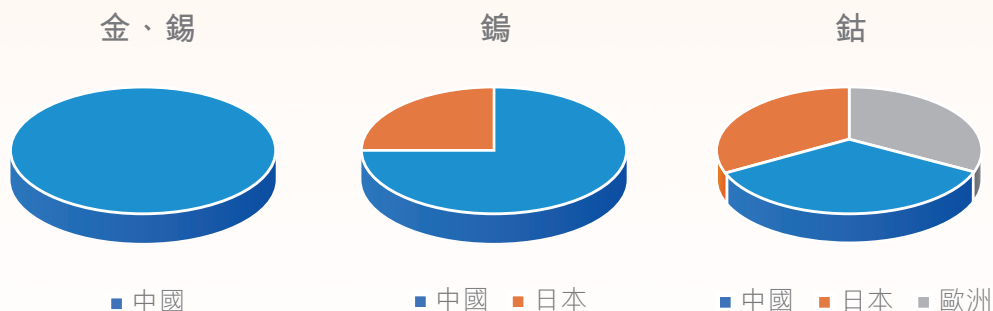
華虹衝突礦產管理政策

將全球社會環境責任作為我們的目標，實施綠色採購，承諾在金屬供應鏈中承擔以下責任：

- 1、承擔起社會與環境責任。
- 2、承諾要求原物料中含有金(Au)、鉭(Ta)、鎢(W)、錫(Sn)的供應商遵循負責任礦物政策採購，要求原物料含鈷(Co)的供應商披露鈷的來源冶煉廠。
- 3、承諾要求供貨商提供金(Au)、鉭(Ta)、鎢(W)、錫(Sn)、鈷(Co)金屬不使用「衝突礦產」的聲明，進行衝突礦產的調查，完成負責任礦物計劃(RMI)創建的衝突礦產報告(CMRT)和擴展礦物報告(EMRT)。

公司生產過程中使用的金和錫全部來自中國；使用的鎢75%來自中國，25%來自日本；使用的鈷三分之一來自中國，三分之一來自日本，三分之一來自歐洲。報告期內，公司所使用的金(Au)、鉭(Ta)、鎢(W)、錫(Sn)均不來自武裝衝突地區。

礦產使用類型及來源



公司對涉及礦產的供應商開展負責任礦產供應鏈盡職調查審核，要求供貨商披露礦產來源以及冶煉廠信息，確保供貨商遵守公司的衝突礦產管理政策。2022供應商盡職調查共涉及8家次，覆蓋100%「衝突礦產」的供應商。在本年度的盡職調查審核中，均未發現涉及童工、不人道待遇、強迫勞動、武裝衝突、生態破壞等重大問題；其中，經第三方驗證的不使用衝突礦產的供應商比例為100%。

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5.2 反貪污與反賄賂

公司致力於商業道德文化建設，制定了《反腐倡廉廉潔從業承諾制度》《反貪污與反賄賂政策》等內部管理制度，明確要求與公司有經營活動的合作單位包括所有供應商簽署《反商業賄賂承諾書》，以及內部所有相關人員需要簽署《廉潔從業承諾書》。

華虹半導體反貪污與反賄賂政策

本公司所有員工（包括兼職員工）、高級管理人員、董事成員均需遵守法律法規，廉潔奉公，勤勉自律，禁止任何形式的貪污與賄賂行為，包括：

制止商業賄賂行為，維護公平競爭秩序；

絕不利用職務和工作上的影響力謀取不正當利益；

絕不違反財務管理和使用規定，不假公濟私、不化公為私；不弄虛作假，不損害公司合法權益和良好商譽；

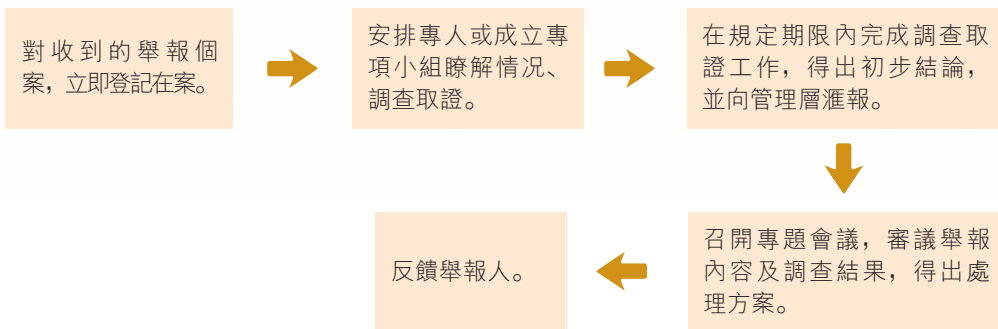
不接受可能影響工作的禮品、禮金、有價證券和財務等。

公司定期開展反腐敗與商業道德風險排查工作。2022年，公司完成對內部管理人員的反腐敗與商業道德風險排查，未發現任何違反規定的現象。此外，公司致力營造廉潔的商業道德從業氛圍，建立內部專欄定期推送警示文章和案例，定期開展面向所有員工的反腐敗與商業道德培訓活動。2022年9月15日，公司召開2022年廉潔從業教育會議，為所有關鍵崗位以及相關人員開展「黨風廉政及廉潔從業應知事項」主題的專項培訓。

公司為員工提供暢通的舉報渠道，提供郵件、電話、信箱等清晰的舉報渠道，鼓勵員工採用實名或匿名的方式進行投訴和舉報，全方位隨時接受來電、來信舉報，做到早發現、早解決、早控制，妥善處理。

公司建立規範的舉報處理程序，落實舉報流程和分類受理、調查和處理工作。同時，公司採取措施對舉報人進行保護，涉及舉報人的信息將被嚴格保密，確保員工或外部人員不會因經合法途徑進行舉報而受到解僱、降級、停職、恐嚇、騷擾等不公平待遇或任何其他形式的報復行為。

商業道德監督及舉報處理程序



報告期內，公司未發生貪污、賄賂、勒索、欺詐及洗黑錢的事件，也未有上述事項引起的訴訟案件發生。

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5.3 風險管理

公司不斷完善風險管理的組織體系，建立健全公司內部控制體系。自2016年起，公司設置內部審計部風險管理條線，發佈公司《全面風險管理制度》並開展全面風險管理項目。持續完善風險地圖，改進制度與流程，切實提升全面風險管理能力。

2022年，公司在風險管理「三線模型」的基礎上，兼顧全面性和重要性的原則，全面防範並監督公司內外風險；對上海無錫兩地進行年度全面風險評估，通過開展風險調查問卷與管理層風險座談，識別重大風險領域並形成年度風險管理報告；各業務條線每季度或不定期就條線內風險事件搜集上報備案；此外，公司組織開展風險管理培訓，溝通各業務條線及公司層面風險問題。

公司主要運營風險及管理方法

風險類別	風險因素	策略
戰略	戰略規劃	公司自上而下擬定戰略目標，並進行適當的分解，落實到企業經營的具體業務模塊中，確保戰略目標的達成。
	外部經濟及政策影響	通過合理的產品結構調整及逐步的國產替代，確保公司始終維持較高的增長動力。
運營	人才儲備及發展	建立人才簡歷數據庫、開展人才庫存、不斷探索招聘渠道、優化薪酬結構、完善配套福利政策，全面提升企業的吸引力和員工滿意度。
	供應鏈	通過自身技術優勢提升產業鏈內話語權，與供貨商簽訂中長期戰略協議；針對各生產物料設置安全庫存值，定期審閱安全庫存值的合理性，及時隨市場變化進行調整；持續評估供應商供貨能力及產品質量，開發多元化供應渠道，確保供應鏈的穩定。
	信息安全	建立信息安全框架和管理方針，每年度執行信息安全風險評估程序，同時通過數據保護系統(DLP)對各項關鍵信息進行持續監控，確保公司、股東、客戶、供貨商及公司員工的最佳利益得以保障。
	研究與開發	完善研發項目管理體系，對研發的立項、執行、後評估全方位監控，提升項目經理能力，持續、及時地開發有商業價值的新產品。
	匯率波動	涉及外幣的交易盡量使用現有外幣結算，減少兌換外幣的需要，減少匯率波動風險。
環境及安全	環境	公司根據環境因素識別、評價和控制策劃管理程序，列出重大環境因素清單。
	安全檢查	持續並定期開展以隱患排查和設備故障診斷為主的安全檢查。
	職業健康	公司根據安全健康環境管理體系目標指標及方案管理程序，制定環境職業健康安全目標、指標及方案管理表。

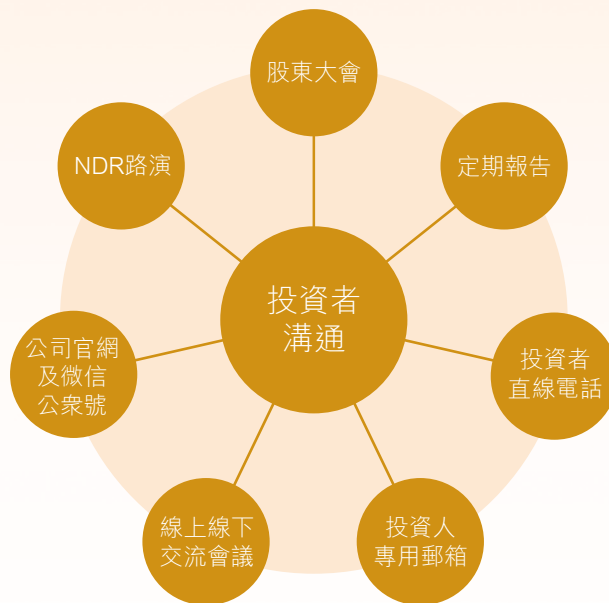
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5.4 投資者權益保障

公司作為香港聯交所主板上市公司，嚴格遵守《上市規則》《公司條例》《證券及期貨條例》《收購守則》和《股份回購守則》等要求，並設立專業工作小組進行投資者關係管理工作，加強公司與投資者之間的溝通，建立公司管理層聽取投資者建議的渠道，不斷提升公司治理水平，有效保護投資者合法權益。

在進行投資者關係管理的工作中，公司以「平等對待所有投資者」為原則，以「合規信息披露」為要求，以「誠實守信、互動溝通」為準繩，多渠道與資本市場溝通公司經營管理狀況、財務狀況、產品技術、重大事項等信息，並且主動披露投資者關心的與公司相關信息，充分保護投資者合法權益。

投資者溝通渠道



2022年度，公司共召開1次股東周年大會以及2次股東特別大會，會議以投票表決的形式通過決議案。同時，以上會議均邀請公司所有股東參與，其中包括公司所有中小投資者。此外，報告期內公司開展了4次業績交流會議，參與總人數達到1,303人。

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6 行業與社區

6.1 行業發展

公司積極參與行業共建活動，助力集成電路產業高質量發展，助力上海建設集成電路產業生態高地。報告期內，共參與了1項行業標準起草及5項目行業標準評審，並積極參加行業峰會，攜手推動行業的高質量發展。

6.2 社區與公益

為了增加社區居民安全意識，公司連續五年在總部運營所在地社區開展《意外急救課程》，包括急救常識及心肺復蘇術應用等。

公司熱心公益事業，堅持每年組織開展義務獻血工作。此外，公司定期組織員工志願者們到社區養老院慰問老年人，與他們話家常、包餛飩、搞活動，給老人們送去歡樂和關心。疫情防控期間，公司踴躍參與社區防疫志願工作，協助維護現場秩序，為封控樓宇運送居民生活物資。公司多次收到感謝信和表揚信，高度贊揚和認可公司在社區抗疫中所作出的貢獻。

2022年志願者服務亮點績效

志願者積極參與社區疫情核酸志願者服務

累計4,198人參與志願服務

志願者積極參與公司內部疫情防控工作

共89人，累計活動時長1,098小時

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7 附錄

7.1 量化績效

環境

績效指標	單位	2020年	2021年	2022年
排放物				
廢氣排放總量	萬立方米	1,773,740	2,319,307	2,391,024
氮氧化物(NO _x)排放量	千克	19,688	36,857	32,650
二氧化硫(SO ₂)排放量	千克	338	2,239	3,546
廢水排放總量	萬立方米	603	704	832
溫室氣體排放量 ¹	噸CO ₂ 當量	448,614	713,649	497,938
其中，直接溫室氣體排放量	噸CO ₂ 當量	18,135	24,803	24,877
間接溫室氣體排放量 ²	噸CO ₂ 當量	430,479	697,899	473,060
單位產量溫室氣體排放量	噸CO ₂ 當量／8英寸晶圓	0.23	0.20	0.12
有害廢棄物總量	噸	9,262	17,363	20,385
單位產量有害廢棄物產生量	千克／8英寸晶圓	3.96	4.96	4.88
無害廢棄物總量 ³	噸	6,143	8,981	9,864
單位產量無害廢棄物產生量	千克／8英寸晶圓	2.67	2.57	2.36
資源使用				
用電總量	兆瓦時	720,840	867,682	954,667
單位產品用電量	千瓦時／8英寸晶圓	313	248	228
天然氣用量	立方米	10,312,006	11,456,569	10,530,287
單位產品天然氣用量	立方米／8英寸晶圓	4.49	3.27	2.52
用水總量 ⁴	立方米	9,907,631	15,707,212	18,010,226
其中，來源於市政供水的水量	立方米	7,035,272	8,928,040	10,284,063
廢水回用 ⁵	立方米	2,872,359	6,788,287	7,726,163
單位產品用水量 ⁶	立方米／8英寸晶圓	2.89	2.55	2.46
循環／再利用水量	立方米	4,042,020	86,119,337	107,163,560
成品出貨所用包裝材料的總量	噸	128	253.5	313.32
單位成品出貨所用包裝材料佔量	千克／8英寸晶圓	0.06	0.07	0.07
成品出貨所用包裝材料的回收量	噸	22	48.5	54.0

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註:

- 1 溫室氣體排放所採取的統計口徑及核算依據遵循國家標準委《GB/T 32150工業企業溫室氣體排放核算和報告通則》及《GB/T 32151溫室氣體排放核算與報告要求》。
- 2 2022年，間接溫室氣體排放量上海、無錫生產基地分別依據《上海市溫室氣體排放核算與報告指南（試行）（滬發改環資[2012]180號）》及《關於做好2023 - 2025年發電行業企業溫室氣體排放報告管理有關工作的通知》計算。其中，上海生產基地採用電力排放因子缺省值4.2tCO₂/104kWh，無錫生產基地採用全國平均電網排放因子0.5703tCO₂/MWh進行計算。
- 3 無害廢棄物為廢水處理產生的污泥量。
- 4 用水總量=市政供水的用水量+廢水回用的用水量。
- 5 2022年，公司對2021年廢水回用量進行修正，2021年用水總量也相應進行修正。2021年廢水回用及用水總量以本報告數據為準。
- 6 單位產品用水量的統計口徑僅包含市政供水。

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僱傭與勞務實踐

績效指標	單位	2020年	2021年	2022年
員工僱傭				
員工總數	人	5,682	6,084	6,760
其中，男性員工數	人	4,164	4,426	4,932
女性員工數	人	1,518	1,658	1,828
勞動合同制員工數	人	5,682	6,084	6,760
勞務派遣制員工數	人	113	85	81
兼職員工	人	0	0	0
小於30歲員工數	人	2,542	2,676	2,983
30-50歲員工數	人	3,018	3,271	3,624
大於50歲員工數	人	122	137	153
大陸員工數	人	5,673	6,075	6,751
海外員工數	人	9	9	9
健康與安全				
員工職業病發病率	%	0	0	0
因公亡故的人數	人	0	0	0
因公亡故的比例	%	0	0	0
因工傷損失工作天數	天	235	367	83
員工培訓				
全職員工人均接受培訓時長	小時	100.1	119.9	122.2
其中：普通員工人均培訓時長	小時	101.4	121.5	123.7
管理層員工人均培訓時長	小時	18.3	23.5	26.5
女性員工人均培訓時長	小時	96.8	123.8	124.3
男性員工人均培訓時長	小時	101.3	118.5	121.4
全職員工受訓覆蓋率	%	100	100	100
其中：普通員工受訓覆蓋率	%	100	100	100
管理層員工受訓覆蓋率	%	100	100	100
女性員工受訓覆蓋率	%	100	100	100
男性員工受訓覆蓋率	%	100	100	100

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產品責任與客戶服務

績效指標	單位	2020年	2021年	2022年
產品責任與客戶服務				
產品退貨率	%	0.07	0.05	0.11
已售產品因安全與健康問題回收的比例	%	0	0	0
客戶服務				
接獲關於產品及服務的投訴數目	件	8	0	0
客戶投訴辦結率	%	100	/	/

供應鏈管理

績效指標	單位	2020年	2021年	2022年
供應鏈管理				
供應商總數	家	535	545	550
本土供應商總數	家	399	410	413
海外供應商總數	家	133	136	138
接受評估的供應商數目 ¹	家	110	115	112
要求整改的供應商數目	家	0	0	0
原輔料供應商簽訂《環保承諾書》的百分比	%	100	100	100
原材料採購本土化比例 ²	%	28	29	31

註：

- 1 指公司對其實施了勞工、健康安全、環境、道德方面的評估的供貨商數目。
- 2 原材料採購包括：硅片、石英、靶材、氣體、化學品等生產原材料。

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反貪污

績效指標	單位	2020年	2021年	2022年
反貪污				
於匯報期內對發行人或其僱員提出並已審結的貪污訴訟案件的數目	件	0	0	0

社區投資

績效指標	單位	2020年	2021年	2022年
社區投資				
員工參與志願服務的人數	人	449	1,324	4,189
志願者活動累計時長	小時	450	1,986	6,283

a) 公司遵守的法規及相關政策列表

領域	法律法規名稱
環境責任	
環境保護	《中華人民共和國環境保護法》《中華人民共和國大氣污染防治法》《中華人民共和國城鄉規劃法》《中華人民共和國海洋環境保護法》《中華人民共和國節約能源法》等
產品責任	
產品與服務	《中華人民共和國網絡安全法》《中華人民共和國密碼法》《中華人民共和國會計法》《商用密碼管理條例》《中華人民共和國公司法》《中華人民共和國憲法》《中華人民共和國產品質量法》《中華人民共和國海關法》《中華人民共和國計量法》《中華人民共和國對外貿易法》《中華人民共和國反不正當競爭法》關於化學品註冊、評估、許可和限制(簡稱「REACH」)系列法規、Waste Electrical and Electronic Equipment (WEEE)、關於限制在電子電器設備中使用某些有害成分的指令(簡稱「RoHS」)等
知識產權保護	《中華人民共和國專利法》《中華人民共和國著作權法》《中華人民共和國商標法》等
員工責任	
員工僱傭	《中華人民共和國勞動合同法》《中華人民共和國婦女權益保障法》《中華人民共和國就業促進法》《中華人民共和國社會保險法》《中華人民共和國民法典》《中華人民共和國勞動法》《中華人民共和國刑法》《健康保險管理辦法》《失業保險金申領發放辦法》等
職業健康與安全	《中華人民共和國職業病防治法》《中華人民共和國安全生產法》《工傷保險條例》等

報告期內，公司未發生與上述提及法律法規及相關規定相關的違法違規事件，也未有上述事項引起的訴訟案件發生。

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b) 對標索引

B部分：強制披露規定

強制披露項	報告章節
管治架構	ESG管理體系
匯報原則	報告編製說明
匯報範圍	報告編製說明

C部分：「不遵守就解釋」條文

層面、一般披露及關鍵績效指標	披露章節
主要範疇A.環境	
層面A1.排放物	
一般披露A1	排放物管理
KPI A1.1	關鍵量化績效表
KPI A1.2	氣候變化減緩與適應
KPI A1.3	量化績效
KPI A1.4	量化績效
KPI A1.5	ESG管理策略
KPI A1.6	排放物管理
層面A2.資源使用	
一般披露A2	能源管理 水資源管理
KPI A2.1	能源管理
KPI A2.2	水資源管理
KPI A2.3	能源管理
KPI A2.4	水資源管理
KPI A2.5	量化績效
層面A3.環境及天然資源	
一般披露A3	能源管理 水資源管理
KPI A3.1	能源管理 水資源管理
層面A4.應對氣候變化	
一般披露A4	氣候變化減緩與適應
KPI A4.1	量化績效

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層面、一般披露及關鍵績效指標 披露章節

主要範疇B.社會僱傭及勞工常規

層面B1.僱傭

一般披露B1	員工權益及福利
KPI B1.1	量化績效
KPI B1.2	量化績效

層面B2.健康與安全

一般披露B2	員工健康與安全
KPI B2.1	量化績效
KPI B2.2	量化績效
KPI B2.3	量化績效

層面B3.發展及培訓

一般披露B3	員工發展與培訓
KPI B3.1	量化績效
KPI B3.2	量化績效

層面B4.勞工準則

一般披露B4	員工權益與福利
KPI B4.1	員工權益與福利
KPI B4.2	無違規情況

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層面、一般披露及關鍵績效指標 披露章節

主要範疇B.社會營運慣例

層面B5.供應鏈管理

一般披露B5	可持續供應鏈管理
KPI B5.1	量化績效
KPI B5.2	可持續供應鏈管理

層面B6.產品責任

一般披露B6	客戶服務與權益保護
KPI B6.1	量化績效
KPI B6.2	量化績效
KPI B6.3	客戶服務管理
KPI B6.4	客戶服務管理
KPI B6.5	數據安全與隱私保護

層面B7.反貪污

一般披露B7	反貪污
KPI B7.1	量化績效
KPI B7.2	反貪

層面B8.社區投資

一般披露B8	志願服務與公益慈善
KPI B8.1	公益慈善與志願服務
KPI B8.2	量化績效

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c) 專有名詞及縮略詞釋義表

專有名詞／縮略詞	釋義
tapeout	原意是「下線」，指的是集成電路(IC)或印刷電路板(PCB)設計的最後步驟，即送交製造。
WIP (Working In Progress)	又稱車間生產管理，指工作中心在製品區，為工作中心提供原材料、完成產品、半成品的存儲貨位。
WAT (Wafer Acceptance Test)	指的是對專門的測試圖形(test key)的測試，通過電參數來監控各步工藝是否正常和穩定。
CDA (Compressed Dry Air)	指壓縮乾燥空氣。
MAU (Make-up Air Unit)	全新風機組，是提供新鮮空氣的一種空氣調節設備。
BCD (Bipolar-CMOS-DMOS)	是一種單片集成工藝技術，能夠在同一芯片上製作Bipolar、CMOS和DMOS器件。
ERT (Emergency Response Team)	指應急反應小組，或緊急情況響應小組。
IGBT (Insulated Gate Bipolar Transistor)	絕緣柵雙極型晶體管，是由BJT(雙極型三極管)和MOS(絕緣柵型場效應管)組成的複合全控型電壓驅動式功率半導體器件。
MOSEFT (Metal-Oxide-Semiconductor Field-Effect Transistor)	金屬(metal)-氧化物(oxide)-半導體(semiconductor)場效應晶體管，簡稱金氧半場效晶體管。
MCU (Microcontroller Unit)	微控制單元，又稱單片微型計算機或單片機，是把中央處理器的頻率與規格做適當縮減，並將內存、計數器、USB、A/D轉換、UART、PLC、DMA等周邊接口，甚至LCD驅動電路都整合在單一芯片上，形成芯片級的計算機，為不同的應用場合做不同組合控制。

2022年度環境、社會及管治報告

專有名詞／縮略詞	釋義
ASIC (Application Specific Integrated Circuit)	專用集成電路，是指應特定用戶要求和特定電子系統的需要而設計、製造的集成電路。
OBC (On Board Charger)	即車載充電機，指固定安裝在電動汽車上的充電機。
PMIC (Power Management IC)	又稱電源管理IC，是一種特定用途的集成電路，其功能是為主系統作管理電源等工作。
BMS (Battery Management System)	指電池管理系統，主要是為了智能化管理及維護各個電池單元，防止電池出現過充電和過放電，延長電池的使用壽命，監控電池的狀態。

d) 報告編製說明

《華虹半導體有限公司2022年度環境、社會及管治報告》(以下簡稱為「本報告」)，經過重要性分析，識別出利益相關方關切的關鍵議題和機遇，並通過本報告，向各利益相關方披露公司在經濟、社會和環境方面採取的行動及取得的成效。

報告範圍

組織範圍：本報告涵蓋華虹半導體有限公司及其子公司，與上市公司年度報告合併財務報表範圍一致。

時間範圍：2022年1月1日－2022年12月31日

報告依據

- 香港聯合交易所有限公司《環境、社會及管治報告指引》(2022年1月起生效版)

信息來源

本報告資料的獲取和計算方法與以往年度報告相比沒有重大改變。報告中數據和案例來自公司實際運行的原始記錄或財務報告。如有不一致之處，以財務報告數據為準。本報告中所涉及貨幣金額以人民幣作為計量幣種，特別說明的除外。

匯報原則

- 重要性原則。**公司識別出投資者等利益相關方關注的與經營相關的實質性議題，作為本報告匯報重點。本報告中對實質性議題的匯報同時關注公司運營涉及的行業特徵以及所在地區特徵。同時，本報告對環境、社會和公司治理方面可能對投資人及其他相關方產生重要影響的事項進行重點匯報。
- 量化及一致性。**本報告披露關鍵定量績效指標，並盡可能披露歷史數據。本報告對同一指標在不同報告期內的統計及披露方式保持一致；若統計及披露方式有更改，在報告附註中予以充分說明，以利益相關方進行有意義的分析，評估公司ESG績效水平發展趨勢量化原則。本報告已經披露本公司ESG量化關鍵績效及排放量的計算依據，詳見本報告附錄量化績效。
- 平衡性原則。**本報告內容反映客觀事實，對涉及公司正面、負面的信息均予以不偏不倚的披露。公司對本報告範圍內的對象，通過上海青悅信用數據庫開展檢索，在報告期間內未發現應當披露而未披露的負面事件。

INDEPENDENT AUDITOR'S REPORT

獨立核數師報告



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To the members of Hua Hong Semiconductor Limited
(Incorporated in Hong Kong with limited liability)

Opinion

We have audited the consolidated financial statements of Hua Hong Semiconductor Limited (the “Company”) and its subsidiaries (the “Group”) set out on pages 229 to 347, which comprise the consolidated statement of financial position as at 31 December 2022, and the consolidated statement of profit or loss, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2022, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with Hong Kong Financial Reporting Standards (“HKFRSs”) issued by the Hong Kong Institute of Certified Public Accountants (“HKICPA”) and have been properly prepared in compliance with the Hong Kong Companies Ordinance.

致華虹半導體有限公司列位股東
(於香港註冊成立之有限公司)

意見

吾等已審核華虹半導體有限公司(「貴公司」)及其子公司(「貴集團」)載於第229至347頁的綜合財務報表，當中包括於二零二二年十二月三十一日的綜合財務狀況表，以及截至該日止年度的綜合損益表、綜合全面收益表、綜合權益變動表及綜合現金流量表，以及綜合財務報表附註(包括重大會計政策概要)。

吾等認為，該等綜合財務報表已根據香港會計師公會(「香港會計師公會」)頒佈的香港財務報告準則(「香港財務報告準則」)真實而公平地反映貴集團於二零二二年十二月三十一日的綜合財務狀況，及其截至該日止年度的綜合財務表現及綜合現金流量，並已按照香港公司條例妥為編製。

INDEPENDENT AUDITOR'S REPORT

獨立核數師報告

Basis for opinion

We conducted our audit in accordance with Hong Kong Standards on Auditing (“HKSA”) issued by the HKICPA. Our responsibilities under those standards are further described in the *Auditor’s responsibilities for the audit of the consolidated financial statements* section of our report. We are independent of the Group in accordance with the HKICPA’s *Code of Ethics for Professional Accountants* (the “Code”), and we have fulfilled our other ethical responsibilities in accordance with the Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor’s responsibilities for the audit of the consolidated financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

意見的基礎

吾等已根據香港會計師公會頒佈的香港審計準則(「香港審計準則」)進行審計。根據該等準則，吾等的責任於本報告核數師就審計綜合財務報表承擔的責任一節進一步闡述。根據香港會計師公會專業會計師道德守則(「守則」)，吾等獨立於貴集團，並已遵循守則履行其他道德責任。吾等相信，吾等所獲得的審計憑證能充足和適當地為吾等的意見提供基礎。

關鍵審計事項

關鍵審計事項是根據吾等的專業判斷，認為對本期綜合財務報表的審計最為重要的事項。這些事項是在對綜合財務報表整體進行審計並形成意見的背景下進行處理的，吾等不對這些事項提供單獨的意見。吾等對下述每一事項在審計中是如何應對的描述也以此為背景。

吾等已經履行本報告核數師就審計綜合財務報表承擔的責任一節所述的責任，包括有關該等事項的責任。因此，吾等的審計包括執行為應對綜合財務報表重大錯誤陳述風險的評估而設計的程序。吾等執行審計程序的結果，包括應對以下事項所執行的程序，為吾等就隨附的綜合財務報表的審計意見提供基礎。

INDEPENDENT AUDITOR'S REPORT

獨立核數師報告

Key audit matters (continued)

Key audit matter	How our audit addressed the key audit matter
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Fair value of an unlisted equity investment

The Group's equity investments designated at fair value through other comprehensive income as at 31 December 2022 included an unlisted equity investment amounting to US\$176 million. The Group measures the unlisted equity investment at fair value at the end of each reporting period and engages an external expert to assess its fair value. During the year, this matter was significant to our audit because the carrying amount of the unlisted equity investment was material to the consolidated financial statements and the valuation process was complex and involved significant judgements.

The Group's disclosures about the valuation of the unlisted equity investment are included in notes 3, 18 and 37 to the financial statements, which explain the key assumptions that management used in the valuation.

Our audit procedures included, amongst others, assessing the competency, capabilities and objectivity of the independent external valuer engaged by the Group and involving our internal specialists to assist us in evaluating the methodology of the valuation and the key assumptions used in the valuation such as the determination of comparable public companies (peers), selection of the price multiple and estimation of the discount for illiquidity.

關鍵審計事項 (續)

關鍵審計事項	關鍵審計事項在審計中是如何應對的
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未上市股權投資之公平值

於二零二二年十二月三十一日，貴集團指定按公平值計入其他全面收益的股權投資包括未上市股權投資1.76億美元。貴集團於各報告期末按公平值對該未上市股權投資進行計量並聘請外部專家評估其公平值。於本年度，該事項對吾等的審計而言屬重大，乃由於未上市股權投資的賬面值對綜合財務報表而言屬重要，且估值過程複雜，並涉及重大判斷。

貴集團關於評估未上市股權投資的披露載於財務報表附註3、18及37，其中說明管理層於評估時使用的主要假設。

吾等的審計程序包括(其中包括)評估貴集團所委聘的獨立外部估值師的資質、能力及客觀性及在內部專家的協助下，評價於評估時使用的估值方法及主要假設(如確定比較上市公司(同業)、選擇價格倍數及缺乏流通性的折讓價之估計)。

INDEPENDENT AUDITOR'S REPORT

獨立核數師報告

Key audit matters (continued)

Key audit matter	How our audit addressed the key audit matter
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Fair value of an investment property

The Group recognised an investment property amounting to US\$169 million as at 31 December 2022. The Group measures its investment property at fair value at the end of each reporting period and engages external experts to assess its fair value. During the year, this matter was significant to our audit because the carrying amount of the investment property was material to the consolidated financial statements and the valuation process was complex and involved significant judgements.

The Group's disclosures about the valuation of the investment property are included in notes 3 and 14 to the financial statements, which explain the key assumptions that management used in the valuation.

Our audit procedures included, amongst others, assessing the competency, capabilities and objectivity of the independent external valuer engaged by the Group, comparing property-related data used for the valuation with the underlying documentation and involving our internal specialists to assist us in evaluating the methodology of the valuation and the key assumptions used in the valuation such as the estimated rental value, term yield, reversionary yield and long-term vacancy rate.

關鍵審計事項 (續)

關鍵審計事項	關鍵審計事項在審計中是如何應對的
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投資物業公平值

於二零二二年十二月三十一日，貴集團確認投資物業1.69億美元。貴集團於各報告期末按公平值計量投資物業，並委聘外部專家對其公平值進行評估。於本年度，該事項對吾等的審計而言屬重大，乃由於投資物業的賬面值對綜合財務報表而言屬重要，且估值過程複雜，並涉及重大判斷。

貴集團關於投資物業估值的披露載於財務報表附註3及附註14，其中說明管理層於估值中所用的主要假設。

吾等的審計程序包括(其中包括)評估貴集團所委聘的獨立外部估值師的資質、能力及客觀性、將用於評估的物業相關數據與相關文件比較，以及在內部專家協助下，評價評估時使用的估值方法及主要假設(如估計租賃價值、年期回報率、復歸及長期空置率)。

INDEPENDENT AUDITOR'S REPORT

獨立核數師報告

Other information included in the Annual Report

The directors of the Company are responsible for the other information. The other information comprises the information included in the Annual Report, other than the consolidated financial statements and our auditor's report thereon. The Annual Report is expected to be made available to us after the date of this auditor's report.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the directors for the consolidated financial statements

The directors of the Company are responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with HKFRSs issued by the HKICPA and the Hong Kong Companies Ordinance, and for such internal control as the directors determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the directors of the Company are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors of the Company either intend to liquidate the Group or to cease operations or have no realistic alternative but to do so.

The directors of the Company are assisted by the Audit Committee in discharging their responsibilities for overseeing the Group's financial reporting process.

年報所載的其他資料

貴公司董事須對其他資料負責。其他資料包括年報所載資料(綜合財務報表及吾等就此發出的核數師報告除外)。我們預期於該核數師報告日期後可取得年報。

吾等對綜合財務報表的意見並不涵蓋其他資料，吾等亦不會就其發表任何形式的鑒證結論。

就審計綜合財務報表而言，吾等的責任是閱讀其他資料，及在此過程中，考慮其他資料是否與綜合財務報表或吾等在審計過程中所了解的情況有重大不符，或者似乎有重大錯誤陳述。倘我們基於已進行的工作認為其他資料出現重大錯誤陳述，我們須報告有關事實。就此，我們並無報告事項。

董事對綜合財務報表須承擔的責任

貴公司董事須負責根據香港會計師公會頒佈的香港財務報告準則和香港公司條例編製綜合財務報表以作出真實而公平的反映，並落實董事認為必須之內部控制，以使綜合財務報表之編製不存在由於欺詐或錯誤而導致的重大失實陳述。

在編製綜合財務報表時，貴公司董事負責評估貴集團持續經營的能力，並在適用情況下披露與持續經營有關的事項，以及使用持續經營為會計基礎，除非貴公司董事有意將貴集團清盤或停止經營，或別無其他實際的替代方案。

審核委員會協助貴公司董事履行監督貴集團財務報告過程的責任。

INDEPENDENT AUDITOR'S REPORT

獨立核數師報告

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Our report is made solely to you, as a body, in accordance with section 405 of the Hong Kong Companies Ordinance, and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the contents of this report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with HKSA's will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with HKSA's, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.

核數師就審計綜合財務報表承擔的責任

吾等的目標，是對綜合財務報表整體是否不存在由於欺詐或錯誤而導致的重大錯誤陳述取得合理保證，並出具包括吾等意見的核數師報告。吾等按照香港公司條例第405條僅向整體股東報告，除此之外本報告別無其他目的。吾等不會就本報告的內容向任何其他人士負上或承擔任何責任。

合理保證是高水平的保證，但不能保證按照香港審計準則進行的審計，在某一重大錯誤陳述存在時總能發現。錯誤陳述可以由欺詐或錯誤引起，如果合理預期它們單獨或匯總起來可能影響綜合財務報表使用者依賴綜合財務報表所作出的經濟決定，則有關的錯誤陳述可被視作重大。

我們根據香港審計準則進行審計的工作之一，是運用專業判斷，在整個審計過程中保持專業懷疑態度。我們亦：

- 識別及評估綜合財務報表由於欺詐或錯誤而導致的重大錯誤陳述風險，因應該等風險設計及執行審計程序，以及獲得充足及適當的審計憑證為我們的意見提供基礎。由於欺詐涉及合謀串通、偽造、故意遺漏、誤導性陳述或凌駕於內部控制之上，因此未能發現由此造成的重大錯誤陳述風險比未能發現由於錯誤而導致的重大錯誤陳述風險更高。
- 了解與審計有關的內部控制，以設計恰當的審計程序，但並非旨在對貴集團內部控制的有效性發表意見。
- 評估所用會計政策的恰當性，以及董事所作出的會計估算和相關披露的合理性。

INDEPENDENT AUDITOR'S REPORT

獨立核數師報告

Auditor's responsibilities for the audit of the consolidated financial statements (continued)

- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Audit Committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Audit Committee with a statement that we have complied with relevant ethical requirements regarding independence and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

核數師就審計綜合財務報表承擔的責任(續)

- 總結董事採用以持續經營為基礎的會計法的恰當性，並根據已獲取的審計憑證，總結是否有可能對貴集團持續經營能力構成重大疑問的事件或情況等重大不確定因素。倘若我們總結認為有重大不確定因素，我們需要在核數師報告中提請注意綜合財務報表內的相關披露，或如果相關披露不足，則修訂我們的意見。我們的結論是基於截至核數師報告日期所獲得的審計憑證。然而，未來事件或情況可能導致貴集團不再具有持續經營的能力。
- 評估綜合財務報表(包括披露)的整體列報、架構和內容，以及綜合財務報表是否中肯反映相關交易及事項。
- 就貴集團內各實體或業務活動的財務資料獲得充足適當的審計憑證，以便就綜合財務報表發表意見。我們須負責指導、監督和執行貴集團的審計工作。我們須為我們的審計意見承擔全部責任。

我們就(其中包括)審計工作的計劃範圍和時間以及重大審計發現(包括我們在審計過程中發現的任何內部控制的重大缺失)與審核委員會進行溝通。

我們亦向審核委員會提交聲明，確認我們已遵守有關獨立性的道德要求，並就所有被合理認為可能影響我們獨立性的關係和其他事宜以及為消除威脅而採取的行動或應用的保障措施(如適用)，與審核委員會進行溝通。

INDEPENDENT AUDITOR'S REPORT

獨立核數師報告

Auditor's responsibilities for the audit of the consolidated financial statements (continued)

From the matters communicated with the Audit Committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Shun Lung Wai.

Ernst & Young
Certified Public Accountants
Hong Kong
30 March 2023

核數師就審計綜合財務報表承擔的責任(續)

我們通過與審核委員會溝通，確定哪些是本期綜合財務報表審計工作的最重要事項，即關鍵審計事項。除非法律或法規不容許公開披露此等事項或在極罕有的情況下，我們認為披露此等事項可合理預期的不良後果將超過公眾知悉此等事項的利益而不應在報告中予以披露，否則我們會在核數師報告中描述此等事項。

出具本獨立核數師報告的審計項目合夥人為孫龍偉。

安永會計師事務所
執業會計師
香港
二零二三年三月三十日

CONSOLIDATED STATEMENT OF PROFIT OR LOSS

綜合損益表

Year ended 31 December 2022
截至二零二二年十二月三十一日止年度

			2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
		Notes 附註		
Revenue	銷售收入	5	2,475,488	1,630,754
Cost of sales	銷售成本		(1,631,832)	(1,179,156)
Gross profit	毛利		843,656	451,598
Other income and gains	其他收入及收益	5	70,986	60,758
Fair value gain on an investment property	投資物業的公平值收益		78	183
Selling and distribution expenses	銷售及分銷費用		(12,464)	(10,673)
Administrative expenses	管理費用		(266,666)	(198,920)
Other expenses	其他費用	5	(111,360)	(165)
Finance costs	財務費用	7	(40,331)	(13,226)
Share of profits of associates	分佔聯營公司溢利		12,171	6,765
PROFIT BEFORE TAX	稅前溢利	6	496,070	296,320
Income tax expense	所得稅開支	10	(89,499)	(65,349)
PROFIT FOR THE YEAR	年內溢利		406,571	230,971
Attributable to:	下列人士應佔：			
Owners of the parent	母公司擁有人		449,912	261,476
Non-controlling interests	非控股權益		(43,341)	(30,505)
			406,571	230,971
EARNINGS PER SHARE ATTRIBUTABLE TO ORDINARY EQUITY HOLDERS OF THE PARENT:	母公司普通股權持有人應佔每股盈利：			
Basic	基本	12		
– For profit for the year	– 年內溢利		US\$0.345 0.345美元	US\$0.201 0.201美元
Diluted	攤薄			
– For profit for the year	– 年內溢利		US\$0.342 0.342美元	US\$0.198 0.198美元

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

綜合全面收益表

Year ended 31 December 2022

截至二零二二年十二月三十一日止年度

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
PROFIT FOR THE YEAR	年內溢利	406,571	230,971
OTHER COMPREHENSIVE INCOME	其他全面收益		
Other comprehensive (loss)/income that may be reclassified to profit or loss in subsequent periods:	於其後期間可能重新分類至損益的其他全面(虧損)/收益:		
Exchange differences on translation of foreign operations	換算海外業務產生的外匯差額	(309,458)	80,630
Net other comprehensive (loss)/income that may be reclassified to profit or loss in subsequent periods	於其後期間可能重新分類至損益的其他全面(虧損)/收益淨額	(309,458)	80,630
Other comprehensive (loss)/income that will not be reclassified to profit or loss in subsequent periods:	於其後期間不會重新分類至損益的其他全面(虧損)/收益:		
Equity investments designated at fair value through other comprehensive income:	指定按公平值計入其他全面收益的股權投資:		
Changes in fair value	公平值變動	(53,707)	15,564
Income tax effect	所得稅影響	8,348	(2,335)
Net other comprehensive (loss)/income that will not be reclassified to profit or loss in subsequent periods	於其後期間不會重新分類至損益的其他全面(虧損)/收益淨額	(45,359)	13,229
OTHER COMPREHENSIVE (LOSS)/INCOME FOR THE YEAR, NET OF TAX	年內其他全面(虧損)/收益, 扣除稅項	(354,817)	93,859
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	年內全面收益總額	51,754	324,830
Attributable to:	下列人士應佔:		
Owners of the parent	母公司擁有人	153,027	336,438
Non-controlling interests	非控股權益	(101,273)	(11,608)
		51,754	324,830

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

綜合財務狀況表

31 December 2022
二零二二年十二月三十一日

			31 December 2022 二零二二年 十二月三十一日 US\$'000 千美元	31 December 2021 二零二一年 十二月三十一日 US\$'000 千美元
	Notes 附註			
NON-CURRENT ASSETS		非流動資產		
Property, plant and equipment	13	物業、廠房及設備	3,367,716	3,116,501
Investment property	14	投資物業	169,363	184,883
Right-of-use assets	15	使用權資產	78,425	75,331
Intangible assets	16	無形資產	32,986	35,312
Investments in associates	17	於聯營公司的投資	130,721	122,040
Equity investments designated at fair value through other comprehensive income	18	指定按公平值計入其他全面 收益的權益投資	178,632	257,788
Long-term prepayments to third parties		應付第三方之長期預付款項	7,742	15,573
Deferred tax assets	28	遞延稅項資產	14,066	3,479
Total non-current assets		非流動資產總額	3,979,651	3,810,907
CURRENT ASSETS		流動資產		
Properties under development	19	開發中物業	134,723	114,492
Inventories	20	存貨	578,060	432,917
Trade and notes receivables	21	貿易應收款項及應收票據	291,856	181,042
Prepayments, other receivables and other assets	22	預付款項、其他應收款項及 其他資產	48,273	43,443
Due from related parties	35(c)	應收關聯方款項	13,006	6,910
Pledged deposits	23	已抵押存款	1,042	2,248
Cash and cash equivalents	23	現金及現金等價物	2,008,765	1,610,140
Total current assets		流動資產總額	3,075,725	2,391,192
CURRENT LIABILITIES		流動負債		
Trade payables	24	貿易應付款項	236,999	194,385
Other payables and accruals	25	其他應付款項及暫估費用	593,971	560,435
Interest-bearing bank borrowings	26	計息銀行借款	426,756	195,024
Lease liabilities	27	租賃負債	4,704	1,676
Government grants	29	政府補助	37,714	66,837
Due to related parties	35(c)	應付關聯方款項	6,096	7,501
Income tax payable		應付所得稅	76,176	54,543
Total current liabilities		流動負債總額	1,382,416	1,080,401
NET CURRENT ASSETS		流動資產淨額	1,693,309	1,310,791
TOTAL ASSETS LESS CURRENT LIABILITIES		資產總值減流動負債	5,672,960	5,121,698

continued 續/...

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

綜合財務狀況表

31 December 2022
二零二二年十二月三十一日

			31 December 2022	31 December 2021
			二零二二年 十二月三十一日	二零二一年 十二月三十一日
		Notes 附註	US\$'000 千美元	US\$'000 千美元
NON-CURRENT LIABILITIES	非流動負債			
Interest-bearing bank borrowings	計息銀行借款	26	1,481,580	1,395,279
Lease liabilities	租賃負債	27	14,644	16,137
Deferred tax liabilities	遞延稅項負債	28	41,268	25,735
Total non-current liabilities	非流動負債總額		1,537,492	1,437,151
Net assets	資產淨額		4,135,468	3,684,547
EQUITY	權益			
Share capital	股本	30	1,994,462	1,986,152
Reserves	儲備	32	1,036,008	884,207
Total equity attributable to owners of the parent	母公司擁有人應佔權益總額		3,030,470	2,870,359
Non-controlling interests	非控股權益	40	1,104,998	814,188
Total equity	權益總額		4,135,468	3,684,547

Suxin Zhang張素心
Director
董事**Jun Ye**葉峻
Director
董事

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

綜合權益變動表

Year ended 31 December 2022
截至二零二二年十二月三十一日止年度

		Attributable to owners of the parent												
		母公司擁有人應佔												
		Fair value reserve of other financial assets at reserve fair value (Accumulated losses/)												
		Share capital	Merger reserve	Share option reserve	Other contributed surplus	and through other comprehensive income	Revaluation surplus#	Statutory reserve funds	Exchange fluctuation reserve	Retained profits	Total	Non-controlling interests	Total equity	
		股本	合併儲備	購股權儲備	供款盈餘	按公平值計入其他資本儲備及	重估盈餘#	法定儲備	外匯波動	留存溢利	總計	非控股權益	權益總額	
Notes		US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	
附註		千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	
		(note 30)		(note 31)				(note 32)				(note 40)		
		(附註30)		(附註31)				(附註32)				(附註40)		
At 1 January 2022	於二零二二年一月一日	1,986,152	645,494*	14,572*	35,685*	25,055*	99,257*	140,426*	221,381*	(297,663)*	2,870,359	814,188	3,684,547	
Profit/(loss) for the year	年內溢利/(虧損)	-	-	-	-	-	-	-	-	449,912	449,912	(43,341)	406,571	
Other comprehensive income for the year:	年內其他全面收益:													
Change in fair value of equity investments designated at fair value through other comprehensive income, net of tax	指定按公平值計入其他全面收益的股權投資的公平值變動, 扣除稅項	-	-	-	-	(45,359)	-	-	-	-	(45,359)	-	(45,359)	
Exchange differences related to foreign operations	有關海外業務的外匯差額	-	-	-	-	-	-	(251,526)	-	-	(251,526)	(57,932)	(309,458)	
Total comprehensive income for the year	年內全面收益總額	-	-	-	-	(45,359)	-	(251,526)	449,912	153,027	(101,273)	51,754		
Transfer of fair value reserve upon the disposal of equity investments at fair value through other comprehensive income	於出售按公平值計入其他全面收益的股權投資時轉撥公平值儲備	-	-	-	-	(1,943)	-	-	-	1,943	-	-	-	
Issue of shares	發行股份	30	8,310	(2,369)	-	-	-	-	-	-	5,941	-	5,941	
Equity-settled share option arrangements	以權益結算的購股權安排	31	-	1,143	-	-	-	-	-	-	1,143	83	1,226	
Capital contribution from non-controlling interests	非控股權益出資	-	-	-	-	-	-	-	-	-	-	392,000	392,000	
Transfer from retained profits generated by a subsidiary	轉撥自一間子公司產生的留存溢利	-	-	-	-	-	-	50,699	-	(50,699)	-	-	-	
At 31 December 2022	於二零二二年十二月三十一日	1,994,462	645,494*	13,346*	35,685*	(22,247)*	99,257*	191,125*	(30,145)*	103,493*	3,030,470	1,104,998	4,135,468	

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CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

綜合權益變動表

Year ended 31 December 2022
截至二零二二年十二月三十一日止年度

		Attributable to owners of the parent												
		母公司擁有人應佔												
		Fair value												
		Other reserve of capital financial assets reserve at fair value												
		Share and through other contributed surplus income												
		Statutory Exchange Accumulated Non-controlling Total equity												
		reserve funds reserve losses Total interests equity												
		按公平值計入												
		其他資本及其他全面收益												
		儲備及的金融資產之												
		法定儲備 外匯波動												
		基金 儲備 累計虧損 總計 非控股權益 權益總額												
Notes		US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000
附註		千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元	千美元
		(note 30)		(note 31)				(note 32)				(note 40)		
		(附註30)		(附註31)				(附註32)				(附註40)		
At 1 January 2021	於二零二一年一月一日	1,979,033	645,494	16,212	35,685	11,826	99,257	105,631	159,648	(524,344)	2,528,442	825,679	3,354,121	
Profit/(loss) for the year	年內溢利/(虧損)	-	-	-	-	-	-	-	-	261,476	261,476	(30,505)	230,971	
Other comprehensive income for the year:	年內其他全面收益:													
Change in fair value of equity investments designated at fair value through other comprehensive income, net of tax	指定按公平值計入其他全面收益的股權投資的公平值變動, 扣除稅項	-	-	-	-	13,229	-	-	-	-	13,229	-	13,229	
Exchange differences related to foreign operations	有關海外業務的外匯差額	-	-	-	-	-	-	-	61,733	-	61,733	18,897	80,630	
Total comprehensive income for the year	年內全面收益總額	-	-	-	-	13,229	-	-	61,733	261,476	336,438	(11,608)	324,830	
Issue of shares	發行股份	30	7,119	(1,819)	-	-	-	-	-	-	5,300	-	5,300	
Equity-settled share option arrangements	以權益結算的購股權安排	31	-	179	-	-	-	-	-	-	179	117	296	
Transfer from retained profits generated by a subsidiary	轉撥自一間子公司產生的留存溢利	-	-	-	-	-	-	34,795	-	(34,795)	-	-	-	
At 31 December 2021	於二零二一年十二月三十一日	1,986,152	645,494*	14,572*	35,685*	25,055*	99,257*	140,426*	221,381*	(297,663)*	2,870,359	814,188	3,684,547	

Revaluation surplus arose from a change in use from an owner-occupied property to an investment property carried at fair value.

重估盈餘源於按公平值列賬之一項自用物業的用途更改為投資物業。

* These reserve accounts comprise the consolidated reserves of US\$1,036,008,000 (2021: US\$884,207,000) in the consolidated statement of financial position.

* 該等儲備賬合計為綜合財務狀況表中的綜合儲備1,036,008,000美元(二零二一年: 884,207,000美元)。

CONSOLIDATED STATEMENT OF CASH FLOWS

綜合現金流量表

Year ended 31 December 2022
截至二零二二年十二月三十一日止年度

	Notes 附註	2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
CASH FLOWS FROM OPERATING ACTIVITIES	經營活動所得現金流量		
Profit before tax	稅前溢利	496,070	296,320
Adjustments for:	就以下各項作出的調整:		
Finance costs	財務費用	7 40,331	13,226
Share of profit of associates	分佔聯營公司溢利	(12,171)	(6,765)
Interest income	利息收入	5 (26,944)	(13,437)
Dividend income from financial assets at fair value through other comprehensive income	按公平值計入其他全面收益的金融資產所產生之股息收入	5 (63)	-
(Gain)/loss on disposal of items of property, plant and equipment	出售物業、廠房及設備項目的(收益)/虧損	5 (5)	76
Depreciation of property, plant and equipment	物業、廠房及設備折舊	13 439,917	302,245
Changes in fair value of an investment property	投資物業公平值變動	14 (78)	(183)
Depreciation of right-of-use assets	使用權資產折舊	15 5,842	5,676
Amortisation of intangible assets	無形資產攤銷	16 11,101	10,095
Write-down/(reversal of write-down) of inventories to net realisable value	存貨撇減/(撇減撥回)至可變現淨值	6 19,612	(180)
(Reversal of impairment)/impairment of trade receivables	貿易應收款項(減值轉回)/減值	6 (16)	273
Impairment of items of property, plant and equipment	物業、廠房及設備項目減值	13 858	3,914
Equity-settled share option expense	以權益結算的購股權開支	31 1,226	296
		975,680	611,556
Increase in properties under development	發展中物業增加	(29,624)	(10,858)
Increase in inventories	存貨增加	(154,646)	(206,680)
Increase in trade and notes receivables	貿易應收款項及應收票據增加	(110,684)	(60,391)
Increase in prepayments, other receivables and other assets	預付款項、其他應收款項及其他資產增加	(4,248)	(10,248)
Increase in amounts due from related parties	應收關聯方款項增加	(6,096)	(2,204)
Decrease/(increase) in pledged deposits	已抵押存款減少/(增加)	1,880	(1,889)
Increase in trade payables	貿易應付款項增加	42,614	63,405
Increase in other payables and accruals	其他應付款項及暫估費用增加	110,940	137,861
(Decrease)/increase in government grants	政府補助(減少)/增加	(22,645)	23,513
Decrease in amounts due to related parties	應付關聯方款項減少	(1,405)	(5,146)
Cash generated from operations	經營活動產生的現金	801,766	538,919
Income tax paid	已付所得稅	(50,901)	(20,448)
Net cash flows generated from operating activities	經營活動所得現金流量淨額	750,865	518,471

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CONSOLIDATED STATEMENT OF CASH FLOWS

綜合現金流量表

Year ended 31 December 2022
截至二零二二年十二月三十一日止年度

	Notes 附註	2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
CASH FLOWS FROM INVESTING ACTIVITIES			
Interest received		28,450	5,899
Purchases of items of property, plant and equipment, prepaid lease payments and intangible assets		(996,182)	(938,911)
Purchases of equity investments designated at fair value through other comprehensive income		—	(6,290)
Purchases of an investment in an associate		(6,717)	(7,405)
Proceeds from disposal of items of property, plant and equipment		109	54
Receipt of government grants for property, plant and equipment		38,414	83,594
Proceeds from disposal of financial assets at fair value through other comprehensive income		5,707	—
Dividends received from financial assets at fair value through other comprehensive income		63	—
Net cash flows used in investing activities		(930,156)	(863,059)
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from issue of shares		6,248	7,419
New bank loans		514,622	1,070,805
Capital contribution from non-controlling interests		392,000	—
Interest paid		(47,286)	(11,729)
Repayment of bank loans		(199,670)	(47,860)
Principal portion of lease payments		(3,246)	(3,995)
Receipt of government grants for finance costs		11,100	—
Payment of share issued expenses		(832)	—
Increase in a pledged deposit		(759)	—
Net cash flows generated from financing activities		672,177	1,014,640
NET INCREASE IN CASH AND CASH EQUIVALENTS		492,886	670,052
Cash and cash equivalents at beginning of year		1,610,140	922,786
Effect of foreign exchange rate changes, net		(94,261)	17,302
CASH AND CASH EQUIVALENTS AT END OF YEAR	23	2,008,765	1,610,140
ANALYSIS OF BALANCES OF CASH AND CASH EQUIVALENTS			
Cash and bank balances	23	735,800	379,968
Non-pledged time deposits with original maturity of less than three months when acquired		1,272,965	1,230,172
Cash and cash equivalents as stated in the statement of financial position and in the statement of cash flows	23	2,008,765	1,610,140

NOTES TO FINANCIAL STATEMENTS

財務報表附註

31 December 2022
二零二二年十二月三十一日

1. CORPORATE AND GROUP INFORMATION

Hua Hong Semiconductor Limited (the “Company”) is a limited liability company incorporated in Hong Kong on 21 January 2005. The registered office of the Company is located at Room 2212, Bank of America Tower, 12 Harcourt Road, Central, Hong Kong. The principal place of business is located at No. 288, Habei Road, Zhangjiang Hi-Tech Park, Shanghai.

The principal activity of the Company is investment holding. During the year, the Company’s subsidiaries were principally engaged in the manufacture and sale of semiconductor products and real estate development.

In the opinion of the directors, the parent of the Company is Shanghai Huahong (Group) Co., Ltd. (“Huahong Group”), which is a state-owned company established in the People’s Republic of China (“PRC”) and supervised by the Shanghai State-owned Assets Supervision and Administration Commission (“Shanghai SASAC”). The ultimate parent of the Company is Shanghai SASAC.

Information about subsidiaries

Particulars of the Company’s subsidiaries are as follows:

1. 公司及集團資料

華虹半導體有限公司(「本公司」)為一家於二零零五年一月二十一日在香港註冊成立的有限公司。本公司的註冊辦事處為香港中環夏慤道12號美國銀行中心2212室。主要營業地點為上海市張江高科技園區哈雷路288號。

本公司的主要活動為投資控股。於年內，本公司的子公司主要從事半導體產品的生產及銷售及房地產開發。

董事認為，本公司的母公司為上海華虹(集團)有限公司(「華虹集團」)，該公司為於中華人民共和國(「中國」)成立並由上海市國有資產監督管理委員會(「上海市國資委」)監管的國有公司。本公司的最終控股公司為上海市國資委。

有關子公司的資料

本公司的子公司詳情如下：

Name 名稱	Place of incorporation/ registration and business 註冊成立/ 登記地點及業務	Issued ordinary/ registered share capital ('000) 已發行普通/ 註冊股本(千元)	Percentage of equity attributable to the Company 本公司應佔權益百分比		Principal activities 主要業務活動
			Direct 直接	Indirect 間接	
Grace Semiconductor Manufacturing Corporation ("Grace Cayman") Grace Semiconductor Manufacturing Corporation (「Grace Cayman」)	Cayman Islands 開曼群島	US\$0.001 0.001美元	100%	–	Investment holding 投資控股
Shanghai Huahong Grace Semiconductor Manufacturing Corporation ("HHGrace")* 上海華虹宏力半導體製造有限公司(「華虹宏力」)*	PRC/Mainland China 中國/中國內地	RMB7,828,578 人民幣7,828,578元	100%	–	Manufacture and sale of semiconductor products 生產及銷售半導體產品
Huahong Semiconductor (Wuxi) Co., Ltd. ("Hua Hong Wuxi")** 華虹半導體(無錫)有限公司(「華虹無錫」)**	PRC/Mainland China 中國/中國內地	US\$2,536,852 2,536,852美元	22.2%	28.8%	Manufacture and sale of semiconductor products 生產及銷售半導體產品
Shanghai Huahong Real Estate (Wuxi) Co., Ltd. ("Huahong Real Estate Wuxi")*** 上海華宏置業(無錫)有限公司(「華宏置業無錫」)***	PRC/Mainland China 中國/中國內地	RMB30,000 人民幣30,000元	22.2%	28.8%	Real estate development 房地產開發

NOTES TO FINANCIAL STATEMENTS

財務報表附註

31 December 2022
二零二二年十二月三十一日1. CORPORATE AND GROUP INFORMATION
(continued)

1. 公司及集團資料(續)

Information about subsidiaries (continued)

有關子公司的資料(續)

Name 名稱	Place of incorporation/ registration and business 註冊成立/ 登記地點及業務	Issued ordinary/ registered share capital ('000) 已發行普通/ 註冊股本(千元)	Percentage of equity attributable to the Company 本公司應佔權益百分比		Principal activities 主要業務活動
			Direct 直接	Indirect 間接	
Huahong Semiconductor Manufacturing (Wuxi) Co., Ltd. ("Hua Hong Manufacturing Wuxi")** 華虹半導體製造(無錫)有限公司(「華虹製造無錫」)**	PRC/Mainland China 中國/中國內地	RMB6,680 人民幣6,680元	100%	-	Manufacture and sale of semiconductor products 生產及銷售半導體產品
Global Synergy Technology Limited ("GST") 力鴻科技有限公司(「力鴻科技」)	PRC/Hong Kong 中國/香港	HK\$10 10港元	100%	-	Trading 貿易
HHGrace Semiconductor USA, Inc.	USA 美國	- -	100%	-	Sales office 銷售辦事處
HHGrace Semiconductor Japan Co., Ltd.	Japan 日本	JPY10,000 10,000日圓	100%	-	Sales office 銷售辦事處

* HHGrace is registered as a wholly-foreign-owned company under PRC law.

* 華虹宏力根據中國法律註冊為外商獨資公司。

** Hua Hong Wuxi and Hua Hong Manufacturing Wuxi are registered as a Sino-foreign joint company under PRC law.

** 華虹無錫及華虹製造無錫根據中國法律註冊為中外合資公司。

*** Huahong Real Estate Wuxi is registered as a domestic company under PRC law.

*** 華宏置業無錫根據中國法律註冊為內資公司。

During the year, Hua Hong Manufacturing Wuxi was established.

於年內，華虹製造無錫成立。

NOTES TO FINANCIAL STATEMENTS

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二零二二年十二月三十一日

財務報表附註

2.1 BASIS OF PREPARATION

These financial statements have been prepared in accordance with Hong Kong Financial Reporting Standards (“HKFRSs”) (which include all Hong Kong Financial Reporting Standards, Hong Kong Accounting Standards (“HKASs”) and Interpretations) issued by the Hong Kong Institute of Certified Public Accountants (“HKICPA”), accounting principles generally accepted in Hong Kong and the Hong Kong Companies Ordinance. They have been prepared under the historical cost convention, except for an investment property, equity investments designated at fair value through other comprehensive income and financial assets at fair value through profit or loss which have been measured at fair value. These financial statements are presented in United States dollars (“US\$”) and all values are rounded to the nearest thousand except when otherwise indicated.

Basis of consolidation

The consolidated financial statements include the financial statements of the Company and its subsidiaries (collectively referred to as the “Group”) for the year ended 31 December 2022. A subsidiary is an entity (including a structured entity), directly or indirectly, controlled by the Company. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee (i.e., existing rights that give the Group the current ability to direct the relevant activities of the investee).

Generally, there is a presumption that a majority of voting rights results in control. When the Company has, directly or indirectly, less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

- (a) the contractual arrangement with the other vote holders of the investee;
- (b) rights arising from other contractual arrangements; and
- (c) the Group's voting rights and potential voting rights.

The financial statements of the subsidiaries are prepared for the same reporting period as the Company, using consistent accounting policies. The results of subsidiaries are consolidated from the date on which the Group obtains control, and continue to be consolidated until the date that such control ceases.

2.1 編製基準

該等財務報表乃根據由香港會計師公會(「香港會計師公會」)頒佈的香港財務報告準則(「香港財務報告準則」,包括所有香港財務報告準則、香港會計準則(「香港會計準則」)及詮釋)、香港公認會計準則以及香港公司條例編製。財務報表乃根據歷史成本慣例編製,惟已按公平值計量的投資物業、指定按公平值計入其他全面收益的股權投資及按公平值計入損益的金融資產除外。該等財務報表以美元(「美元」)呈列,而除另有指明外,所有數值已約整至最接近的千位數。

綜合基準

綜合財務報表包括本公司及其子公司(統稱為「本集團」)截至二零二二年十二月三十一日止年度的財務報表。子公司指受本公司直接或間接控制的實體(包括結構性實體)。倘本集團透過參與被投資方業務而享有或有權取得被投資方的可變回報,且有能力行使在被投資方的權力影響有關回報,則本集團擁有該實體的控制權(即現時賦予本集團指導被投資方相關活動能力的現有權利)。

於一般情況下均存在多數投票權形成控制權之推定。倘本公司直接或間接擁有的被投資方投票權或類似權利不及大半,則評估本公司對被投資方是否擁有權力時,本集團會考慮所有相關事實及情況,包括:

- (a) 與該被投資方其他投票權擁有人的合約安排;
- (b) 根據其他合約安排所享有的權利;及
- (c) 本集團的投票權及潛在投票權。

子公司與本公司的財務報表的報告期間相同,並採用一致會計政策編製。子公司的業績由本集團取得控制權之日起計綜合入賬,並繼續綜合入賬至該等控制權終止時為止。

NOTES TO FINANCIAL STATEMENTS

財務報表附註

31 December 2022
二零二二年十二月三十一日

2.1 BASIS OF PREPARATION (continued)

Basis of consolidation (continued)

Profit or loss and each component of other comprehensive income are attributed to the owners of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

The Group reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control described above. A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

If the Group loses control over a subsidiary, it derecognises (i) the assets (including goodwill) and liabilities of the subsidiary, (ii) the carrying amount of any non-controlling interest and (iii) the cumulative translation differences recorded in equity; and recognises (i) the fair value of the consideration received, (ii) the fair value of any investment retained and (iii) any resulting surplus or deficit in profit or loss. The Group's share of components previously recognised in other comprehensive income is reclassified to profit or loss or retained profits, as appropriate, on the same basis as would be required if the Group had directly disposed of the related assets or liabilities.

2.2 CHANGES IN ACCOUNTING POLICIES AND DISCLOSURES

The Group has adopted the following revised HKFRSs for the first time for the current year's financial statements.

Amendments to HKFRS 3	<i>Reference to the Conceptual Framework</i>
Amendments to HKAS 16	<i>Property, Plant and Equipment: Proceeds before Intended Use</i>
Amendments to HKAS 37	<i>Onerous Contracts – Cost of Fulfilling a Contract</i>
<i>Annual Improvements to HKFRSs 2018-2020</i>	Amendments to HKFRS 1, HKFRS 9, Illustrative Examples accompanying HKFRS 16, and HKAS 41

2.1 編製基準 (續)

綜合基準 (續)

損益及其他全面收益的各部份乃歸屬於本集團母公司擁有人及非控股權益，即使導致非控股權益產生虧絀結餘。本集團成員公司之間交易所產生的集團內部資產及負債、權益、收入、支出及現金流量均在綜合入賬時全數對銷。

倘事實及情況顯示上述三項控制因素之一項或多項出現變動，本集團會重新評估其是否控制被投資方。子公司的所有權權益變動（沒有失去控制權），按權益交易入賬。

倘本集團失去對一間子公司的控制權，則其取消確認(i)該子公司的資產（包括商譽）及負債，(ii)任何非控制權益的賬面值及(iii)於權益內記錄的累計交易差額；及確認(i)所收代價的公平值，(ii)所保留任何投資的公平值及(iii)損益中任何因此產生的盈餘或虧損。先前於其他全面收益內確認的本集團應佔部份重新分類為損益或留存溢利（如適用），倘本集團已直接出售相關資產或負債則須以同一基準確認。

2.2 會計政策的變動及披露

本集團已採納並在本年度財務報表首次應用以下經修訂香港財務報告準則。

香港財務報告準則第3號(修訂本)	概念框架之提述
香港會計準則第16號(修訂本)	物業、廠房及設備：作擬定用途前之所得款項
香港會計準則第37號(修訂本)	虧損性合約－履行合約之成本
香港財務報告準則二零一八年至二零二零年週期之年度改進	香港財務報告準則第1號、香港財務報告準則第9號、香港財務報告準則第16號隨附之說明性示例及香港會計準則第41號(修訂本)

NOTES TO FINANCIAL STATEMENTS

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財務報表附註

2.2 CHANGES IN ACCOUNTING POLICIES AND DISCLOSURES (continued)

The nature and the impact of the revised HKFRSs that are applicable to the Group are described below:

- (a) Amendments to HKFRS 3 replace a reference to the previous *Framework for the Preparation and Presentation of Financial Statements* with a reference to the *Conceptual Framework for Financial Reporting* (the “Conceptual Framework”) issued in June 2018 without significantly changing its requirements. The amendments also add to HKFRS 3 an exception to its recognition principle for an entity to refer to the Conceptual Framework to determine what constitutes an asset or a liability. The exception specifies that, for liabilities and contingent liabilities that would be within the scope of HKAS 37 or HK(IFRIC)-Int 21 if they were incurred separately rather than assumed in a business combination, an entity applying HKFRS 3 should refer to HKAS 37 or HK(IFRIC)-Int 21 respectively instead of the Conceptual Framework. Furthermore, the amendments clarify that contingent assets do not qualify for recognition at the acquisition date. The Group has applied the amendments prospectively to business combinations that occurred on or after 1 January 2022. As there were no business combinations during the year, the amendments did not have any impact on the financial position and performance of the Group.
- (b) Amendments to HKAS 16 prohibit an entity from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognises the proceeds from selling any such items, and the cost of those items as determined by HKAS 2 *Inventories*, in profit or loss. The Group has applied the amendments retrospectively to items of property, plant and equipment made available for use on or after 1 January 2021. Since there was no sale of items produced prior to the property, plant and equipment being available for use, the amendments did not have any impact on the financial position or performance of the Group.

2.2 會計政策的變動及披露 (續)

適用於本集團之經修訂香港財務報告準則的性質及影響載於下文：

- (a) 香港財務報告準則第3號(修訂本)以二零一八年六月發佈的*財務報告概念框架*(「概念框架」)的提述取代編製及呈列財務報表的框架的先前提述，而毋須大幅改變其要求。該等修訂本亦為香港財務報告準則第3號增加確認原則的例外，實體可參考概念框架釐定資產或負債的構成要素。該例外情況規定，對於單獨而非於業務合併中承擔且屬於香港會計準則第37號或香港(國際財務報告詮釋委員會)–詮釋第21號的負債及或然負債，採用香港財務報告準則第3號的實體應分別提述香港會計準則第37號或香港(國際財務報告詮釋委員會)–詮釋第21號，而非概念框架。此外，該等修訂本澄清或然資產於收購日期不符合確認資格。本集團已對二零二二年一月一日或之後發生的業務合併進行前瞻性修訂。由於年內並無業務合併，該修訂對本集團的財務狀況及業績並無任何影響。
- (b) 香港會計準則第16號(修訂本)禁止實體從物業、廠房及設備項目的成本中扣除使資產達到管理層擬定之營運狀態所需位置與條件過程中產生的項目銷售之任何所得款項。相反，實體須根據香港會計準則第2號存貨於損益中確認銷售任何有關項目之所得款項及該等項目之成本。本集團已對二零二一年一月一日或之後可供使用的物業、廠房及設備項目追溯應用該等修訂本。由於在物業、廠房及設備可供使用之前並無出售所生產的項目，因此該修訂對本集團的財務狀況及業績並無任何影響。

NOTES TO FINANCIAL STATEMENTS

財務報表附註

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2.2 CHANGES IN ACCOUNTING POLICIES AND DISCLOSURES (continued)

(c) Amendments to HKAS 37 clarify that for the purpose of assessing whether a contract is onerous under HKAS 37, the cost of fulfilling the contract comprises the costs that relate directly to the contract. Costs that relate directly to a contract include both the incremental costs of fulfilling that contract (e.g., direct labour and materials) and an allocation of other costs that relate directly to fulfilling that contract (e.g., an allocation of the depreciation charge for an item of property, plant and equipment used in fulfilling the contract as well as contract management and supervision costs). General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract. The Group has applied the amendments prospectively to contracts for which it has not yet fulfilled all its obligations at 1 January 2022 and no onerous contracts were identified. Therefore, the amendments did not have any impact on the financial position or performance of the Group.

(d) *Annual Improvements to HKFRSs 2018-2020* sets out amendments to HKFRS 1, HKFRS 9, Illustrative Examples accompanying HKFRS 16, and HKAS 41. Details of the amendment that is applicable to the Group are as follows:

- HKFRS 9 *Financial Instruments*: clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. The Group has applied the amendment prospectively from 1 January 2022. As there was no modification or exchange of the Group's financial liabilities during the year, the amendment did not have any impact on the financial position or performance of the Group.

2.2 會計政策的變動及披露 (續)

(c) 香港會計準則第37號(修訂本)澄清, 就根據香港會計準則第37號評估合約是否屬虧損性而言, 履行合約的成本包括與合約直接相關的成本。與合約直接相關的成本包括履行該合約的增量成本(例如直接勞工及材料)及與履行合約直接相關的其他成本分配(例如分配履行合約所用物業、廠房及設備項目的折舊費用以及合約管理及監管成本)。一般及行政成本與合約並無直接關聯, 除非根據合約明確向對手方收取, 否則不包括在內。本集團已前瞻性地將該修訂本適用於截至二零二二年一月一日尚未履行其所有義務的合約, 惟並無識別出虧損合約。因此, 該修訂對本集團的財務狀況及業績並無任何影響。

(d) *香港財務報告準則二零一八年至二零二零年週期之年度改進* 載列香港財務報告準則第1號、香港財務報告準則第9號、香港財務報告準則第16號隨附之說明性示例及香港會計準則第41號(修訂本)。適用於本集團的該等修訂詳情如下:

- 香港財務報告準則第9號 *金融工具*: 澄清於實體評估是否新訂或經修改金融負債的條款與原金融負債的條款存在實質差異時所包含的費用。該等費用僅包括借款人與貸款人之間已支付或收取的費用, 包括借款人或貸款人代表其他方支付或收取的費用。本集團已自二零二二年一月一日起前瞻性地應用該修訂本。由於年內本集團的金融負債並無任何修改或交換, 因此該修訂對本集團的財務狀況及業績並無任何影響。

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2.3 ISSUED BUT NOT YET EFFECTIVE HONG KONG FINANCIAL REPORTING STANDARDS

The Group has not applied the following new and revised HKFRSs, that have been issued but are not yet effective, in these financial statements.

Amendments to HKFRS 10 and HKAS 28 (2011)	<i>Sale or Contribution of Assets between an Investor and its Associate or Joint Venture</i> ³
Amendments to HKFRS 16	<i>Lease Liability in a Sale and Leaseback</i> ²
HKFRS 17	<i>Insurance Contracts</i> ¹
Amendments to HKFRS 17	<i>Insurance Contracts</i> ^{1,5}
Amendment to HKFRS 17	<i>Initial Application of HKFRS 17 and HKFRS 9 – Comparative Information</i> ⁶
Amendments to HKAS 1	<i>Classification of Liabilities as Current or Non-current (the “2020 Amendments”)</i> ^{2,4}
Amendments to HKAS 1	<i>Non-current Liabilities with Covenants (the “2022 Amendments”)</i> ²
Amendments to HKAS 1 and HKFRS Practice Statement 2	<i>Disclosure of Accounting Policies</i> ¹
Amendments to HKAS 8	<i>Definition of Accounting Estimates</i> ¹
Amendments to HKAS 12	<i>Deferred Tax related to Assets and Liabilities arising from a Single Transaction</i> ¹

¹ Effective for annual periods beginning on or after 1 January 2023

² Effective for annual periods beginning on or after 1 January 2024

³ No mandatory effective date yet determined but available for adoption

⁴ As a consequence of the 2022 Amendments, the effective date of the 2020 Amendments was deferred to annual periods beginning on or after 1 January 2024. In addition, as a consequence of the 2020 Amendments and 2022 Amendments, Hong Kong Interpretation 5 Presentation of Financial Statements – Classification by the Borrower of a Term Loan that Contains a Repayment on Demand Clause was revised to align the corresponding wording with no change in conclusion

⁵ As a consequence of the amendments to HKFRS 17 issued in October 2020, HKFRS 4 was amended to extend the temporary exemption that permits insurers to apply HKAS 39 rather than HKFRS 9 for annual periods beginning before 1 January 2023

⁶ An entity that chooses to apply the transition option relating to the classification overlay set out in this amendment shall apply it on initial application of HKFRS 17

2.3 已頒佈但尚未生效之香港財務報告準則

本集團並無於該等財務報表內應用下列已頒佈但尚未生效之新訂及經修訂香港財務報告準則。

香港財務報告準則第10號及香港會計準則第28號 (二零一一年)(修訂本)	投資者與其聯營公司或合營企業之間的資產出售或注資 ³
香港財務報告準則第16號 (修訂本)	售後回租的租賃負債 ²
香港財務報告準則第17號	保險合約 ¹
香港財務報告準則第17號 (修訂本)	保險合約 ^{1, 5}
香港財務報告準則第17號 (修訂本)	首次應用香港財務報告準則第17號及香港財務報告準則第9號 – 比較資料 ⁶
香港會計準則第1號 (修訂本)	負債分類為流動或非流動 (「二零二零年修訂」) ^{2, 4}
香港會計準則第1號 (修訂本)	具契諾之非流動負債 (「二零二零年修訂」) ²
香港會計準則第1號及香港財務報告準則實務報告第2號 (修訂本)	會計政策披露 ¹
香港會計準則第8號 (修訂本)	會計估計的定義 ¹
香港會計準則第12號 (修訂本)	與單一交易產生的資產及負債相關的遞延稅項 ¹

¹ 於二零二三年一月一日或之後開始之年度期間生效

² 於二零二四年一月一日或之後開始之年度期間生效

³ 尚未釐定強制生效日期但可供採納

⁴ 由於二零二零年修訂，二零二零年修訂的生效日期改為二零二四年一月一日或之後開始之年度期間。此外，由於二零二零年修訂及二零二零年修訂，香港詮釋第5號財務報表的呈報 – 借款人對載有按求償還條款的定期貸款的分類已進行修訂，以使相應措詞保持一致而結論不變

⁵ 由於於二零二零年十月頒佈的香港財務報告準則第17號 (修訂本)，香港財務報告準則第4號獲修訂以擴大暫時豁免，允許保險公司於二零二三年一月一日之前開始的年度期間應用香港會計準則第39號而非香港財務報告準則第9號

⁶ 選擇應用與該修訂中載列分類覆蓋相關的過渡選項的實體應於首次應用香港財務報告準則第17號時應用該選項

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2.3 ISSUED BUT NOT YET EFFECTIVE HONG KONG FINANCIAL REPORTING STANDARDS (continued)

Further information about those HKFRSs that are expected to be applicable to the Group is described below.

Amendments to HKFRS 10 and HKAS 28 (2011) address an inconsistency between the requirements in HKFRS 10 and in HKAS 28 (2011) in dealing with the sale or contribution of assets between an investor and its associate or joint venture. The amendments require a full recognition of a gain or loss resulting from a downstream transaction when the sale or contribution of assets between an investor and its associate or joint venture constitutes a business. For a transaction involving assets that do not constitute a business, a gain or loss resulting from the transaction is recognised in the investor's profit or loss only to the extent of the unrelated investor's interest in that associate or joint venture. The amendments are to be applied prospectively. The previous mandatory effective date of amendments to HKFRS 10 and HKAS 28 (2011) was removed by the HKICPA in January 2016 and a new mandatory effective date will be determined after the completion of a broader review of accounting for associates and joint ventures. However, the amendments are available for adoption now.

Amendments to HKFRS 16 specify the requirements that a seller-lessee uses in measuring the lease liability arising in a sale and leaseback transaction to ensure the seller-lessee does not recognise any amount of the gain or loss that relates to the right of use it retains. The amendments are effective for annual periods beginning on or after 1 January 2024 and shall be applied retrospectively to sale and leaseback transactions entered into after the date of initial application of HKFRS 16 (i.e., 1 January 2019). Earlier application is permitted. The amendments are not expected to have any significant impact on the Group's financial statements.

2.3 已頒佈但尚未生效之香港財務報告準則 (續)

有關預期適用於本集團之香港財務報告準則之進一步資料載列如下。

香港財務報告準則第10號及香港會計準則第28號(二零一一年)(修訂本)解決香港財務報告準則第10號與香港會計準則第28號(二零一一年)之間有關處理投資者與其聯營公司或合營企業之間的資產出售或注資的規定的不一致情況。該等修訂規定,倘投資者與其聯營公司或合營企業之間的資產出售或注資構成一項業務,則須悉數確認下游交易產生的收益或虧損。倘交易涉及不構成一項業務的資產,則該交易產生的收益或虧損於投資者的損益內確認,惟以不相關投資者於該聯營公司或合營企業的權益為限。該等修訂將予以前瞻性應用。香港會計師公會於二零一六年一月剔除香港財務報告準則第10號及香港會計準則第28號(二零一一年)(修訂本)的以往強制生效日期,而新的強制生效日期將於對聯營公司及合營企業的會計處理完成更廣泛的審閱後釐定。然而,該等修訂目前可供採納。

香港財務報告準則第16號(修訂本)訂明計量售後回租交易產生的租賃負債所用的賣方-承租人之規定,以確保賣方-承租人不會確認與所保留使用權有關的任何損益金額。修訂於二零二四年一月一日或之後開始的年度期間生效,並須追溯適用於香港財務報告準則第16號首次應用之日(即二零一九年一月一日)之後簽訂的售後回租交易,亦可提早應用。預期修訂對本集團的財務報表並無任何重大影響。

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2.3 ISSUED BUT NOT YET EFFECTIVE HONG KONG FINANCIAL REPORTING STANDARDS (continued)

Amendments to HKAS 1 *Classification of Liabilities as Current or Non-current* clarify the requirements for classifying liabilities as current or non-current, in particular the determination over whether an entity has a right to defer settlement of the liabilities for at least 12 months after the reporting period. Classification of a liability is unaffected by the likelihood that the entity will exercise its right to defer settlement of the liability. The amendments also clarify the situations that are considered a settlement of a liability. In 2022, the HKICPA issued the 2022 Amendments to further clarify that, among covenants of a liability arising from a loan arrangement, only those with which an entity must comply on or before the reporting date affect the classification of that liability as current or non-current. In addition, the 2022 Amendments require additional disclosures by an entity that classifies liabilities arising from loan arrangements as non-current when it has a right to defer settlement of those liabilities that are subject to the entity complying with future covenants within 12 months after the reporting period. The amendments are effective for annual periods beginning on or after 1 January 2024 and shall be applied retrospectively. Earlier application is permitted. An entity that applies the 2020 Amendments early is required to apply simultaneously the 2022 Amendments, and vice versa. The Group is currently assessing the impact of the amendments and whether existing loan agreements may require revision. Based on a preliminary assessment, the amendments are not expected to have any significant impact on the Group's financial statements.

Amendments to HKAS 1 *Disclosure of Accounting Policies* require entities to disclose their material accounting policy information rather than their significant accounting policies. Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements. Amendments to HKFRS Practice Statement 2 provide non-mandatory guidance on how to apply the concept of materiality to accounting policy disclosures. Amendments to HKAS 1 are effective for annual periods beginning on or after 1 January 2023 and earlier application is permitted. Since the guidance provided in the amendments to HKFRS Practice Statement 2 is non-mandatory, an effective date for these amendments is not necessary. The Group is currently revisiting the accounting policy disclosures to ensure consistency with the amendments.

2.3 已頒佈但尚未生效之香港財務報告準則 (續)

香港會計準則第1號(修訂本)將負債分類為流動或非流動釐清將負債分類為流動或非流動的規定，特別是確定實體是否有權在報告期後至少十二個月內延遲償還負債。負債的分類不受實體行使其權利延遲償還負債的可能性所影響。修訂亦澄清被視為償還負債的情況。二零二二年，香港會計師公會發佈二零二二年修訂，進一步澄清在貸款安排產生的負債契諾中，只有實體在報告日期當天或之前必須遵守的契諾才會影響該負債分類為流動或非流動。此外，二零二二年修訂要求將貸款安排產生的負債分類為非流動負債的實體在報告期後的十二個月內有權延遲償還該實體遵守未來契諾的負債時進行額外披露。該等修訂於二零二四年一月一日或之後開始的年度期間生效，並應追溯應用。允許提早應用。提前應用二零二零年修訂的實體需要同時應用二零二二年修訂，反之亦然。本集團目前正在評估修訂的影響，以及現有貸款協議是否需要修訂。根據初步評估，預計修訂不會對本集團財務報表產生任何重大影響。

香港會計準則第1號(修訂本)會計政策披露要求實體披露重要會計政策資料，而非重大會計政策。倘連同實體財務報表內其他資料一併考慮，會計政策資料可以合理預期會影響通用財務報表的主要使用者根據該等財務報表所作出的決定，則該會計政策資料屬重大。香港財務報告準則實務報告第2號(修訂本)就如何將重要性概念應用於會計政策披露提供非強制指引。香港會計準則第1號(修訂本)於二零二三年一月一日或之後開始的年度期間生效，並允許提早應用。由於香港財務報告準則實務報告第2號(修訂本)提供的指引為非強制性，故該等修訂之生效日期並無必要。本集團現正在重新審閱會計政策的披露，以確保與修訂本保持一致。

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2.3 ISSUED BUT NOT YET EFFECTIVE HONG KONG FINANCIAL REPORTING STANDARDS (continued)

Amendments to HKAS 8 clarify the distinction between changes in accounting estimates and changes in accounting policies. Accounting estimates are defined as monetary amounts in financial statements that are subject to measurement uncertainty. The amendments also clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments are effective for annual reporting periods beginning on or after 1 January 2023 and apply to changes in accounting policies and changes in accounting estimates that occur on or after the start of that period. Earlier application is permitted. The amendments are not expected to have any significant impact on the Group's financial statements.

Amendments to HKAS 12 narrow the scope of the initial recognition exception in HKAS 12 so that it no longer applies to transactions that give rise to equal taxable and deductible temporary differences, such as leases and decommissioning obligations. Therefore, entities are required to recognise a deferred tax asset (provided that sufficient taxable profit is available) and a deferred tax liability for temporary differences arising from these transactions. The amendments are effective for annual reporting periods beginning on or after 1 January 2023 and shall be applied to transactions related to leases and decommissioning obligations at the beginning of the earliest comparative period presented, with any cumulative effect recognised as an adjustment to the opening balance of retained profits or other component of equity as appropriate at that date. In addition, the amendments shall be applied prospectively to transactions other than leases and decommissioning obligations. Earlier application is permitted. The amendments are not expected to have any significant impact on the Group's financial statements.

The Group has applied the initial recognition exception and did not recognise a deferred tax asset and a deferred tax liability for temporary differences for transactions related to leases. The amendments are not expected to have any significant impact on the Group's financial statements.

2.3 已頒佈但尚未生效之香港財務報告準則 (續)

香港會計準則第8號(修訂本)澄清會計估計變更及會計政策變更之間的區別。會計估計的定義是財務報表中存在計量不確定性的貨幣性金額。該等修訂亦釐清實體使用計量技巧及輸入數據以計算會計估計的方式。該等修訂於二零二三年一月一日或之後開始的年度報告期間生效，並適用於該期間開始時或之後發生的會計政策變動及會計估計變動。允許提早應用。預期該等修訂不會對本集團的財務報表產生任何重大影響。

香港會計準則第12號(修訂本)縮小香港會計準則第12號中首次確認例外情況的範圍，使其不再適用於產生相同的應課稅及可扣減暫時差額的租賃及退役責任等交易。因此，實體須為該等交易產生的暫時差額確認一項遞延稅項資產(倘有足夠應課稅溢利)和一項遞延稅項負債。該等修訂於二零二三年一月一日或之後開始的年度報告期間生效，並將應用於所呈列的最早比較期間開始的有關租賃及退役責任的交易，任何累計影響確認為該日期保留利潤期初結餘或其他權益項目(如適用)的調整。此外，該等修訂將前瞻性應用於除租賃及退役責任外的交易。允許提早應用。該等修訂預期不會對本集團財務報表有任何重大影響。

本集團採用首次確認例外情況，且並無確認與租賃相關的交易之暫時差額的遞延稅項資產和遞延稅項負債。該等修訂預期不會對本集團財務報表有任何重大影響。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Investments in associates

An associate is an entity in which the Group has a long term interest of generally not less than 20% of the equity voting rights and over which it is in a position to exercise significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but is not control or joint control over those policies.

The Group's investments in associates is stated in the consolidated statement of financial position at the Group's share of net assets under the equity method of accounting, less any impairment losses.

Adjustments are made to bring into line any dissimilar accounting policies that may exist.

The Group's share of the post-acquisition results and other comprehensive income of an associate is included in the consolidated statement of profit or loss and consolidated other comprehensive income, respectively. In addition, when there has been a change recognised directly in the equity of the associate, the Group recognises its share of any changes, when applicable, in the consolidated statement of changes in equity. Unrealised gains and losses resulting from transactions between the Group and its associate are eliminated to the extent of the Group's investment in the associate, except where unrealised losses provide evidence of an impairment of the assets transferred. Goodwill arising from the acquisition of an associate is included as part of the Group's investment in an associate.

If an investment in an associate becomes an investment in a joint venture, the retained interest is not remeasured. Instead, the investment continues to be accounted for under the equity method. In all other cases, upon loss of significant influence over the associate, the Group measures and recognises any retained investment at its fair value. Any difference between the carrying amount of the associate upon loss of significant influence or joint control and the fair value of the retained investment and proceeds from disposal is recognised in profit or loss.

When an investment in an associate is classified as held for sale, it is accounted for in accordance with HKFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*.

2.4 重大會計政策概要

於聯營公司的投資

聯營公司為一間本集團對其擁有一般不少於20%股本投票權的長期權益，且本集團可對其發揮重大影響力的實體。重大影響力指有權力參與投資對象的財務及經營政策決策，但並非對該等政策擁有控制或聯合控制權。

本集團於聯營公司的投資於綜合財務狀況表內按使用權益會計法計算的本集團應佔淨資產扣減任何減值虧損列賬。

為使任何可能存在之不同會計政策貫徹一致而作出調整。

本集團應佔其聯營公司的收購後業績及其他全面收益分別列入綜合損益表及綜合其他全面收益表。此外，倘聯營公司的權益內直接確認某一變動，則本集團會於綜合權益變動表內確認其於任何變動（如適用）的應佔部份。本集團及其聯營公司進行交易所產生的未變現收益及虧損按本集團於該聯營公司的投資進行撇銷，惟未變現虧損有證據顯示所轉讓資產出現減值者除外。收購聯營公司產生的商譽計入本集團於該聯營公司投資的一部分。

倘於一家聯營公司的投資變成於合營企業的投資，保留權益不會重新計量。相反，該投資將繼續按權益法列賬。於所有其他情形下，倘本集團不再對聯營公司擁有重大影響力，本集團將按其公平值計量及確認任何保留投資。於失去重大影響力或共同控制權後聯營公司的賬面值與保留投資的公平值及出售所得款項之間的任何差額於損益內確認。

倘於一家聯營公司的投資被分類為持作出售，則根據香港財務報告準則第5號持作出售非流動資產及終止持續經營業務列賬。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Fair value measurement

The Group measures its investment property, equity investments designated at fair value through other comprehensive income and financial assets at fair value through profit or loss at fair value at the end of each reporting period. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either in the principal market for the asset or liability, or in the absence of a principal market, in the most advantageous market for the asset or liability. The principal or the most advantageous market must be accessible by the Group. The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

The Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs.

2.4 重大會計政策概要 (續)

公平值計量

本集團於各報告期末按公平值計量投資物業、指定按公平值計入其他全面收益的股權投資以及按公平值計入損益的金融資產。公平值指於計量日市場參與者之間的有序交易中，就出售資產所收取的價格或轉讓負債所支付的價格。公平值計量乃基於假設出售資產或轉讓負債的交易於資產或負債的主要市場或(在未有主要市場的情況下)資產或負債的最有利市場進行。主要或最有利市場須為本集團能參與的市場。假設市場參與者基於彼等最佳經濟利益行事，資產或負債的公平值使用市場參與者為資產或負債定價所用假設計量。

非金融資產的公平值計量會計及市場參與者將資產用於最高增值及最佳用途或售予會將資產用於最高增值及最佳用途的另一名市場參與者而創造經濟利益的能力。

本集團針對不同情況使用不同估值技術，確保有足夠數據計量公平值，並盡量利用相關可觀察輸入數據，減少使用不可觀察輸入數據。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Fair value measurement (continued)**

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorised within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1 – based on quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2 – based on valuation techniques for which the lowest level input that is significant to the fair value measurement is observable, either directly or indirectly
- Level 3 – based on valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognised in the financial statements on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by reassessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

Impairment of non-financial assets

Where an indication of impairment exists, or when annual impairment testing for an asset is required (other than inventories, contract assets, deferred tax assets, financial assets, investment properties and non-current assets/a disposal group classified as held for sale), the asset's recoverable amount is estimated. An asset's recoverable amount is the higher of the asset's or cash-generating unit's value in use and its fair value less costs of disposal, and is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets, in which case the recoverable amount is determined for the cash-generating unit to which the asset belongs. In testing a cash-generating unit for impairment, a portion of the carrying amount of a corporate asset (e.g., a headquarters building) is allocated to an individual cash-generating unit if it can be allocated on a reasonable and consistent basis or, otherwise, to the smallest group of cash-generating units.

2.4 重大會計政策概要 (續)**公平值計量 (續)**

公平值於財務報表計量或披露的所有資產及負債，均基於對公平值計量整體而言屬重大的最低層級輸入數據按下述公平值層級分類：

- 第1級 – 基於相同資產或負債於活躍市場的市場報價 (未經調整)
- 第2級 – 基於對公平值計量而言屬重大的直接或間接可觀察最低層級輸入數據的估值技術
- 第3級 – 基於對公平值計量而言屬重大的不可觀察最低層級輸入數據的估值技術

對於按經常性基準於財務報表確認的資產及負債，本集團於各報告期末重新評估分類 (基於對公平值計量整體而言屬重大的最低層級輸入數據)，確定有否在不同層級之間轉移。

非金融資產減值

倘一項資產 (存貨、合約資產、遞延稅項資產、金融資產、投資物業及非流動資產 / 分類為持作出售的出售組別除外) 存在減值跡象，或需要進行年度減值測試，則會估計資產的可收回金額。資產可收回金額按該資產或現金產生單位的使用價值及其公平值減出售成本兩者中的較高金額計算，並按個別資產釐定，除非該資產所產生的現金流入基本上不能獨立於其他資產或資產組別所產生的現金流入，在此情況下，可收回金額將按該資產所屬現金產生單位釐定。於進行現金產生單位減值測試時，倘可按合理且一致基準分配，或如否，則分配至最小現金產生單位組別，企業資產 (如，總部大樓) 賬面值的一部份分配至個別現金產生單位。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Impairment of non-financial assets (continued)

An impairment loss is recognised only if the carrying amount of an asset exceeds its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. An impairment loss is charged to the statement of profit or loss in the period in which it arises in those expense categories consistent with the function of the impaired asset.

An assessment is made at the end of each reporting period as to whether there is an indication that previously recognised impairment losses may no longer exist or may have decreased. If such an indication exists, the recoverable amount is estimated. A previously recognised impairment loss of an asset other than goodwill is reversed only if there has been a change in the estimates used to determine the recoverable amount of that asset, but not to an amount higher than the carrying amount that would have been determined (net of any depreciation/amortisation) had no impairment loss been recognised for the asset in prior years. A reversal of such an impairment loss is credited to the statement of profit or loss in the period in which it arises.

Related parties

A party is considered to be related to the Group if:

- (a) the party is a person or a close member of that person's family and that person
 - (i) has control or joint control over the Group;
 - (ii) has significant influence over the Group; or
 - (iii) is a member of the key management personnel of the Group or of a parent of the Group;

or

2.4 重大會計政策概要 (續)

非金融資產減值 (續)

減值虧損僅於資產賬面值超逾其可收回金額時確認。於評估使用價值時，估計未來現金流量乃按稅前貼現率貼現至其現值。稅前貼現率反映當時市場對貨幣時間值的評估及該資產的特有風險。減值虧損於其產生期間的損益表內在與減值資產的功能一致的相關開支類別中扣除。

於各報告期末，會評估是否有跡象顯示先前確認的減值虧損可能不再存在或可能已減少。倘有該等跡象存在，便會估計可收回金額。先前就資產(商譽除外)確認的減值虧損，僅於用以釐定該資產的可收回金額的估計有變時予以撥回，但撥回金額不得高於倘過往年度並無就該資產確認減值虧損情況下原應釐定的賬面值(扣除任何折舊／攤銷)。撥回的減值虧損於其產生期間計入損益表。

關聯方

以下人士將被視為與本集團有關聯：

- (a) 倘為以下人士或其近親
 - (i) 控制或共同控制本集團；
 - (ii) 對本集團有重大影響力；或
 - (iii) 為本集團或本集團母公司的主要管理層成員；

或

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Related parties (continued)

A party is considered to be related to the Group if: (continued)

- (b) the party is an entity where any of the following conditions applies:
- (i) the entity and the Group are members of the same group;
 - (ii) one entity is an associate or joint venture of the other entity (or of a parent, subsidiary or fellow subsidiary of the other entity);
 - (iii) the entity and the Group are joint ventures of the same third party;
 - (iv) one entity is a joint venture of a third entity and the other entity is an associate of the third entity;
 - (v) the entity is a post-employment benefit plan for the benefit of employees of either the Group or an entity related to the Group;
 - (vi) the entity is controlled or jointly controlled by a person identified in (a);
 - (vii) a person identified in (a)(i) has significant influence over the entity or is a member of the key management personnel of the entity (or of a parent of the entity); and
 - (viii) the entity, or any member of a group of which it is a part, provides key management personnel services to the Group or to the parent of the Group.

2.4 重大會計政策概要 (續)

關聯方 (續)以下人士將被視為與本集團有關聯：
(續)

- (b) 該人士為符合下列任何條件的實體：
- (i) 該實體與本集團屬同一集團的成員公司；
 - (ii) 實體為另一實體 (或另一實體的母公司、子公司或同系子公司) 的聯營公司或合營企業；
 - (iii) 該實體與本集團為同一第三方的合營企業；
 - (iv) 實體為一名第三方實體的合營企業，而另一實體為該第三方實體的聯營公司；
 - (v) 該實體為本集團或與本集團有關聯的實體就僱員利益設立的離職後福利計劃；
 - (vi) 該實體由(a)項所列人士控制或共同控制；
 - (vii) (a)(i)項所列人士對該實體具有重大影響力或為該實體 (或該實體的母公司) 的主要管理層成員；及
 - (viii) 該實體或該實體所屬集團的任何成員公司為本集團或本集團的母公司提供主要管理人員服務。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Property, plant and equipment and depreciation

Property, plant and equipment, other than construction in progress, are stated at cost less accumulated depreciation and any impairment losses. When an item of property, plant and equipment is classified as held for sale or when it is part of a disposal group classified as held for sale, it is not depreciated and is accounted for in accordance with HKFRS 5. The cost of an item of property, plant and equipment comprises its purchase price and any directly attributable costs of bringing the asset to its working condition and location for its intended use.

Expenditure incurred after items of property, plant and equipment have been put into operation, such as repairs and maintenance, is normally charged to the statement of profit or loss in the period in which it is incurred. In situations where the recognition criteria are satisfied, the expenditure for a major inspection is capitalised in the carrying amount of the asset as a replacement. Where significant parts of property, plant and equipment are required to be replaced at intervals, the Group recognises such parts as individual assets with specific useful lives and depreciates them accordingly.

Depreciation is calculated on the straight-line basis to write off the cost of each item of property, plant and equipment to its residual value over its estimated useful life. The principal annual rates used for this purpose are as follows:

Buildings	3.8%
Plant and machinery	9.5% to 19.0%
Office equipment	19.0%
Motor vehicles	19.0%
Leasehold improvements	20.0%

Where parts of an item of property, plant and equipment have different useful lives, the cost of that item is allocated on a reasonable basis among the parts and each part is depreciated separately. Residual values, useful lives and the depreciation method are reviewed, and adjusted if appropriate, at least at each financial year end.

2.4 重大會計政策概要 (續)

物業、廠房及設備以及折舊

物業、廠房及設備(在建工程除外)乃按成本減累計折舊及任何減值虧損列賬。倘物業、廠房及設備項目被分類為持作出售或倘其為分類為持作出售的出售組別的一部份,則不會對此進行折舊,而根據香港財務報告準則第5號列賬。物業、廠房及設備項目的成本包括其購買價及任何使資產達致操作狀況及地點作擬定用途的直接應佔成本。

物業、廠房及設備項目投入運作後所產生維修保養等支出,一般於其產生期間自損益表內扣除。倘達到確認標準,重大檢修的開支於該資產的賬面值中資本化為重置資產。倘物業、廠房及設備須定期替換其重大部份,則本集團將該等部份確認為具有特定可使用年期的獨立資產,並相應對此進行折舊。

折舊的計算是按直線法,在其估計可使用年期內將物業、廠房及設備各項目的成本撇銷至剩餘價值。就此所用的主要年率如下:

樓宇	3.8%
廠房及機器	9.5%至19.0%
辦公設備	19.0%
汽車	19.0%
租賃物業裝修	20.0%

倘物業、廠房及設備項目的部份的可使用年期不同,該項目的成本會按合理基準分配至有關部份,而各部份均分開計提折舊。剩餘價值、可使用年期及折舊方法至少於各財政年度末檢討及按需要作出調整。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Property, plant and equipment and depreciation (continued)**

An item of property, plant and equipment including any significant part initially recognised is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on disposal or retirement recognised in the statement of profit or loss in the year the asset is derecognised is the difference between the net sales proceeds and the carrying amount of the relevant asset.

Construction in progress is stated at cost less any impairment losses and is not depreciated. Cost comprises the direct costs of construction during the period of construction. Construction in progress is reclassified to the appropriate category of property, plant and equipment when completed and ready for use.

Investment property

Investment property is interest in land and buildings (including the leasehold property held as a right-of-use asset which would otherwise meet the definition of an investment property) held to earn rental income and/or for capital appreciation, rather than for use in the production or supply of goods or services or for administrative purposes; or for sale in the ordinary course of business. Such property is measured initially at cost, including transaction costs. Subsequent to initial recognition, the investment property is stated at fair value, which reflects market conditions at the end of the reporting period.

Gains or losses arising from changes in the fair value of the investment property are included in the statement of profit or loss in the year in which they arise.

Any gains or losses on the retirement or disposal of an investment property are recognised in the statement of profit or loss in the year of the retirement or disposal.

2.4 重大會計政策概要 (續)**物業、廠房及設備以及折舊 (續)**

物業、廠房及設備項目(包括任何初始確認的重大部份)於出售或預期使用或出售有關項目不會產生未來經濟利益時終止確認。於終止確認資產年度在損益表內確認的出售或報廢資產的任何收益或虧損,為出售有關資產所得款項淨額與其賬面值兩者間的差額。

在建工程乃按成本減任何減值虧損列賬,但不會計提折舊。成本包括建造期間的直接建設成本。在建工程於完工且可供使用時將重新分類至物業、廠房及設備的適當類別。

投資物業

投資物業乃為賺取租金收入及/或資本增值而持有的土地及樓宇權益(包括符合投資物業定義的持作使用權資產之租賃物業),而非用於生產或供應貨物或服務或用作行政用途;或用作在日常業務過程中銷售。該物業初步以成本(包括交易費用)計量。於初始確認後,投資物業以反映報告期末市況的公平值列賬。

投資物業公平值變動產生的收益或虧損計入其產生年度的損益表內。

因投資物業報廢或出售而產生的任何收益或虧損於報廢或出售年度的損益表內確認。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Intangible assets (other than goodwill)

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is the fair value as at the date of acquisition. The useful lives of intangible assets are assessed to be either finite or indefinite. Intangible assets with finite lives are subsequently amortised over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortisation period and the amortisation method for an intangible asset with a finite useful life are reviewed at least at each financial year end.

Process technology licence and software

Process technology licence and software are stated at cost less any impairment losses and are amortised on the straight-line basis over their estimated useful lives of 5 to 10 years of the underlying products, commencing from the date when the products are put into commercial production.

Research and development costs

All research costs are charged to the statement of profit or loss as incurred.

Expenditure incurred on projects to develop new products is capitalised and deferred only when the Group can demonstrate the technical feasibility of completing the intangible asset so that it will be available for use or sale, its intention to complete and its ability to use or sell the asset, how the asset will generate future economic benefits, the availability of resources to complete the project and the ability to measure reliably the expenditure during the development. Product development expenditure which does not meet these criteria is expensed when incurred.

2.4 重大會計政策概要 (續)

無形資產 (商譽除外)

單獨取得的無形資產於初始確認時按成本計量。通過業務合併取得的無形資產的成本為於收購日期的公平值。無形資產的可使用年期評定為有限期或無限期。有限期的無形資產隨後按可使用經濟年期攤銷，並於有跡象顯示無形資產可能出現減值時評估減值。有限可使用年期的無形資產的攤銷期及攤銷方法至少於各財政年度末檢討。

工藝技術許可及軟件

工藝技術許可及軟件按成本減任何減值虧損列賬，並自相關產品投入商業生產日期起計在其五至十年估計可使用年限內以直線法攤銷。

研發成本

所有研究成本於產生時列支於損益表。

研發新產品項目所產生的開支僅在本集團能夠顯示其在技術上能夠完成無形資產以供使用或出售、打算完成資產並能夠加以使用或將之出售、資產在未來如何帶來經濟利益、有足夠資源以完成項目並且有能力可靠地計量開發期間的開支的情況下，才會被資本化及遞延。未能符合以上標準的產品研發開支會在產生時列作開支。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Leases

The Group assesses at contract inception whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Group as a lessee

The Group applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Group recognises lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets.

(a) Right-of-use assets

Right-of-use assets are recognised at the commencement date of the lease (that is the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and any impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease terms and the estimated useful lives of the assets as follows:

Land use rights	42 to 50 years
Buildings	2 to 20 years

If ownership of the leased asset transfers to the Group at the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset.

2.4 重大會計政策概要 (續)

租賃

本集團於合約開始時評估合約是否為或包含租賃。倘合約為換取代價而授予在一段時間內控制已識別資產使用的權利，則合約為或包含租賃。

本集團作為承租人

本集團對所有租賃(惟短期租賃及低價值資產租賃除外)採取單一確認及計量方法。本集團確認租賃負債(以作出租賃付款)及使用權資產(即使用相關資產的權利)。

(a) 使用權資產

於租賃開始日期(即相關資產可供使用的日期)確認使用權資產。使用權資產按成本減任何累計折舊及任何減值虧損計量,並就任何重新計量租賃負債作出調整。使用權資產成本包括已確認租賃負債款額、已產生初始直接成本及於開始日期或之前作出的租賃付款減任何已收取租賃優惠。使用權資產於其租期及估計可使用年期的較短者內按直線法折舊如下:

土地使用權	42至50年
樓宇	2至20年

倘租賃資產的所有權於租賃期末轉移至本集團或成本反映購買選擇權獲行使,則使用資產的估計可使用年期計算折舊。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Leases (continued)*Group as a lessee (continued)*

(b) Lease liabilities

Lease liabilities are recognised at the commencement date of the lease at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for termination of a lease, if the lease term reflects the Group exercising the option to terminate the lease. The variable lease payments that do not depend on an index or a rate are recognised as an expense in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Group uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in lease payments (e.g., a change to future lease payments resulting from a change in an index or rate) or a change in assessment of an option to purchase the underlying asset.

(c) Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to its short-term leases (i.e., those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the recognition exemption for lease of low-value assets to leases of office equipment that is considered to be of low value.

Lease payments on short-term leases and leases of low-value assets are recognised as an expense on a straight-line basis over the lease term.

2.4 重大會計政策概要 (續)

租賃 (續)*本集團作為承租人 (續)*

(b) 租賃負債

於租賃開始日期，租賃負債按租賃期內作出的租賃付款的現值予以確認。租賃付款包括固定付款(包括實質固定付款)減任何應收租賃優惠、取決於某一指數或比率的可變租賃付款，以及預期在剩餘價值擔保下支付的金額。租賃付款亦包括合理確定將由本集團行使的購買選擇權的行使價，及倘若租賃期限反映本集團行使終止租賃選擇權，則終止租賃而需支付的罰款。不取決於某一指數或比率的可變租賃付款於觸發付款的事件或條件發生的期間確認為開支。

在計算租賃付款的現值時，由於租賃中所隱含的利率不易確定，則本集團在租賃開始日期使用增量借貸利率。在開始日期之後，租賃負債的金額將會增加，以反映利息的增加及就已作出的租賃付款作出扣減。此外，如有修改、租期發生變化、租賃付款變化(如未來租賃付款因指數或比率變動而出現變動)或購買相關資產的選擇權評估變更，租賃負債的賬面值將重新計量。

(c) 短期租賃及低價值資產租賃

本集團將短期租賃確認豁免應用於其短期租賃(即自租賃開始日期起計租期為十二個月或以下，並且不包含購買選擇權的租賃)。低價值資產租賃的確認豁免亦應用於被認為低價值的辦公室設備租賃。

短期租賃及低價值資產租賃的租賃付款在租期內按直線法確認為支出。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Leases (continued)***Group as a lessor*

When the Group acts as a lessor, it classifies at lease inception (or when there is a lease modification) each of its leases as either an operating lease or a finance lease.

Leases in which the Group does not transfer substantially all the risks and rewards incidental to ownership of an asset are classified as operating leases. When a contract contains lease and non-lease components, the Group allocates the consideration in the contract to each component on a relative stand-alone selling price basis. Rental income is accounted for on a straight-line basis over the lease terms and is included in other income and gains in the statement of profit or loss due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognised over the lease term on the same basis as rental income. Contingent rents are recognised as other income and gains in the period in which they are earned.

Leases that transfer substantially all the risks and rewards incidental to ownership of an underlying asset to the lessee are accounted for as finance leases.

Investments and other financial assets*Initial recognition and measurement*

Financial assets are classified, at initial recognition, as subsequently measured at amortised cost, fair value through other comprehensive income, and fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient of not adjusting the effect of a significant financing component, the Group initially measures a financial asset at its fair value, plus in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient are measured at the transaction price determined under HKFRS 15 in accordance with the policies set out for "Revenue recognition" below.

2.4 重大會計政策概要 (續)**租賃 (續)***本集團作為出租人*

倘本集團為出租人，於租賃開始時 (或發生租賃變更時) 將其各個租賃分類為經營租賃或融資租賃。

本集團並未轉讓資產所有權所附帶的絕大部份風險及回報的租賃歸類為經營租賃。當合約包含租賃及非租賃組成部分時，本集團以相對獨立的銷售價格為基準將合約中的代價分配予各個組成部分。租金收入於租期內按直線法列賬，且因其經營性質計入損益表之其他收入及收益。於磋商及安排經營租賃時產生的初始直接成本乃計入租賃資產的賬面值，並於租期內按相同方法確認為租金收入。或然租金乃於所賺取的期間內確認為其他收入及收益。

將相關資產所有權所附帶的絕大部份風險及回報轉讓至承租人的租賃，則作為融資租賃入賬。

投資及其他金融資產*初始確認及計量*

金融資產於初始確認時分類為其後按攤銷成本、按公平值計入其他全面收益及按公平值計入損益計量。

於初始確認時，金融資產分類取決於金融資產的合約現金流量特點及本集團管理該等金融資產的業務模式。除並無重大融資成分或本集團已應用並未就重大融資成分的影響作出調整的可行權宜方法的貿易應收款項外，本集團初步按公平值加上 (倘金融資產並非按公平值計入損益) 交易成本計量金融資產。並無重大融資成分或本集團已應用可行權宜方法的貿易應收款項乃根據下文「銷售收入確認」所載政策按香港財務報告準則第15號釐定的交易價格計量。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Investments and other financial assets (continued)

Initial recognition and measurement (continued)

In order for a financial asset to be classified and measured at amortised cost or fair value through other comprehensive income, it needs to give rise to cash flows that are solely payments of principal and interest (“SPPI”) on the principal amount outstanding. Financial assets with cash flows that are not SPPI are classified and measured at fair value through profit or loss, irrespective of the business model.

The Group's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both. Financial assets classified and measured at amortised cost are held within a business model with the objective to hold financial assets in order to collect contractual cash flows, while financial assets classified and measured at fair value through other comprehensive income are held within a business model with the objective of both holding to collect contractual cash flows and selling. Financial assets which are not held within the aforementioned business models are classified and measured at fair value through profit or loss.

All regular way purchases and sales of financial assets are recognised on the trade date, that is, the date that the Group commits to purchase or sell the asset. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the period generally established by regulation or convention in the marketplace.

2.4 重大會計政策概要 (續)

投資及其他金融資產 (續)

初始確認及計量 (續)

為使金融資產按攤銷成本或按公平值計入其他全面收益進行分類及計量，需產生純粹為支付本金及未償還本金利息（「純粹支付本金及利息」）的現金流量。現金流量並非純粹支付本金及利息的金融資產按公平值計入損益分類及計量（無論何種業務模式）。

本集團管理金融資產的業務模式指其如何管理其金融資產以產生現金流量。業務模式確定現金流量是否來自收集合約現金流量、出售金融資產，或兩者兼有。按攤銷成本分類及計量的金融資產於一種業務模式中持有，旨在持有金融資產以收取合約現金流量，而以公平值計入其他全面收益的已分類及計量金融資產則於一種業務模式中持有，旨在持有以收取合約現金流量及出售。未於上述業務模式中持有的金融資產，按公平值計入損益分類及計量。

所有按常規方式購買及出售的金融資產於交易日（即本集團承諾購買或出售該項資產的日期）確認。常規方式購買或出售乃指購買或出售須在一般按規例或市場慣例確定的期間內交付資產的金融資產。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Investments and other financial assets (continued)***Subsequent measurement*

The subsequent measurement of financial assets depends on their classification as follows:

Financial assets at amortised cost (debt instruments)

Financial assets at amortised cost are subsequently measured using the effective interest method and are subject to impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

Financial assets at fair value through other comprehensive income (debt instruments)

For debt investments at fair value through other comprehensive income, interest income, foreign exchange revaluation and impairment losses or reversals are recognised in the statement of profit or loss and computed in the same manner as for financial assets measured at amortised cost. The remaining fair value changes are recognised in other comprehensive income. Upon derecognition, the cumulative fair value change recognised in other comprehensive income is recycled to the statement of profit or loss.

Financial assets designated at fair value through other comprehensive income (equity investments)

Upon initial recognition, the Group can elect to classify irrevocably its equity investments as equity investments designated at fair value through other comprehensive income when they meet the definition of equity under HKAS 32 *Financial Instruments: Presentation* and are not held for trading. The classification is determined on an instrument-by-instrument basis.

Gains and losses on these financial assets are never recycled to the statement of profit or loss. Dividends are recognised as other income in the statement of profit or loss when the right of payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably, except when the Group benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in other comprehensive income. Equity investments designated at fair value through other comprehensive income are not subject to impairment assessment.

2.4 重大會計政策概要 (續)**投資及其他金融資產 (續)***後續計量*

金融資產其後視乎以下分類作出計量：

按攤銷成本計量的金融資產 (債務工具)

按攤銷成本計量的金融資產其後使用實際利率法計量，並受減值影響。當資產終止確認、修訂或減值時，收益及虧損於損益中確認。

按公平值計入其他全面收益的金融資產 (債務工具)

就按公平值計入其他全面收益的債務工具而言，利息收入、外匯重估及減值虧損或撥回於損益表中確認，並按與按攤銷成本計量的金融資產相同的方式計量。其餘公平值變動於其他全面收益中確認。終止確認時，於其他全面收益中確認的累計公平值變動將重新計入損益表。

指定按公平值計入其他全面收益的金融資產 (股本投資)

於初始確認時，本集團可選擇於股本投資符合香港會計準則第32號金融工具：呈報項下的股本定義且並非持作買賣時，將其股本投資不可撤回地分類為指定按公平值計入其他全面收益的股本投資。分類乃按個別工具基準釐定。

該等金融資產的收益及虧損概不會被重新計入損益表。當支付權確立及與股息相關的經濟利益可能流入本集團且股息金額能可靠計量時，股息於損益表中確認為其他收入，惟當本集團於作為收回金融資產一部份成本的所得款項中獲益時則除外，於此等情況下，該等收益於其他全面收益入賬。指定按公平值計入其他全面收益的股本投資不受減值評估影響。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Investments and other financial assets (continued)

Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss are carried in the statement of financial position at fair value with net changes in fair value recognised in the statement of profit or loss.

This category includes derivative instruments and equity investments which the Group had not irrevocably elected to classify at fair value through other comprehensive income. Dividends on equity investments classified as financial assets at fair value through profit or loss are also recognised as other income in the statement of profit or loss when the right of payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably.

A derivative embedded in a hybrid contract, with a financial liability or non-financial host, is separated from the host and accounted for as a separate derivative if the economic characteristics and risks are not closely related to the host; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the hybrid contract is not measured at fair value through profit or loss. Embedded derivatives are measured at fair value with changes in fair value recognised in the statement of profit or loss. Reassessment only occurs if there is either a change in the terms of the contract that significantly modifies the cash flows that would otherwise be required or a reclassification of a financial asset out of the fair value through profit or loss category.

A derivative embedded within a hybrid contract containing a financial asset host is not accounted for separately. The financial asset host together with the embedded derivative is required to be classified in its entirety as a financial asset at fair value through profit or loss.

2.4 重大會計政策概要 (續)

投資及其他金融資產 (續)

按公平值計入損益的金融資產

按公平值計入損益的金融資產按公平值於財務狀況表列賬，而公平值變動淨額於損益表中確認。

該類別包括本集團並無不可撤回地選擇按公平值計入其他全面收益進行分類的衍生工具及股本投資。分類為按公平值計入損益的金融資產之股本投資的股息在支付權確立及與股息相關的經濟利益可能流入本集團且股息金額能可靠計量時亦於損益表中確認為其他收入。

當嵌入混合合約(包含金融負債或非金融主體)的衍生工具的經濟特徵及風險與主體不緊密相關;與嵌入式衍生工具相同條款的單獨工具符合衍生工具的定義;及混合合約並非以按公平值計入損益計量,則該衍生工具與主體分開並作為單獨衍生工具列賬。嵌入式衍生工具按公平值計量,且其公平值變動於損益表確認。僅當合約條款出現變動,大幅改變其他情況下所需現金流量時,或當原分類至按公平值計入損益的金融資產獲重新分類時,方進行重新評估。

嵌入混合合約(包含金融資產主體)的衍生工具不得單獨列賬。金融資產主體連同嵌入式衍生工具須整體分類為按公平值計入損益的金融資產。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Derecognition of financial assets

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognised (i.e., removed from the Group's consolidated statement of financial position) when:

- the rights to receive cash flows from the asset have expired; or
- the Group has transferred its rights to receive cash flows from the asset, or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a "pass-through" arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if and to what extent it has retained the risk and rewards of ownership of the asset. When it has neither transferred nor retained substantially all the risks and rewards of the asset nor transferred control of the asset, the Group continues to recognise the transferred asset to the extent of the Group's continuing involvement. In that case, the Group also recognises an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained.

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Group could be required to repay.

2.4 重大會計政策概要 (續)

終止確認金融資產

出現以下情形時，金融資產(或(如適用)部份金融資產或一組同類金融資產的一部份)一般會終止確認(即自本集團綜合財務狀況表移除):

- 從資產收取現金流量的權利已屆滿; 或
- 本集團已根據「轉手」安排轉讓從資產收取現金流量的權利, 或已承擔向第三方無重大延誤全額支付所收現金流量的責任; 及(a)本集團已轉讓資產的絕大部份風險及回報, 或(b)本集團雖未轉讓或保留資產的絕大部份風險及回報, 但已轉讓資產的控制權。

倘本集團已轉讓從資產收取現金流量的權利或訂立轉手安排, 則評估有否保留資產所有權的風險及回報及保留程度。倘本集團並無轉讓或保留資產的絕大部份風險及回報, 亦無轉讓資產控制權, 則本集團將以本集團持續參與程度為限繼續確認所轉讓資產。在該情況下, 本集團亦確認相關負債。已轉讓資產及相關負債根據反映本集團所保留權利及責任的基準計量。

通過對已轉讓資產作出擔保的形式持續參與的計量, 按資產原賬面值與本集團或須償還的最高代價兩者中的較低者計算。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Impairment of financial assets

The Group recognises an allowance for expected credit losses (“ECLs”) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

General approach

ECLs are recognised in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12 months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

At each reporting date, the Group assesses whether the credit risk on a financial instrument has increased significantly since initial recognition. When making the assessment, the Group compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition and considers reasonable and supportable information that is available without undue cost or effort, including historical and forward-looking information. The Group considers that there has been a significant increase in credit risk when contractual payments are more than 30 days past due.

2.4 重大會計政策概要 (續)

金融資產減值

本集團確認對並非按公平值計入損益的所有債務工具預期信貸虧損(「預期信貸虧損」)的撥備。預期信貸虧損乃基於根據合約到期的合約現金流量與本集團預期收取的所有現金流量之間的差額而釐定、以原實際利率的近似值貼現。預期現金流量將包括出售所持抵押的現金流量或組成合約條款的其他信貸提升措施。

普通法

預期信貸虧損分兩個階段進行確認。就自初始確認起信貸風險並無大幅增加的信貸敞口而言，會就未來12個月內可能發生違約事件而導致的信貸虧損(12個月預期信貸虧損)計提預期信貸虧損。就自初始確認起信貸風險大幅增加的該等信貸敞口而言，不論何時發生違約，於敞口的餘下年期內的預期信貸虧損均須計提虧損撥備(全期預期信貸虧損)。

於各報告日期，本集團評估金融工具信貸風險是否自初始確認起大幅增加。於進行評估時，本集團比較金融工具於報告日期發生違約的風險及金融工具於初始確認日期發生違約的風險，認為在無需付出過多成本或努力的情況下即可獲得合理可靠的資料(包括歷史及前瞻性資料)。本集團認為，當合約付款逾期30天以上時，信貸風險顯著增加。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

2.4 重大會計政策概要 (續)

Impairment of financial assets (continued)*General approach (continued)*

The Group considers a financial asset in default when contractual payments are 90 days to 150 days past due. However, in certain cases, the Group may also consider a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group.

A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

Debt investments at fair value through other comprehensive income and financial assets at amortised cost are subject to impairment under the general approach and they are classified within the following stages for measurement of ECLs except for trade receivables which apply the simplified approach as detailed below.

- Stage 1 — Financial instruments for which credit risk has not increased significantly since initial recognition and for which the loss allowance is measured at an amount equal to 12-month ECLs
- Stage 2 — Financial instruments for which credit risk has increased significantly since initial recognition but that are not credit-impaired financial assets and for which the loss allowance is measured at an amount equal to lifetime ECLs
- Stage 3 — Financial assets that are credit-impaired at the reporting date (but that are not purchased or originated credit-impaired) and for which the loss allowance is measured at an amount equal to lifetime ECLs

金融資產減值 (續)*普通法 (續)*

本集團會在合約付款逾期90日至150日時考慮金融資產違約。然而，在若干情況下，當內部或外部資料顯示，在並無計及本集團持有的任何信貸提升措施時，本集團不大可能悉數收到未償還合約款項，則本集團亦可認為金融資產違約。

倘無法合理預期收回合約現金流量，則撇銷金融資產。

按公平值計入其他全面收益之債務投資及按攤銷成本計量的金融資產乃根據普通法減值，且於以下階段就預期信貸虧損計量予以分類，惟採用下文所述簡化法的貿易應收款項除外。

- 第一階段 — 信貸風險自初始確認起並未大幅增加且其虧損撥備按等於12個月預期信貸虧損的數額計量的金融工具
- 第二階段 — 信貸風險自初始確認起大幅增加但並非信貸減值金融資產且其虧損撥備按等於全期預期信貸虧損的數額計量的金融工具
- 第三階段 — 於報告日期出現信貸減值 (但並非購入或源生信貸減值) 且其虧損撥備按等於全期預期信貸虧損的數額計量的金融資產

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Impairment of financial assets (continued)

Simplified approach

For trade receivables that do not contain a significant financing component or when the Group applies the practical expedient of not adjusting the effect of a significant financing component, the Group applies the simplified approach in calculating ECLs. Under the simplified approach, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

Financial liabilities

Initial recognition and measurement

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings or payables.

All financial liabilities are recognised initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs.

The Group's financial liabilities include trade payables, financial liabilities included in other payables and accruals, amounts due to related parties, interest-bearing bank borrowings and lease liabilities.

Subsequent measurement

The subsequent measurement of financial liabilities depends on their classification as follows:

Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss.

2.4 重大會計政策概要 (續)

金融資產減值 (續)

簡化法

就並無重大融資成分或本集團已應用並未就重大融資成分的影響作出調整的可行權宜方法的貿易應收款項而言，本集團採用簡化法計算預期信貸虧損。根據簡化法，本集團並未追蹤信貸風險變動，轉而於各報告日期根據全期預期信貸虧損確認虧損撥備。本集團已根據其歷史信貸虧損經驗建立撥備矩陣，並就債務人及經濟環境特定的前瞻性因素作出調整。

金融負債

初始確認及計量

金融負債於初始確認時分類為按公平值計入損益的金融負債、貸款及借貸或應付款項。

所有金融負債初始按公平值確認，貸款及借貸以及應付款項則須扣除直接應佔交易成本。

本集團的金融負債包括貿易應付款項、計入其他應付款項及應計費用的金融負債、應付關聯方款項、計息銀行借款以及租賃負債。

後續計量

金融負債其後視乎以下分類作出計量：

按公平值計入損益的金融負債

按公平值計入損益的金融負債包括持作買賣的金融負債及於初始確認時指定為按公平值計入損益的金融負債。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Financial liabilities (Continued)***Financial liabilities at fair value through profit or loss (Continued)*

Financial liabilities are classified as held for trading if they are incurred for the purpose of repurchasing in the near term. This category also includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by HKFRS 9. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments. Gains or losses on liabilities held for trading are recognised in the statement of profit or loss. The net fair value gain or loss recognised in the statement of profit or loss does not include any interest charged on these financial liabilities.

Financial liabilities designated upon initial recognition as at fair value through profit or loss are designated at the initial date of recognition, and only if the criteria in HKFRS 9 are satisfied. Gains or losses on liabilities designated at fair value through profit or loss are recognised in the statement of profit or loss, except for the gains or losses arising from the Group's own credit risk which are presented in other comprehensive income with no subsequent reclassification to the statement of profit or loss. The net fair value gain or loss recognised in the statement of profit or loss does not include any interest charged on these financial liabilities.

Financial liabilities at amortised cost (loans and borrowings)

After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortised cost, using the effective interest rate method unless the effect of discounting would be immaterial, in which case they are stated at cost. Gains and losses are recognised in the statement of profit or loss when the liabilities are derecognised as well as through the effective interest rate amortisation process.

Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the effective interest rate. The effective interest rate amortisation is included in finance costs in the statement of profit or loss.

2.4 重大會計政策概要 (續)**金融負債 (續)***按公平值計入損益的金融負債 (續)*

倘金融負債是為近期回購而產生，則歸類為持作買賣。該類別亦包括本集團訂立的衍生金融工具，其並未於香港財務報告準則第9號界定的對沖關係中指定為對沖工具。獨立嵌入式衍生工具亦分類為持作買賣，除非其被指定為有效的對沖工具則另作別論。持作買賣的負債的損益於損益表確認。於損益表確認的公平值淨收益或虧損不包括就該等金融負債收取的任何利息。

於初始確認時指定為按公平值計入損益的金融負債於初始確認日期指定，及僅於符合香港財務報告準則第9號的標準時方會進行。指定按公平值計入損益的負債的收益或虧損於損益表中確認，惟於其他全面收益呈列的本集團自身信貸風險所產生的收益或虧損除外，其後續未重新分類至損益表。於損益表確認的公平值淨收益或虧損不包括就該等金融負債收取的任何利息。

按攤銷成本計量的金融負債 (貸款及借貸)

初始確認後，計息貸款及借貸其後以實際利率法按攤銷成本計量，若貼現影響不大，則按成本列賬。收益及虧損於負債終止確認時透過實際利率攤銷程序於損益表確認。

計算攤銷成本時已計及任何收購折讓或溢價及屬實際利率不可分割部份的費用或成本。實際利率攤銷則計入損益表的財務費用。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Derecognition of financial liabilities

A financial liability is derecognised when the obligation under the liability is discharged or cancelled, or expires.

When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and a recognition of a new liability, and the difference between the respective carrying amounts is recognised in the statement of profit or loss.

Offsetting of financial instruments

Financial assets and financial liabilities are offset and the net amount is reported in the statement of financial position if, and only if, there is a currently enforceable legal right to offset the recognised amounts and there is an intention to settle on a net basis, or to realise the assets and settle the liabilities simultaneously.

Inventories

Inventories are stated at the lower of cost and net realisable value. Cost is determined on the weighted average basis, and in the case of work in progress and finished goods, comprises direct materials, direct labour and an appropriate proportion of overheads. Costs for properties under development include land costs, construction costs and other direct and indirect development expenses in relation to property development. Net realisable value is based on estimated selling prices less any estimated costs to be incurred to completion and disposal.

2.4 重大會計政策概要 (續)

終止確認金融負債

金融負債於負債的責任解除、註銷或屆滿時終止確認。

當現有金融負債被同一貸款人以條款明顯不同的負債取代時，或現有負債的條款有重大修改時，有關替換或修改則視為終止確認原有負債並確認一項新負債，而相關賬面值的差額於損益表確認。

抵銷金融工具

當且僅當有現行可強制執行的法律權利抵銷已確認金額，並且擬以淨額基準進行結算或同時將資產變現及清償負債，方可將金融資產及金融負債抵銷，而淨額於財務狀況表呈報。

存貨

存貨按成本及可變現淨值兩者中的較低者列賬。成本按加權平均基準釐定，而就在製品及製成品而言，成本包括直接材料、直接勞工及適當比例的生產費用。發展中物業成本包括土地成本、建造成本及其他與物業開發有關的直接及間接開發開支。可變現淨值按估計售價減去任何在完成及出售過程中產生的估計費用計。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Cash and cash equivalents**

For the purpose of the consolidated statement of cash flows, cash and cash equivalents comprise cash on hand and demand deposits, and short term highly liquid investments that are readily convertible into known amounts of cash, are subject to an insignificant risk of changes in value, and have a short maturity of generally within three months when acquired, less bank overdrafts which are repayable on demand and form an integral part of the Group's cash management.

For the purpose of the consolidated statement of financial position, cash and cash equivalents comprise cash on hand and at banks, including term deposits and assets similar in nature to cash, which are not restricted as to use.

Provisions

A provision is recognised when there is a present obligation (legal or constructive) has arisen as a result of a past event and it is probable that a future outflow of resources will be required to settle the obligation, provided that a reliable estimate can be made of the amount of the obligation.

When the effect of discounting is material, the amount recognised for a provision is the present value at the end of the reporting period of the future expenditures expected to be required to settle the obligation. The increase in the discounted present value amount arising from the passage of time is included in finance costs in the statement of profit or loss.

2.4 重大會計政策概要 (續)**現金及現金等價物**

就綜合現金流量表而言，現金及現金等價物包括手頭現金及活期存款，以及可隨時轉換為已知數額現金、價值變動風險較低且擁有一般不超過購入起計三個月的較短期限的短期高流動性投資，減去須按要求償還並構成本集團現金管理一部分的銀行透支。

就綜合財務狀況表而言，現金及現金等價物包括手頭及銀行現金(包括定期存款以及與現金性質類似的資產)(使用不受限制)。

撥備

倘因過往事件而產生現時法定或推定責任，而履行該責任可能導致未來資源流出，且該責任所涉金額能夠可靠估計，則確認撥備。

倘貼現影響重大，則確認撥備的數額為預期日後履行有關責任所需開支於報告期末的現值。倘已貼現的現值隨時間而有所增加，則該等增幅將於損益表列作財務費用。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Income tax

Income tax comprises current and deferred tax. Income tax relating to items recognised outside profit or loss is recognised outside profit or loss, either in other comprehensive income or directly in equity.

Current tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period, taking into consideration interpretations and practices prevailing in the countries in which the Group operates.

Deferred tax is provided, using the liability method, on all temporary differences at the end of the reporting period between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes.

Deferred tax liabilities are recognised for all taxable temporary differences, except:

- when the deferred tax liability arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; and
- in respect of taxable temporary differences associated with investments in subsidiaries and associates when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

2.4 重大會計政策概要 (續)

所得稅

所得稅包括即期及遞延稅項。與於損益外確認的項目有關的所得稅於損益外確認為其他全面收益或直接於權益中確認。

即期稅項資產及負債，根據於報告期末已頒佈或實質上已頒佈的稅率（及稅法），按預期獲稅務機關退回或向稅務機關支付的款項，並計及本集團經營所在國家現行法律詮釋及慣例計量。

遞延稅項於報告期末採用負債法就資產及負債稅基與其就財務報告目的所使用的賬面值的所有暫時差額撥備。

除下列情況外，會就所有應課稅暫時差額確認遞延稅項負債：

- 倘遞延稅項負債因非業務合併交易中初始確認資產或負債而產生，且於交易時遞延稅項負債不會影響會計溢利或應課稅溢利或虧損；及
- 就於子公司及聯營公司投資相關的應課稅暫時差額而言，倘可控制暫時差額的撥回時間，且於可見未來可能不會撥回暫時差額。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Income tax (Continued)**

Deferred tax assets are recognised for all deductible temporary differences, and the carryforward of unused tax credits and any unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carryforward of unused tax credits and unused tax losses can be utilised, except:

- when the deferred tax asset relating to the deductible temporary differences arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; and
- in respect of deductible temporary differences associated with investments in subsidiaries and associates, deferred tax assets are only recognised to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilised.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised. Unrecognised deferred tax assets are reassessed at the end of each reporting period and are recognised to the extent that it has become probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realised or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

2.4 重大會計政策概要 (續)**所得稅 (續)**

於有可能動用應課稅溢利以抵銷可扣減暫時差額以及未動用稅項抵免及未動用稅項虧損結轉的情況下，就所有可扣減暫時差額以及未動用稅項抵免及任何未動用稅項虧損結轉確認遞延稅項資產，惟下列情況除外：

- 倘涉及可扣減暫時差額的遞延稅項資產因非業務合併交易中初始確認資產或負債而產生，且於交易時遞延稅項資產不會影響會計溢利或應課稅溢利或虧損；及
- 就於子公司及聯營公司投資相關的可扣減暫時差額而言，遞延稅項資產僅於可見未來可能撥回暫時差額，且可動用應課稅溢利以抵銷暫時差額的情況下確認。

遞延稅項資產賬面值於各報告期末檢討，並於不再可能有足夠應課稅溢利可容許動用全部或部份遞延稅項資產的情況下予以扣減。未確認遞延稅項資產於各報告期末重新評估，並在可能有足夠應課稅溢利可容許收回全部或部份遞延稅項資產的情況下予以確認。

遞延稅項資產及負債，根據於報告期末已頒佈或實質上已頒佈的稅率（及稅法），按預期適用於變現資產或清償負債期間的稅率計量。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Income tax (Continued)

Deferred tax assets and deferred tax liabilities are offset if and only if the Group has a legally enforceable right to set off current tax assets and current tax liabilities and the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities which intend either to settle current tax liabilities and assets on a net basis, or to realise the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

Government grants

Government grants are recognised at their fair value where there is reasonable assurance that the grant will be received and all attaching conditions will be complied with. When the grant relates to an expense item, it is recognised as income on a systematic basis over the periods that the costs, for which it is intended to compensate, are expensed.

Where the grant relates to an asset, the fair value is credited to a deferred income account and is released to the statement of profit or loss over the expected useful life of the relevant asset by equal annual instalments or deducted from the carrying amount of the asset and released to the statement of profit or loss by way of a reduced depreciation charge.

2.4 重大會計政策概要 (續)

所得稅 (續)

當且僅當本集團有可強制執行的法律權利可將即期稅項資產與即期稅項負債抵銷，且遞延稅項資產與遞延稅項負債與同一稅務機關對同一應課稅實體或於預期待有大額遞延稅項負債或資產需要結算或清償的各未來期間擬按淨額基準結算即期稅項負債及資產或同時變現資產及結算負債之不同稅務實體徵收之所得稅相關，則遞延稅項資產與遞延稅項負債可予抵銷。

政府補助

政府補助在合理確定將會收取補助及將會符合一切所附條件時，按其公平值確認。如補助與開支項目有關，其將於擬用作補償的成本支銷期間按系統基準確認為收入。

倘補助與資產有關，則公平值計入遞延收入賬，並在相關資產的預期可使用年期內逐年按等額分期撥回損益表，或自資產賬面值扣減並通過減少折舊開支方式撥回損益表。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Revenue recognition***Revenue from contracts with customers*

Revenue from contracts with customers is recognised when control of goods or services is transferred to the customers at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services.

Revenue from other sources

Rental income is recognised on a time proportion basis over the lease terms. Variable lease payments that do not depend on an index or a rate are recognised as income in the accounting period in which they are incurred.

Other income

Interest income is recognised on an accrual basis using the effective interest method by applying the rate that exactly discounts the estimated future cash receipts over the expected life of the financial instrument or a shorter period, when appropriate, to the net carrying amount of the financial asset.

Contract liabilities

A contract liability is recognised when a payment is received or a payment is due (whichever is earlier) from a customer before the Group transfers the related goods or services. Contract liabilities are recognised as revenue when the Group performs under the contract (i.e., transfers control of the related goods or services to the customer).

2.4 重大會計政策概要 (續)**銷售收入確認***客戶合約收益*

於貨品或服務的控制權按反映本集團預期就交換該等貨品或服務有權收取的代價的金額轉移予客戶時確認客戶合約收益。

由其他來源產生之收入

租金收入於租賃期按時間比例確認。不取決於某一指數或比率的可變租賃付款於產生的會計期間確認為收入。

其他收入

利息收入按應計基準使用實際利率法，透過採用將金融工具在預期可使用年期或較短期間(如適用)內的估計未來現金收入準確貼現至金融資產之賬面淨值的比率予以確認。

合約負債

合約負債於本集團向客戶轉移相關貨品或服務前收取或付款到期時(以較早者為準)確認。合約負債於本集團履行合約時(即相關商品或服務的控制權轉移至客戶時)確認為收入。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Share-based payments

The Company operates a share option scheme for the purpose of providing incentives and rewards to eligible participants who contribute to the success of the Group's operations. Employees (including directors) of the Group receive remuneration in the form of share-based payments, whereby employees render services in exchange for equity instruments ("equity-settled transactions").

The cost of equity-settled transactions with employees for grants is measured by reference to the fair value at the date at which they are granted. The fair value is determined by an external valuer using a binomial model, further details of which are given in note 31 to the financial statements.

The cost of equity-settled transactions is recognised in employee benefit expense, together with a corresponding increase in equity, over the period in which the performance and/or service conditions are fulfilled. The cumulative expense recognised for equity-settled transactions at the end of each reporting period until the vesting date reflects the extent to which the vesting period has expired and the Group's best estimate of the number of equity instruments that will ultimately vest. The charge or credit to the statement of profit or loss for a period represents the movement in the cumulative expense recognised as at the beginning and end of that period.

Service and non-market performance conditions are not taken into account when determining the grant date fair value of awards, but the likelihood of the conditions being met is assessed as part of the Group's best estimate of the number of equity instruments that will ultimately vest. Market performance conditions are reflected within the grant date fair value. Any other conditions attached to an award, but without an associated service requirement, are considered to be non-vesting conditions. Non-vesting conditions are reflected in the fair value of an award and lead to an immediate expensing of an award unless there are also service and/or performance conditions.

2.4 重大會計政策概要 (續)

以股份付款

本公司實施一項購股權計劃，旨在激勵與獎勵對本集團業務成功作出貢獻的合資格參與者。本集團僱員（包括董事）以股份付款的方式收取報酬，僱員提供服務以換取股本工具（「股權結算交易」）。

於授出相關與僱員進行股權結算交易的成本，乃參照授出日期的公平值而計量。公平值由外聘估值師採用二項式模型釐定，進一步詳情載於財務報表附註31。

股權結算交易成本連同權益相應增加部份，在績效及／或服務條件達成時於期內在僱員福利開支確認。截至歸屬日期前於報告期末確認的股權結算交易的累計開支，反映歸屬期已到期部份及本集團對最終將會歸屬的股本工具數目的最佳估計。期內在損益表扣除或進賬，乃指期初與期終已確認的累計開支的變動。

釐定獎勵的授出日期公平值並不考慮服務及非市場表現條件，惟能達成條件的可能性則被評定為將最終歸屬為本集團股本工具數目的最佳估計的一部份。市場表現條件將反映在授出日期的公平值。附帶於獎勵中但並無相關聯服務要求的其他任何條件皆視為非歸屬條件。反映非歸屬條件的獎勵公平值若當中不包含服務及／或表現條件乃即時予以支銷。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Share-based payments (continued)**

For awards that do not ultimately vest because non-market performance and/or service conditions have not been met, no expense is recognised. Where awards include a market or non-vesting condition, the transactions are treated as vesting irrespective of whether the market or non-vesting condition is satisfied, provided that all other performance and/or service conditions are satisfied.

Where the terms of an equity-settled award are modified, as a minimum an expense is recognised as if the terms had not been modified, if the original terms of the award are met. In addition, an expense is recognised for any modification that increases the total fair value of the share-based payments, or is otherwise beneficial to the employee as measured at the date of modification.

Where an equity-settled award is cancelled, it is treated as if it had vested on the date of cancellation, and any expense not yet recognised for the award is recognised immediately. This includes any award where non-vesting conditions within the control of either the Group or the employee are not met. However, if a new award is substituted for the cancelled award, and is designated as a replacement award on the date that it is granted, the cancelled and new awards are treated as if they were a modification of the original award, as described in the previous paragraph.

The dilutive effect of outstanding options is reflected as additional share dilution in the computation of earnings per share.

2.4 重大會計政策概要 (續)**以股份付款 (續)**

因未能達至非市場表現及／或服務條件，而導致最終並無歸屬的獎勵並不會確認支銷，惟包括一項市場或非歸屬條件之獎勵，無論市場或非歸屬條件是否達成，其均會被視為已歸屬，前提是所有其他表現及／或服務條件須已達成。

倘股權結算獎勵的條款有變更，假設符合獎勵原條款，則所確認之開支最少須達到猶如條款並無任何變更的水平。此外，倘按變更日期之計量，任何變更導致以股份付款的公平值總額增加，或為僱員帶來其他利益，則就該等變更確認開支。

倘股權結算獎勵註銷，則視為已於註銷日期歸屬，任何尚未確認之獎勵(包括未能符合本集團或僱員可控制的非歸屬條件的任何獎勵)開支，均即時確認。然而，若已授出新獎勵代替已註銷的獎勵，並於授出日期指定為替代獎勵，則如前段所述，已註銷獎勵及新獎勵均視為原有獎勵的變更。

計算每股盈利時，未行使購股權的攤薄效應，反映為額外股份攤薄。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Other employee benefits

Pension scheme

The employees of the Group's subsidiary which operates in Mainland China are required to participate in a central pension scheme operated by the local municipal government. This subsidiary is required to contribute a certain percentage of its payroll costs to the central pension scheme. The contributions are charged to the statement of profit or loss as they become payable in accordance with the rules of the central pension scheme.

Termination benefits

Termination benefits are recognised at the earlier of when the Group can no longer withdraw the offer of those benefits and when the Group recognises restructuring costs involving the payment of termination benefits.

Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, i.e., assets that necessarily take a substantial period of time to get ready for their intended use or sale, are capitalised as part of the cost of those assets. The capitalisation of such borrowing costs ceases when the assets are substantially ready for their intended use or sale. Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs capitalised. All other borrowing costs are expensed in the period in which they are incurred. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

2.4 重大會計政策概要 (續)

其他僱員福利

退休金計劃

本集團於中國內地營運的子公司屬下的僱員須參與由有關地方市政府營運的中央退休金計劃。該子公司須按僱員薪金若干百分比對中央退休金計劃供款。供款於按中央退休金計劃規則應付時在損益表內支銷。

離職福利

離職福利於本集團不再能取消提供該等福利時及本集團確認涉及支付離職福利之重組成本時之較早者確認。

借款成本

收購、建設或生產合資格資產(即需要一段較長時間方可達致擬定用途或出售的資產)直接應佔的借款成本會撥充資本,作為該等資產的部份成本。當資產已大致可作擬定用途或出售時,則不會再將該等借款成本撥充資本。在特定借款用作合資格資產支出前暫作投資所賺取的投資收入須自撥充資本的借款成本扣除。所有其他借款成本於產生期間支銷。借款成本包括一間實體借款時產生的利息及其他成本。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)**Dividends**

Final dividends are recognised as a liability when they are approved by the shareholders in a general meeting. Proposed final dividends are disclosed in the notes to the financial statements.

Interim dividends are simultaneously proposed and declared, because the Company's memorandum and articles of association grant the directors the authority to declare interim dividends. Consequently, interim dividends are recognised immediately as a liability when they are proposed and declared.

Foreign currencies

These financial statements are presented in US\$, which is the Company's functional currency. Each entity in the Group determines its own functional currency and items included in the financial statements of each entity are measured using that functional currency. Foreign currency transactions recorded by the entities in the Group are initially recorded using their respective functional currency rates prevailing at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency rates of exchange ruling at the end of the reporting period. Differences arising on settlement or translation of monetary items are recognised in the statement of profit or loss.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was measured. The gain or loss arising on translation of a non-monetary item measured at fair value is treated in line with the recognition of the gain or loss on change in fair value of the item (i.e., translation difference on the item whose fair value gain or loss is recognised in other comprehensive income or profit or loss is also recognised in other comprehensive income or profit or loss, respectively).

2.4 重大會計政策概要 (續)**股息**

末期股息於股東在股東大會上批准時確認為負債。擬派末期股息乃於財務報表附註披露。

由於本公司的組織章程大綱及細則授權董事宣派中期股息，故中期股息乃同時予以擬派及宣派。因此，中期股息於擬派及宣派後隨即確認為負債。

外幣

該等財務報表以本公司的功能貨幣美元呈列。本集團各實體自行決定其功能貨幣，而各實體財務報表所載項目均採用該功能貨幣計量。本集團實體記錄的外幣交易初步採用其各自於交易日期的功能貨幣匯率入賬。以外幣計值的貨幣資產及負債按各報告期末的功能貨幣匯率換算。結算或換算貨幣項目產生的差額於損益表確認。

根據以外幣計值的歷史成本計量的非貨幣項目採用首次交易日期的匯率換算。按外幣公平值計量的非貨幣項目採用計量公平值當日的匯率換算。換算以公平值計量的非貨幣項目產生的收益或虧損按與確認項目公平值變動的收益或虧損一致的方式處理(即公平值收益或虧損於其他全面收益或損益確認的項目的換算差額亦分別於其他全面收益或損益確認)。

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2.4 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Foreign currencies (continued)

In determining the exchange rate on initial recognition of the related asset, expense or income on the derecognition of a non-monetary asset or non-monetary liability relating to an advance consideration, the date of initial transaction is the date on which the Group initially recognises the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, the Group determines the transaction date for each payment or receipt of the advance consideration.

The functional currencies of certain Mainland China and overseas subsidiaries and associate are currencies other than US\$. As at the end of the reporting period, the assets and liabilities of these entities are translated into US\$ at the exchange rates prevailing at the end of the reporting period and their statements of profit or loss are translated into US\$ at the exchange rates that approximate to those prevailing at the dates of the transactions.

The resulting exchange differences are recognised in other comprehensive income and accumulated in the exchange fluctuation reserve. On disposal of a foreign operation, the component of other comprehensive income relating to that particular foreign operation is recognised in the statement of profit or loss.

For the purpose of the consolidated statement of cash flows, the cash flows of Mainland China and overseas subsidiaries are translated into US\$ at the weighted average exchange rates for the year of the cash flows. Frequently recurring cash flows of Mainland China and overseas subsidiaries which arise throughout the year are translated into US\$ at the weighted average exchange rates for the year.

2.4 重大會計政策概要 (續)

外幣 (續)

就釐定於初步確認有關資產、開支或收入就非貨幣性資產或與墊支代價相關的非貨幣性負債的終止確認所用的匯率時，首次交易日期為本集團最初確認非貨幣性資產或墊支代價產生的非貨幣性負債的日期。倘存在多筆預付款或預收款，本集團須就每筆支付墊支代價或收取墊支代價釐定交易日期。

若干中國內地及海外子公司及聯營公司的功能貨幣為美元以外的貨幣。於報告期末，該等實體的資產及負債按各報告期末的通行匯率換算為美元，而其損益表按與交易日期通行匯率大致相若的匯率換算為美元。

由此產生的匯兌差額於其他全面收益確認，並於匯率波動儲備中累計。出售國外業務時，有關特定國外業務的其他全面收益的組成部份於損益表確認。

就綜合現金流量表而言，中國內地及海外子公司的現金流量乃按年內現金流量的加權平均匯率換算為美元。中國內地及海外子公司年內重複產生的現金流量乃按年內的加權平均匯率換算為美元。

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3. SIGNIFICANT ACCOUNTING ESTIMATES AND ASSUMPTIONS

The preparation of the Group's financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and their accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that could require a material adjustment to the carrying amounts of the assets or liabilities affected in the future.

Judgements

In the process of applying the Group's accounting policies, management has made the following judgements, apart from those involving estimations, which have the most significant effect on the amounts recognised in the financial statements:

Property lease classification – Group as lessor

The Group has entered into commercial property leases on its investment property portfolio. The Group has determined, based on an evaluation of the terms and conditions of the arrangements, such as the lease term not constituting a major part of the economic life of the commercial property and the present value of the minimum lease payments not amounting to substantially all the fair value of the commercial property, that it retains substantially all the significant risks and rewards incidental to ownership of these properties which are leased out and accounts for the contracts as operating leases.

3. 重要會計估計及假設

管理層在編製本集團財務報表時須作出判斷、估計及假設，而有關判斷、估計及假設會對收入、開支、資產及負債的呈報金額及其隨附披露，以及或然負債披露造成影響。該等假設及估計的不確定性或會導致須對在未來遭受影響的資產或負債的賬面值進行重大調整。

判斷

於採納本集團會計政策的過程中，除涉及估計的會計政策外，管理層已作出對財務報表已確認金額構成最重大影響的判斷如下：

物業租賃分類 – 本集團作為出租人

本集團訂立有關投資物業組合的商務物業租賃。根據對有關安排條款及條件之評估，如租期不構成商用物業之經濟壽命的主要部分且最低租賃款項現值不等於商用物業之絕大部分公平值，本集團已釐定其保留該等物業所有權附帶的絕大部分風險及回報，並將有關合約以經營租賃入賬。

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3. SIGNIFICANT ACCOUNTING ESTIMATES AND ASSUMPTIONS (continued)

Estimation uncertainty

The key assumptions concerning the future and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below.

Fair value of unlisted equity investments

The unlisted equity investments have been valued based on a market-based valuation technique as detailed in note 37 to the financial statements. For an unlisted equity investment of US\$176,190,000 as at 31 December 2022 without recent deal price to be referenced, the Group determines the comparable public companies (peers) and select the price multiple. In addition, the Group makes estimates about the discount for illiquidity and size differences. Further details are included in notes 18 and 37 to the financial statements.

Fair value of an investment property

In the absence of current prices in an active market for similar properties, the Group considers information from the discounted cash flow projections.

Discounted cash flow projections based on reliable estimates of future cash flows, supported by the terms of any existing lease and other contracts and (when possible) by external evidence such as current market rents for similar properties in the same location and condition, and using discount rates that reflect current market assessments of the uncertainty in the amount and timing of the cash flows.

The carrying amount of the investment property as at 31 December 2022 was US\$169,363,000 (31 December 2021: US\$184,883,000). Further details, including the key assumptions used for fair value measurement and a sensitivity analysis, are given in note 14 to the financial statements.

3. 重要會計估計及假設 (續)

估計不確定性

於報告期末，有關未來的主要假設及估計不確定的其他主要來源(存在導致於下一財政年度內對資產及負債的賬面值作出重大調整的重大風險)論述如下。

非上市股本投資的公平值

非上市股本投資已根據財務報表附註37所詳述的市場基準估值技術進行估值。就於二零二二年十二月三十一日未參照近期交易價格的非上市股本投資176,190,000美元而言，本集團釐定可資比較公眾公司(同業)並選擇價格倍數。此外，本集團須就流動性不足及規模差異的貼現作出估計。進一步詳情載於財務報表附註18及附註37。

投資物業公平值

倘類似物業於活躍市場中並無現行市價，則本集團會考慮貼現現金流量預測資料。

根據可靠的未來現金流量估算、任何現有租約及其他合約的年期及(如可能)外在證據(如於同一地點及狀況下，類似物業的現行市值租金)，以及使用可反映現金流量金額及出現時間不明朗因素的現時市場評估的貼現率計算而得出的貼現現金流量預測。

於二零二二年十二月三十一日，投資物業的賬面值為169,363,000美元(二零二一年十二月三十一日：184,883,000美元)。進一步詳情(包括公平值計量及敏感度分析所採用的主要假設)載於財務報表附註14。

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4. OPERATING SEGMENT INFORMATION

For management purposes, the Group is organised into one single business unit that includes primarily the manufacture and sale of semiconductor products. Management reviews the consolidated results when making decisions about allocating resources and assessing the performance of the Group. Accordingly, no segment analysis is presented.

The principal assets employed by the Group are located in Shanghai and Wuxi, the PRC. Therefore, no segment information based on the geographical location of non-current assets is presented for the year.

Revenues are attributed to geographical areas based on the locations of customers. Revenues by geographical segment based on the locations of customers for the year are presented as follows:

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
China (including Hong Kong)	中國(包括香港)	1,811,269	1,205,149
North America	北美	297,683	159,281
Asia (excluding China and Japan)	亞洲(不包括中國及日本)	210,610	169,227
Europe	歐洲	114,728	70,627
Japan	日本	41,198	26,470
		2,475,488	1,630,754

The Group is involved in the business of the manufacture and sale of semiconductor products. Revenue from the sale of semiconductor products is recognised at the point in time when control of the asset is transferred to the customer, generally on delivery of the semiconductor products, where the performance obligation is satisfied. The normal credit term is 30 to 45 days upon delivery. Payment in advance is required for some contracts.

Information about major customers

No revenue amounting to 10% or more of the Group's revenue was derived from sales to a single customer for the year ended 31 December 2022 (31 December 2021: Nil).

4. 經營分部資料

出於管理需要，本集團僅構組一個業務單元，主要包括製造及銷售半導體產品。管理層在作出分配資源的相關決策及評估本集團表現時審核綜合業績。因此，並無呈列分部分析。

本集團使用的主要資產位於中國上海及無錫，故並無按非流動資產的地理位置於年內呈列分部資料。

地理區域應佔收入乃按客戶所在地劃分。年內按客戶所在地劃分的地區分部收入呈列如下：

本集團從事製造及銷售半導體產品業務。來自銷售半導體產品的收益於資產的控制權轉移予客戶時(一般於交付半導體產品時)(即達成履約責任時)確認。一般信貸期為交付後30至45天。若干合約須提前付款。

有關主要客戶的資料

截至二零二二年十二月三十一日止年度並無對單一客戶的銷售所得收入金額達本集團收入的10%或以上(二零二一年十二月三十一日：無)。

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5. REVENUE, OTHER INCOME AND GAINS AND OTHER EXPENSES

An analysis of revenue, other income and gains and other expenses is as follows:

5. 收入、其他收入及收益及其他費用

對收入、其他收入及收益及其他費用的分析如下：

	2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Revenue from contracts with customers 客戶合約收益		
Sale of goods 銷售貨品	2,475,488	1,630,754
Other income 其他收入		
Gross rental income from investment property operating leases: 來自投資物業經營租賃的租金收入總額：		
Fixed lease payments 固定租賃付款	14,358	14,488
Interest income 利息收入	26,944	13,437
Government subsidies 政府補貼	27,679	7,288
Sale of scrap materials 銷售廢料	1,476	586
Others 其他	524	1,015
	70,981	36,814
Gains 收益		
Foreign exchange gains, net 外匯匯兌收益淨額	-	23,944
Gain on disposal of items of property, plant and equipment 出售物業、廠房及設備項目所得收益	5	-
	70,986	60,758
Other expenses 其他費用		
Foreign exchange loss, net 外匯匯兌虧損淨額	106,804	-
Loss on disposal of items of property, plant and equipment 出售物業、廠房及設備項目的虧損	-	76
Others 其他	4,556	89
	111,360	165

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二零二二年十二月三十一日 財務報表附註5. REVENUE, OTHER INCOME AND GAINS
AND OTHER EXPENSES (continued)

5. 收入、其他收入及收益及其他費用(續)

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Types of goods	貨品類型		
Sales of semiconductor products and total revenue from contracts with customers	半導體產品的銷售和來自客戶合約的總收入	2,475,488	1,630,754
Timing of revenue recognition	收入確認時間		
Goods transferred at a point in time and total revenue from contracts with customers	在某一時點轉讓的貨品及來自客戶合約的總收入	2,475,488	1,630,754

The disaggregation of the Group's revenue based on the geographical region for the year ended 31 December 2022 is given in note 4.

截至二零二二年十二月三十一日止年度，本集團基於地區的收入分類載列於附註4。

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6. PROFIT BEFORE TAX

The Group's profit before tax is arrived at after charging/
(crediting):

6. 稅前溢利

本集團的稅前溢利乃於扣除／(計入)
下列各項後達致：

		2022	2021
	Notes	二零二二年	二零二一年
	附註	US\$'000	US\$'000
		千美元	千美元
Cost of inventories sold	已售存貨成本	1,631,832	1,179,156
Depreciation of property, plant and equipment	物業、廠房及設備折舊		
	13	439,917	302,245
Depreciation of right-of-use assets	使用權資產折舊	5,842	5,676
Amortisation of intangible assets	無形資產攤銷	11,101	10,095
Research and development costs	研發成本	160,936	86,068
Lease payments not included in the measurement of lease liabilities	未計入租賃負債計量的租賃付款	2,625	1,572
Auditor's remuneration	核數師薪酬	1,395	660
Employee benefit expense (including directors' and chief executive's remuneration (note 8)):	僱員福利開支(包括董事及最高行政人員的薪酬(附註8)):		
Wages, salaries and other benefits	工資、薪金及其他福利	382,804	289,787
Equity-settled share option expense	以權益結算的購股權開支	1,226	296
Pension scheme contributions (defined contribution scheme) *	退休金計劃供款(定額供款計劃)*	31,660	28,287
		415,690	318,370
Impairment of items of property, plant and equipment	物業、廠房及設備項目減值	858	3,914
(Reversal of)/provision for impairment of trade receivables	貿易應收款項(撥回)/撥備	(16)	273
Write-down/(reversal) of inventories to net realisable value	存貨撇減/(撥回)至可變現淨值	19,612	(180)
Changes in fair value of an investment property	投資物業公平值變動	(78)	(183)

* There are no forfeited contributions that may be used by the Group as the employer to reduce the existing level of contributions.

* 本集團作為僱主概無可能將沒收的供款用於降低現有的供款水平。

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7. FINANCE COSTS

7. 財務費用

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Interest on bank borrowings	銀行借款利息	39,451	12,347
Interest on lease liabilities	租賃負債利息	880	879
		40,331	13,226

8. DIRECTORS' AND CHIEF EXECUTIVE'S REMUNERATION

8. 董事及最高行政人員的薪酬

Directors' and chief executive's remuneration for the year, disclosed pursuant to the Listing Rules, section 383(1)(a), (b), (c) and (f) of the Hong Kong Companies Ordinance and Part 2 of the Companies (Disclosure of Information about Benefits of Directors) Regulation, is as follows:

根據上市規則及香港公司條例第383(1)(a)、(b)、(c)及(f)節及《公司(披露董事利益資料)規例》第2部披露的本年度董事及最高行政人員薪酬如下:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Fees	袍金	234	231
Other emoluments:	其他酬金:		
Salaries, allowances and benefits in kind	薪酬、津貼及實物利益	206	179
Performance related bonuses	與表現掛鉤的花紅	452	593
Equity-settled share option expense	以權益結算的購股權開支	57	99
Pension scheme contributions	退休金計劃供款	9	9
		724	880
		958	1,111

In prior year, certain directors were granted share options, in respect of their services to the Group, under the share option scheme of the Company, further details of which are set out in note 31 to the financial statements. The fair value of such options, which has been recognised in the statement of profit or loss over the vesting period, was determined as at the date of grant and the amount included in the financial statements for the current year is included in the above directors' and chief executive's remuneration disclosures.

於過往年度，若干董事根據本公司的購股權計劃因其向本集團提供的服務獲授購股權，其進一步詳情載於財務報表附註31。相關購股權的公平值已按歸屬期於損益表確認，並於授出日期釐定且於本年度財務報表入賬的金額已計入前述董事及最高行政人員的薪酬披露中。

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8. DIRECTORS' AND CHIEF EXECUTIVE'S REMUNERATION (continued)

(a) Independent non-executive directors

The fees paid to independent non-executive directors during the year were as follows:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Stephen Tso Tung Chang	張祖同	78	77
Kwai Huen Wong, JP	王桂燦, 太平紳士	78	77
Long Fei Ye	葉龍蜚	78	77
		234	231

There were no other emoluments payable to the independent non-executive directors during the year (2021: Nil).

年內並無應付予獨立非執行董事的其他酬金(二零二一年: 無)。

(b) A non-executive director and the chief executive

		Salaries, allowances and benefits Fees US\$'000 千美元	Performance related bonuses US\$'000 千美元	Equity- settled share option expense US\$'000 千美元	Pension scheme contributions US\$'000 千美元	Total remuneration US\$'000 千美元
		薪酬、津貼及 袍金 US\$'000 千美元	與表現掛鈎 的花紅 US\$'000 千美元	以權益結算的 購股權開支 US\$'000 千美元	退休金 計劃供款 US\$'000 千美元	薪酬總額 US\$'000 千美元
2022	二零二二年					
Chief executive:	最高行政人員:					
Mr. Junjun Tang	唐均君先生	-	206	452	57	9
						724

8. 董事及最高行政人員的薪酬 (續)

(a) 獨立非執行董事

年內向獨立非執行董事支付的袍金如下:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Stephen Tso Tung Chang	張祖同	78	77
Kwai Huen Wong, JP	王桂燦, 太平紳士	78	77
Long Fei Ye	葉龍蜚	78	77
		234	231

年內並無應付予獨立非執行董事的其他酬金(二零二一年: 無)。

(b) 非執行董事及最高行政人員

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8. DIRECTORS' AND CHIEF EXECUTIVE'S
REMUNERATION (continued)(b) A non-executive director and the chief executive
(continued)

		Salaries, allowances and benefits	Performance related bonuses	Equity- settled share option expense	Pension scheme contributions	Total remuneration
	Fees	in kind	與表現掛鈎 的花紅	以權益結算的 購股權開支	退休金 計劃供款	薪酬總額
	袍金	實物利益	US\$'000	US\$'000	US\$'000	US\$'000
	千美元	千美元	千美元	千美元	千美元	千美元
2021	二零二一年					
Chief executive:	最高行政人員:					
Mr. Junjun Tang	唐均君先生	-	179	593	99	9
						880

Save as disclosed above, none of the directors received any emoluments during 2022 and 2021.

There was no arrangement under which a director waived or agreed to waive any remuneration during the year.

8. 董事及最高行政人員的薪酬
(續)

(b) 非執行董事及最高行政人員(續)

除前述披露者外，概無董事於二零二二年及二零二一年收取任何薪酬。

於年內，概無董事作出安排放棄或同意放棄任何薪酬。

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9. FIVE HIGHEST PAID EMPLOYEES

The five highest paid employees during the year included one director, who is also the chief executive (2021: one director being also the chief executive), details of whose remuneration are set out in note 8 above. Details of the remuneration for the year of the remaining four (2021: four) highest paid employees who are not directors of the Company are as follows:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Salaries, allowances and benefits in kind	薪酬、津貼及實物利益	1,127	1,094
Performance related bonuses	與表現掛鈎的花紅	771	1,384
Equity-settled share option expense	以權益結算的購股權開支	121	97
Pension scheme contributions	退休金計劃供款	9	26
		2,028	2,601

The number of highest paid employees who are not directors of the Company and whose remuneration fell within the following bands is as follows:

		Number of employees 僱員人數	
		2022 二零二二年	2021 二零二一年
HK\$2,500,001 to HK\$3,000,000	2,500,001港元至3,000,000港元	2	–
HK\$3,000,001 to HK\$3,500,000	3,000,001港元至3,500,000港元	1	–
HK\$3,500,001 to HK\$4,000,000	3,500,001港元至4,000,000港元	–	1
HK\$4,000,001 to HK\$4,500,000	4,000,001港元至4,500,000港元	–	1
HK\$4,500,001 to HK\$5,000,000	4,500,001港元至5,000,000港元	–	1
HK\$5,000,001 to HK\$5,500,000	5,000,001港元至5,500,000港元	1	–
HK\$6,500,001 to HK\$7,000,000	6,500,001港元至7,000,000港元	–	1
		4	4

In prior years, share options were granted to four non-director and non-chief executive highest paid employees in respect of their services to the Group, further details of which are included in the disclosures in note 31 to the financial statements. The fair value of such options, which has been recognised in the statement of profit or loss over the vesting period, was determined as at the date of grant and the amount included in the financial statements for the current year is included in the above non-director and non-chief executive highest paid employees' remuneration disclosures.

9. 五名最高薪僱員

年內，五名最高薪僱員包括一名董事（亦為最高行政人員）（二零二一年：一名董事（亦為最高行政人員）），其薪酬詳情載於上文附註8。年內，其餘四名（二零二一年：四名）並非本公司董事的最高薪僱員的薪酬詳情如下：

薪酬屬於以下範疇的並非本公司董事的最高薪僱員人數如下：

於過往年度，四名非董事及非最高行政人員的最高薪僱員因其向本集團提供服務獲授購股權，其進一步詳情於財務報表附註31披露。相關購股權的公平值已按歸屬期於損益表確認，並於授出日期釐定且於本年度財務報表入賬的金額已計入前述非董事及非最高行政人員的最高薪僱員的薪酬披露中。

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10. INCOME TAX

Profits arising in Hong Kong were subject to profits tax at the rate of 16.5% during the year (2021: 16.5%). No provision for Hong Kong profits tax has been made as the Company and a subsidiary incorporated in Hong Kong had no assessable income during the year (2021: Nil).

The Company's subsidiary incorporated in the Cayman Islands is not subject to corporate income tax ("CIT") as it does not have a place of business (other than a registered office) or carry on any business in the Cayman Islands.

All of the Company's subsidiaries registered in the PRC and only having operations in Mainland China are subject to PRC enterprise income tax on the taxable income as reported in their PRC statutory accounts adjusted in accordance with relevant PRC income tax laws based on a statutory rate of 25%.

Pursuant to the relevant laws and regulations in the PRC and with approval from the tax authorities in charge, one of the Group's subsidiaries, HHGrace, is qualified as a "High and New Technology Enterprise" and was therefore entitled to a preferential tax rate of 15% from 2020 to 2022.

Pursuant to the relevant laws and regulations in the PRC and with approval from the tax authorities in charge, one of the Group's subsidiaries, Hua Hong Wuxi, is entitled to an exemption from CIT for five years, commencing from the first year that Hua Hong Wuxi generates taxable profit, and a deduction of 50% on the CIT rate for the following five years. Hua Hong Wuxi was in accumulated tax loss positions as at 31 December 2022 and the tax holiday has not begun.

The Company's subsidiary incorporated and operating in Japan was subject to corporation tax at a rate of 33.58% (2021: 33.58%).

The Company's subsidiary incorporated and operating in the United States was subject to federal corporation income tax at a rate of 21% during the year (2021: 21%), as well as state tax at 8.84% (2021: 8.84%).

10. 所得稅

於年內的香港溢利須按16.5% (二零二一年: 16.5%) 的稅率繳納利得稅。由於本公司及一家在香港註冊成立的子公司於年內並無取得應評稅收入, 故並無就香港利得稅作出撥備 (二零二一年: 無)。

由於本公司在開曼群島註冊成立的子公司在開曼群島並無擁有營業地點 (註冊辦事處除外) 或經營任何業務, 故有關子公司毋須繳納企業所得稅 (「企業所得稅」)。

所有本公司在中國註冊且僅在中國內地營運的子公司, 應就其根據相關中國所得稅法調整的中國法定賬目所呈報應課稅收入按25%的法定稅率繳納中國企業所得稅。

根據中國相關法律及法規及獲稅務主管機關批准, 本集團一家子公司華虹宏力符合資格成為「高新技術企業」, 故有權於二零二零年至二零二二年期間按15%的優惠稅率繳稅。

根據中國相關法律及法規及獲稅務主管機關批准, 本集團一家子公司華虹無錫有權自獲得應課稅溢利第一年起五年獲豁免繳納企業所得稅, 及隨後五年減免50%。截至二零二二年十二月三十一日, 華虹無錫錄得累計稅項虧損, 且免稅期尚未開始。

本公司在日本註冊成立及營運的子公司應按33.58% (二零二一年: 33.58%) 的企業稅率繳稅。

本公司在美國註冊成立及營運的子公司應於年內按21% (二零二一年: 21%) 的聯邦企業所得稅率及8.84% (二零二一年: 8.84%) 的州稅稅率繳稅。

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10. INCOME TAX (continued)

The major components of income tax expense of the Group are as follows:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Current income tax – PRC	當期所得稅 – 中國	74,516	49,910
Current income tax – elsewhere	當期所得稅 – 其他地區	43	41
Withholding tax on the distribution of dividend from a PRC subsidiary	中國子公司分派股息的預扣稅	2,500	–
Deferred tax (note 28)	遞延稅項 (附註28)	12,440	15,398
		89,499	65,349

10. 所得稅 (續)

本集團所得稅開支的主要組成部份如下:

A reconciliation of the tax expense applicable to profit before tax at the statutory rate of 25% for the jurisdiction in which the Company and the majority of its subsidiaries are domiciled to the tax expense at the effective tax rate is as follows:

按本公司及其大部份子公司經營所在司法權區的法定稅率25%計算的稅前溢利的適用稅項開支，與按實際稅率計算的稅項開支的對賬如下:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Profit before tax	稅前溢利	496,070	296,320
Tax at the statutory tax rate of 25%	按法定稅率25%計算的稅項	124,018	74,080
Effect of different tax rates for specific provinces and countries or enacted by local authority	特定省份及國家或地方當局頒佈的不同稅率的影響	(57,612)	(39,700)
Adjustments in respect of current tax of previous periods	就上一期間當期稅項的調整	309	71
Profits attributable to associates	聯營公司應佔溢利	(1,826)	(1,015)
Expenses not deductible for tax	不可扣稅開支	434	153
Tax losses not recognised due to tax holiday	因免稅期而未確認的稅項虧損	50,695	47,629
Tax losses not recognised due to improbable future taxable profits	因未來不大可能產生應課稅溢利而未確認的稅項虧損	1,481	2,144
Temporary differences not recognised	未確認暫時差額	129	927
Additional deduction of research and development costs	研發成本其他扣減	(42,532)	(33,753)
Additional deduction of equipment	設備其他扣減	(3,630)	–
Effect of withholding tax at 10% (2021: 10%) on the distributable profits of the Group's PRC subsidiary	按本集團中國子公司可供分派溢利以10% (二零二一年: 10%) 計算預扣稅影響	18,033	14,813
Tax charge at the Group's effective rate	按本集團實際稅率計算的稅項開支	89,499	65,349

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11. DIVIDEND

The directors did not recommend the payment of any dividend for the year ended 31 December 2022 (2021: Nil).

12. EARNINGS PER SHARE ATTRIBUTABLE TO ORDINARY EQUITY HOLDERS OF THE PARENT

The calculation of the basic earnings per share amount is based on the profit for the year attributable to ordinary equity holders of the parent, and the weighted average number of ordinary shares of 1,303,399,389 (2021: 1,300,169,098) in issue during the year.

The calculation of the diluted earnings per share amount is based on the profit for the year attributable to ordinary equity holders of the parent. The weighted average number of ordinary shares used in the calculation is the number of ordinary shares in issue during the year, as used in the basic earnings per share calculation, and the weighted average number of ordinary shares assumed to have been issued at the exercise price on the deemed exercise or conversion of all dilutive potential ordinary shares into ordinary shares.

11. 股息

董事不建議派付截至二零二二年十二月三十一日止年度之任何股息(二零二一年: 無)。

12. 母公司普通股權持有人應佔每股盈利

每股基本盈利乃基於母公司普通股權持有人應佔年內溢利及於年內已發行1,303,399,389股(二零二一年: 1,300,169,098股)普通股的加權平均數計算。

每股已攤薄盈利金額乃根據母公司普通股權持有人應佔年內溢利計算。計算時採用之普通股加權平均數為計算每股基本盈利時採用之年內已發行普通股數目加上假設所有潛在攤薄普通股被視為行使或兌換為普通股時以行使價發行之普通股加權平均數。

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31 December 2022
二零二二年十二月三十一日

12. EARNINGS PER SHARE ATTRIBUTABLE TO ORDINARY EQUITY HOLDERS OF THE PARENT (continued)

12. 母公司普通股權持有人應佔每股盈利(續)

The calculations of basic and diluted earnings per share are based on:

每股基本及攤薄盈利的計算乃基於：

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Earnings	盈利		
Profit attributable to ordinary equity holders of the parent	母公司普通股權持有人應佔溢利	449,912	261,476
		Number of shares	
		股份數目	
		2022	2021
		二零二二年	二零二一年
Shares	股份		
Weighted average number of ordinary shares in issue during the year used in the basic earnings per share calculation	用於計算每股基本盈利的年內已發行普通股加權平均數	1,303,399,389	1,300,169,098
Effect of dilution – weighted average number of ordinary shares:	普通股攤薄加權平均數的影響：		
Share options	購股權	10,545,888	19,996,637
		1,313,945,277	1,320,165,735

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13. PROPERTY, PLANT AND EQUIPMENT

13. 物業、廠房及設備

		Buildings	Plant and machinery	Office equipment	Motor vehicles	Leasehold improvements	Construction in progress	Total
		樓宇	廠房及機器	辦公設備	汽車	租賃物業裝修	在建工程	總計
		US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000
		千美元	千美元	千美元	千美元	千美元	千美元	千美元
31 December 2022	二零二二年十二月三十一日							
At 1 January 2022:	於二零二二年一月一日:							
Cost	成本	480,349	6,752,780	64,260	1,805	4,289	252,902	7,556,385
Accumulated depreciation and impairment	累計折舊及減值	(239,948)	(4,133,223)	(44,323)	(1,244)	(4,257)	(16,889)	(4,439,884)
Net carrying amount	賬面淨值	240,401	2,619,557	19,937	561	32	236,013	3,116,501
At 1 January 2022, net of accumulated depreciation and impairment	於二零二二年一月一日, 扣除累計折舊及減值	240,401	2,619,557	19,937	561	32	236,013	3,116,501
Additions	添置	-	-	-	-	-	955,100	955,100
Transfers	轉撥	1,609	478,395	3,556	53	42	(483,655)	-
Disposal	處置	-	(194)	(236)	(11)	-	-	(441)
Depreciation provided during the year	年內計提折舊	(15,646)	(419,467)	(4,655)	(136)	(13)	-	(439,917)
Impairment	減值	-	(822)	(36)	-	-	-	(858)
Exchange realignment	匯兌調整	(19,884)	(221,418)	(1,734)	(40)	(3)	(19,590)	(262,669)
At 31 December 2022, net of accumulated depreciation and impairment	於二零二二年十二月三十一日, 扣除累計折舊及減值	206,480	2,456,051	16,832	427	58	687,868	3,367,716
At 31 December 2022:	於二零二二年十二月三十一日:							
Cost	成本	442,247	6,640,233	49,805	1,506	3,968	703,329	7,841,088
Accumulated depreciation and impairment	累計折舊及減值	(235,767)	(4,184,182)	(32,973)	(1,079)	(3,910)	(15,461)	(4,473,372)
Net carrying amount	賬面淨值	206,480	2,456,051	16,832	427	58	687,868	3,367,716

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31 December 2022
二零二二年十二月三十一日13. PROPERTY, PLANT AND EQUIPMENT
(continued)

13. 物業、廠房及設備 (續)

		Buildings 樓宇 US\$'000 千美元	Plant and machinery 廠房及機器 US\$'000 千美元	Office equipment 辦公設備 US\$'000 千美元	Motor vehicles 汽車 US\$'000 千美元	Leasehold improvements 租賃物業裝修 US\$'000 千美元	Construction in progress 在建工程 US\$'000 千美元	Total 總計 US\$'000 千美元
31 December 2021	二零二一年十二月三十一日							
At 1 January 2021:	於二零二一年一月一日:							
Cost	成本	471,159	5,138,983	56,047	2,081	4,191	872,854	6,545,315
Accumulated depreciation and impairment	累計折舊及減值	(219,613)	(3,753,370)	(38,428)	(1,777)	(4,151)	(17,534)	(4,034,873)
Net carrying amount	賬面淨值	251,546	1,385,613	17,619	304	40	855,320	2,510,442
At 1 January 2021, net of accumulated depreciation and impairment	於二零二一年一月一日, 扣除累計折舊及減值	251,546	1,385,613	17,619	304	40	855,320	2,510,442
Additions	添置	-	-	-	-	-	855,168	855,168
Transfers	轉撥	-	1,475,794	6,276	393	-	(1,482,463)	-
Disposal	處置	-	(80)	(25)	(25)	-	-	(130)
Depreciation provided during the year	年內計提折舊	(16,302)	(281,664)	(4,148)	(122)	(9)	-	(302,245)
Impairment	減值	-	(3,735)	(179)	-	-	-	(3,914)
Exchange realignment	匯兌調整	5,157	43,629	394	11	1	7,988	57,180
At 31 December 2021, net of accumulated depreciation and impairment	於二零二一年 十二月三十一日, 扣除累計折舊及減值	240,401	2,619,557	19,937	561	32	236,013	3,116,501
At 31 December 2021:	於二零二一年 十二月三十一日:							
Cost	成本	480,349	6,752,780	64,260	1,805	4,289	252,902	7,556,385
Accumulated depreciation and impairment	累計折舊及減值	(239,948)	(4,133,223)	(44,323)	(1,244)	(4,257)	(16,889)	(4,439,884)
Net carrying amount	賬面淨值	240,401	2,619,557	19,937	561	32	236,013	3,116,501

For the year ended 31 December 2022, certain items of the Group's machinery and office equipment of US\$858,000 (31 December 2021: US\$3,914,000) were obsolete with a minimal recoverable amount determined based on their fair value less costs of disposal and were therefore fully impaired.

As at 31 December 2022, certain of the Group's property, plant and equipment with a net carrying value of US\$1,803,095,000 (31 December 2021: US\$2,256,289,000) were pledged to banks to secure the Group's banking facilities (note 26).

截至二零二二年十二月三十一日止年度，本集團機器及辦公設備中若干項目858,000美元(二零二一年十二月三十一日: 3,914,000美元)已過時，而根據彼等公平值減出售成本確定最低可收回金額，因而完全減值。

於二零二二年十二月三十一日，本集團賬面淨值為1,803,095,000美元(二零二一年十二月三十一日: 2,256,289,000美元)的若干物業、廠房及設備已抵押予銀行以取得本集團的銀行融資(附註26)。

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二零二二年十二月三十一日

財務報表附註

14. INVESTMENT PROPERTY

14. 投資物業

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Carrying amount at 1 January	於一月一日的賬面值	184,883	180,476
Net gain from a fair value adjustment	公平值調整的收益淨額	78	183
Exchange realignment	匯兌調整	(15,598)	4,224
Carrying amount at 31 December	於十二月三十一日的賬面值	169,363	184,883

The Group's investment property is situated in Shanghai, the PRC. The directors have determined that the investment property is an industrial property based on the nature, characteristics and risks of the property.

The Group's investment property was revalued on 31 December 2022 based on valuation performed by Jones Lang LaSalle Corporate Appraisal and Advisory Limited, an independent professionally qualified valuer, on an open market value basis. The valuation is based on capitalisation of income derived from the existing tenancy with allowance for the reversionary income potential of the property.

Every year, the Group's property manager and the chief financial officer decide to appoint which external valuer to be responsible for the external valuations of the Group's properties. Selection criteria include market knowledge, reputation, independence and whether professional standards are maintained. The Group's property manager and the chief financial officer have discussions with the valuer on the valuation assumptions and valuation results annually when the valuation is performed for annual financial reporting.

The investment property is leased to a related party under an operating lease (note 33 and note 35(b)).

本集團的投資物業位於中國上海。董事已基於物業的性質、特點及風險釐定投資物業為工業物業。

於二零二二年十二月三十一日，本集團的投資物業已根據一家具專業資格的獨立估值師仲量聯行企業評估及諮詢有限公司按公開市值進行了重估。該估值參考了現有租約扣除物業潛在可復歸收入後所得收入資本化確定。

每年，本集團的物業經理及財務總監決定委任外聘估值師負責本集團物業的外部估值。選聘標準包括對市場的了解、聲譽、獨立性及是否具備專業水準。本集團的物業經理及財務總監就年度財務報告進行估值時，已與估值師每年討論一次估值假設及估值結果。

投資物業根據經營租約出租予關聯方(附註33和附註35(b))。

NOTES TO FINANCIAL STATEMENTS

財務報表附註

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14. INVESTMENT PROPERTY (continued)

Fair value hierarchy

The recurring fair value measurement for the Group's investment property, which is an industrial property, was made using significant unobservable inputs (Level 3) as at 31 December 2022 and 2021. During the year, there were no transfers of fair value measurements between Level 1 and Level 2 and no transfers into or out of Level 3 (2021: Nil).

Below is a summary of the valuation techniques used and the key inputs to the valuation of the investment property:

14. 投資物業(續)

公平值層級

本集團投資物業(為工業物業)於二零二二年及二零二一年十二月三十一日的週期公平值計量乃使用重大不可觀察輸入數據(第3級)作出。於年內,第1級與第2級間並無公平值計量轉移,且第3級並無轉入或轉出(二零二一年:無)。

下文為投資物業估值所用估值技術及主要輸入數據概要:

Industrial property 工業物業	Valuation techniques 估值技術	Significant unobservable inputs 重大不可觀察輸入數據	Weighted average 加權平均
As at 31 December 2022	Term and reversion method	Estimated rental value (per sq.m. per month)	US\$13.2 (equivalent to RMB89.00)
於二零二二年十二月三十一日	年期及復歸法	估計租賃價值 (每平方米每月)	13.2美元 (相當於人民幣 89.00元)
		Term yield 年期回報率	6.75%
		Reversionary yield 復歸回報率	7.25%
		Long term vacancy rate 長期空置率	10.00%
As at 31 December 2021	Term and reversion method	Estimated rental value (per sq.m. per month)	US\$13.3 (equivalent to RMB86.00)
於二零二一年十二月三十一日	年期及復歸法	估計租賃價值 (每平方米每月)	13.3美元 (相當於人民幣 86.00元)
		Term yield 年期回報率	6.75%
		Reversionary yield 復歸回報率	7.25%
		Long term vacancy rate 長期空置率	10.00%

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財務報表附註

14. INVESTMENT PROPERTY (continued)

Fair value hierarchy (continued)

Under the term and reversion method, fair value is measured by taking into account the rental income derived from the existing lease with due allowance for the reversionary income potential of the lease, which is then capitalised into the value at appropriate rates.

The term value was estimated based on the existing rent, the tenancy period as stated in the lease agreement and the yield during the term period (tenancy period). The reversionary value was estimated based on the market rents, the market yield and the reversionary periods.

A significant increase/(decrease) in the estimated rental value and the market rent growth rate per annum in isolation would result in a significant increase/(decrease) in the fair value of the investment property. A significant increase/(decrease) in the long-term vacancy rate and the discount rate in isolation would result in a significant decrease/(increase) in the fair value of the investment property. Generally, a change in the assumption made for the estimated rental value is accompanied by a directionally similar change in the rent growth per annum and the discount rate and an opposite change in the long-term vacancy rate.

14. 投資物業 (續)

公平值層級 (續)

根據年期及復歸法，公平值乃經計及現有租約產生的租金收入，並就該等租約的潛在可復歸收入計提適當撥備，其後按適用資本化比率撥充資本計算價值而達致。

定期價值乃根據租賃協議所訂明的現有租金、租期及年期內(租期)回報率估計。復歸價值乃根據市值租金、市場回報率及復歸期估計。

估計租賃價值及市場租金年增長率單獨大幅上升/(下降)將導致投資物業的公平值大幅增加/(減少)。長期空置率及貼現率單獨大幅上升/(下降)將導致投資物業的公平值大幅減少/(增加)。一般而言，就估計租賃價值作出的假設變動同時，租金年增長率及貼現率出現同向變動，而長期空置率出現反向變動。

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15. RIGHT-OF-USE ASSETS

2022

		Land use rights 土地使用權 US\$'000 千美元	Buildings 樓宇 US\$'000 千美元	Total 總計 US\$'000 千美元
At 1 January 2022, net of accumulated depreciation	於二零二二年一月一日， 扣除累計折舊	60,191	15,140	75,331
Additions	添置	9,393	6,394	15,787
Depreciation provided during the year	年內計提折舊	(1,952)	(3,890)	(5,842)
Exchange realignment	匯兌調整	(5,370)	(1,481)	(6,851)
At 31 December 2022	於二零二二年十二月三十一日	62,262	16,163	78,425

2021

		Land use rights 土地使用權 US\$'000 千美元	Buildings 樓宇 US\$'000 千美元	Total 總計 US\$'000 千美元
At 1 January 2021, net of accumulated depreciation	於二零二一年一月一日， 扣除累計折舊	60,354	18,867	79,221
Depreciation provided during the year	年內計提折舊	(1,556)	(4,120)	(5,676)
Exchange realignment	匯兌調整	1,393	393	1,786
At 31 December 2021	於二零二一年十二月三十一日	60,191	15,140	75,331

As at 31 December 2022, certain of the Group's land use rights with a carrying value of US\$50,231,000 as at 31 December 2022 (31 December 2021: US\$46,604,000) were pledged to banks to secure the Group's banking facilities (note 26).

於二零二二年十二月三十一日，本集團於二零二二年十二月三十一日賬面值為50,231,000美元(二零二一年十二月三十一日：46,604,000美元)的若干土地使用權已抵押予銀行以取得本集團的銀行融資(附註26)。

15. 使用權資產

二零二二年

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二零二二年十二月三十一日

財務報表附註

16. INTANGIBLE ASSETS

16. 無形資產

		Process technology licence 工藝技術許可 US\$'000 千美元	Software 軟件 US\$'000 千美元	Total 總計 US\$'000 千美元
31 December 2022	二零二二年十二月三十一日			
At 1 January 2022:	於二零二二年一月一日:			
Cost	成本	297,366	146,577	443,943
Accumulated amortisation and impairment	累計攤銷及減值	(279,314)	(129,317)	(408,631)
Net carrying amount	賬面淨值	18,052	17,260	35,312
At 1 January 2022, net of accumulated amortisation and impairment	於二零二二年一月一日, 扣除累計攤銷及減值	18,052	17,260	35,312
Additions	添置	–	11,718	11,718
Amortisation provided during the year	年內作出攤銷	(5,248)	(5,853)	(11,101)
Exchange realignment	匯兌調整	(1,316)	(1,627)	(2,943)
At 31 December 2022, net of accumulated amortisation and impairment	於二零二二年十二月三十一日, 扣除累計攤銷及減值	11,488	21,498	32,986
At 31 December 2022:	於二零二二年十二月三十一日:			
Cost	成本	270,734	147,145	417,879
Accumulated amortisation and impairment	累計攤銷及減值	(259,246)	(125,647)	(384,893)
Net carrying amount	賬面淨值	11,488	21,498	32,986

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二零二二年十二月三十一日

16. INTANGIBLE ASSETS (continued)

16. 無形資產 (續)

		Process technology licence 工藝技術許可 US\$'000 千美元	Software 軟件 US\$'000 千美元	Total 總計 US\$'000 千美元
31 December 2021	二零二一年十二月三十一日			
At 1 January 2021:	於二零二一年一月一日:			
Cost	成本	290,715	131,796	422,511
Accumulated amortisation and impairment	累計攤銷及減值	(267,884)	(117,680)	(385,564)
Net carrying amount	賬面淨值	22,831	14,116	36,947
At 1 January 2021, net of accumulated amortisation and impairment	於二零二一年一月一日, 扣除累計攤銷及減值	22,831	14,116	36,947
Additions	添置	-	7,777	7,777
Amortisation provided during the year	年內作出攤銷	(5,099)	(4,996)	(10,095)
Exchange realignment	匯兌調整	320	363	683
At 31 December 2021, net of accumulated amortisation and impairment	於二零二一年十二月三十一日, 扣除累計攤銷及減值	18,052	17,260	35,312
At 31 December 2021:	於二零二一年十二月三十一日:			
Cost	成本	297,366	146,577	443,943
Accumulated amortisation and impairment	累計攤銷及減值	(279,314)	(129,317)	(408,631)
Net carrying amount	賬面淨值	18,052	17,260	35,312

NOTES TO FINANCIAL STATEMENTS

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財務報表附註

17. INVESTMENTS IN ASSOCIATES

17. 於聯營公司的投資

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Carrying amount	賬面值	130,721	122,040

Particulars of the material associate are as follows:

主要聯營公司詳情如下:

Name of company 公司名稱	Place of registration and business 登記及營業地點	Paid-in capital 實繳股本 RMB'000 人民幣千元	Percentage of equity interest attributable to the Group 本集團應佔股權百分比	Principal activities 主要業務
Shanghai Huahong Technology Development Co., Ltd. ("Huahong Technology Development") 上海華虹科技發展有限公司 (「華虹科技發展」)	PRC/Mainland China 中國／中國內地	548,000	50%	Technology development and investment 科技開發及投資
Shanghai Huahong Investment Development Co., Ltd ("Huahong Investment Development") 上海華虹投資發展有限公司 (「華虹投資發展」)	PRC/Mainland China 中國／中國內地	480,000	20%	Investment 投資

The Group's voting power held and profit sharing arrangement in relation to Huahong Technology Development are 40% and 50%, respectively.

本集團有關華虹科技發展持有的投票權及溢利分配安排分別為40%及50%。

The Group's shareholding in the associate is held through a wholly-owned subsidiary of the Company.

本集團透過本公司的全資子公司持有該聯營公司的股權。

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17. INVESTMENTS IN ASSOCIATES (continued)

17. 於聯營公司的投資 (續)

The following table illustrates the summarised financial information of Huahong Technology Development and Huahong Investment Development:

下表概述華虹科技發展及華虹投資發展的財務資料：

		Huahong Technology Development 華虹科技發展		Huahong Investment Development 華虹投資發展	
		31 December 2022 二零二二年 十二月三十一日 US\$'000 千美元	31 December 2021 二零二一年 十二月三十一日 US\$'000 千美元	31 December 2022 二零二二年 十二月三十一日 US\$'000 千美元	31 December 2021 二零二一年 十二月三十一日 US\$'000 千美元
Current assets	流動資產	31,186	27,884	24,365	16,969
Non-current assets	非流動資產	307,918	324,496	76,980	21,354
Current liabilities	流動負債	(91,340)	(100,312)	(186)	(37)
Non-current liabilities	非流動負債	(23,606)	(23,233)	(7,949)	(175)
Net assets	淨資產	224,158	228,835	93,210	38,111
Net assets, excluding goodwill	淨資產，不包括商譽	224,158	228,835	93,210	38,111
Reconciliation to the Group's interest in the associate:	本集團於聯營公司的權益對賬：				
Proportion of the Group's interest in the associate	本集團於聯營公司的權益比例	50%	50%	20%	20%
Carrying amount of the investment	投資賬面值	112,079	114,418	18,642	7,622
		Huahong Technology Development 華虹科技發展		Huahong Investment Development 華虹投資發展	
		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元	2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Revenue	收入	26,283	29,423	850	104
Profit and total comprehensive income	溢利及全面收益總額	14,832	13,342	23,775	470

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18. FINANCIAL INVESTMENTS

18. 金融投資

	2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Equity investments designated at fair value through other comprehensive income: 指定為按公平值計入其他全面收益的股本投資:		
Listed equity investments 上市股本投資	2,442	14,310
Unlisted equity investments 非上市股本投資	176,190	243,478
	178,632	257,788

Equity investments designated at fair value through other comprehensive income are listed equity investment in Shanghai Awinic Technology Co., Ltd. and unlisted equity investments in Shanghai Huali Microelectronics Corporation ("Shanghai Huali") and QST Corporation ("QST") with carrying amounts of US\$174,170,000 and US\$2,020,000, respectively, which were irrevocably designated at fair value through other comprehensive income as the Group considers these investments to be strategic in nature.

指定為按公平值計入其他全面收益的股本投資為上海艾為電子技術股份有限公司的上市股本投資以及賬面值分別為174,170,000美元及2,020,000美元的上海華力微電子有限公司(「上海華力」)及上海矽睿科技有限公司(「矽睿科技」)的非上市股本投資，而本集團認為該等投資不可撤回地指定為按公平值計入其他全面收益，乃由於該等投資屬策略性質。

NOTES TO FINANCIAL STATEMENTS

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19. PROPERTIES UNDER DEVELOPMENT

19. 發展中物業

		2022 二零二二年 US\$'000 千美元
Carrying amount at 1 January	於一月一日的賬面值	114,492
Additions	添置	20,231
As at 31 December	於十二月三十一日	134,723

The Group's properties under development are recognised in leasehold land situated in Mainland China.

本集團發展中物業於中國內地租賃土地內確認。

As at 31 December 2022, the Group's properties under development with an aggregate carrying amount of approximately US\$88,033,000 (31 December 2021: Nil) were pledged to secure bank and other borrowings granted to the Group (note 26).

截至二零二二年十二月三十一日，本集團發展中物業賬面總值約88,033,000美元(二零二一年十二月三十一日：無)已抵押予以換取授予本集團銀行及其他借款(附註26)。

20. INVENTORIES

20. 存貨

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Raw materials	原材料	255,511	185,541
Work in progress	在製品	179,510	139,754
Finished goods	製成品	171,039	126,119
		606,060	451,414
Provision for inventories	存貨撥備	(28,000)	(18,497)
		578,060	432,917

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二零二二年十二月三十一日 財務報表附註

21. TRADE AND NOTES RECEIVABLES

21. 貿易應收款項及應收票據

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Trade receivables	貿易應收款項	229,409	154,339
Notes receivables	應收票據	64,038	28,424
		293,447	182,763
Impairment of trade receivables	貿易應收款項減值	(1,591)	(1,721)
		291,856	181,042

The Group's trading terms with its customers are mainly on credit and the credit period is generally 30 to 60 days. There is no significant concentration of credit risk. The Group does not hold any collateral or other credit enhancements over its trade receivable balances. Trade receivables are non-interest-bearing.

An ageing analysis of the trade receivables, based on the invoice date and net of loss allowances, is as follows:

本集團與其客戶的貿易賬期以信貸為主，信貸期一般為30至60天。本集團並無重大集中信貸風險。本集團並無就其貿易應收款項餘額持有任何抵押品或採取其他信貸提升措施。貿易應收款項為免息。

按發票日期計，貿易應收款項(扣除虧損撥備)的賬齡分析如下：

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Within 3 months	3個月以內	212,563	149,900
3 to 6 months	3至6個月	15,255	2,718
		227,818	152,618

The movements in loss allowance for impairment of trade receivables are as follows:

貿易應收款項減值虧損撥備的變動如下：

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
At 1 January	於一月一日	1,721	1,619
Impairment losses, net (note 6)	減值虧損淨額(附註6)	(16)	273
Write-off	撇銷	-	(199)
Exchange realignment	匯兌調整	(114)	28
As at 31 December	於十二月三十一日	1,591	1,721

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財務報表附註

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二零二二年十二月三十一日

21. TRADE AND NOTES RECEIVABLES (continued)

The Group applies a simplified approach in calculating ECLs prescribed by HKFRS 9, which permits the use of the lifetime expected loss for all trade and notes receivables. To measure the expected credit losses, trade and notes receivables have been grouped based on shared credit risk characteristics and the days past due. The expected credit losses have also incorporated forward-looking information. The expected credit loss rates for trade and notes receivables that were not yet past due or aged within 3 months are minimal.

An impairment analysis is performed at each reporting date using a provision matrix to measure expected credit losses. The provision rates are based on days past due for groupings of various customer segments with similar loss patterns (i.e., by geographical region, product type, customer type and rating, and coverage by letters of credit or other forms of credit insurance). The calculation reflects the probability-weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions. Generally, trade receivables are written off if past due for more than one year and are not subject to enforcement activity.

Set out below is the information about the credit risk exposure on the Group's trade receivables using a provision matrix:

21. 貿易應收款項及應收票據 (續)

本集團採用香港財務報告準則第9號訂明計算預期信貸虧損之簡化方法，該準則允許就所有貿易應收款項及應收票據採用整個存續期的預期虧損。為計量預期信貸虧損，貿易應收款項及應收票據已根據共同信貸風險特性及逾期天數進行分組。預期信貸虧損亦包含前瞻性資料。尚未逾期或賬齡為3個月以內的貿易應收款項及應收票據的預期信貸損失率極低。

於各報告日期採用撥備矩陣進行減值分析，以計量預期信貸虧損。撥備率乃基於具有類似虧損模式的多個客戶分部組別（即按地區、產品類型、客戶類型及評級、以及信用證或其他形式的信用保險承保範圍劃分）的逾期天數釐定。該計算反映概率加權結果、貨幣時值及於報告日期可得的有關過往事項、當前狀況及未來經濟條件預測的合理及可靠資料。一般而言，倘貿易應收款項逾期超過一年及毋須受限於強制執行活動，則予以撇銷。

下文載列本集團使用撥備矩陣計算的貿易應收款項信用風險敞口的資料：

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(continued)

The credit quality of the trade receivables is as follows:

As at 31 December 2022

		Past due 逾期			Total 合計
		Current 即期	Less than 3 months 少於3個月	Over 1 year 一年以上	
Expected credit loss rate	預期信貸虧損率	0.07%	1.63%	100.00%	0.69%
Gross carrying amount (US\$'000)	賬面總值 (千美元)	224,961	3,065	1,383	229,409
Expected credit losses (US\$'000)	預期信貸虧損 (千美元)	158	50	1,383	1,591

As at 31 December 2021

於二零二一年十二月三十一日

		Past due 逾期			Total 合計
		Current 即期	Less than 3 months 少於3個月	Over 1 year 一年以上	
Expected credit loss rate	預期信貸虧損率	0.18%	1.40%	100.00%	1.12%
Gross carrying amount (US\$'000)	賬面總值 (千美元)	152,329	570	1,440	154,339
Expected credit losses (US\$'000)	預期信貸虧損 (千美元)	273	8	1,440	1,721

21. 貿易應收款項及應收票據
(續)

貿易應收款項的信貨質量如下：

於二零二二年十二月三十一日

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22. PREPAYMENTS, OTHER RECEIVABLES AND OTHER ASSETS

22. 預付款項、其他應收款項及其他資產

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Other receivables	其他應收款項	24,476	23,485
Prepayments and other assets	預付款項及其他資產	4,009	13,707
Value-added input tax	增值稅進項稅額	20,687	7,206
		49,172	44,398
Impairment of other receivables	其他應收款項減值	(899)	(955)
		48,273	43,443

Other receivables are repayable on demand.

其他應收款項則須按要求償還。

The movements in the loss allowance for impairment of other receivables are as follows:

其他應收款項減值撥備虧損的變動如下：

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
At 1 January	於一月一日	955	940
Exchange realignment	匯兌調整	(56)	15
As at 31 December	於十二月三十一日	899	955

The Group applies a general approach in calculating ECLs for other receivables. Other receivables related to debtors that are in default are classified as Stage 3 and the lifetime ECL rate was estimated to be 100% based on historical credit loss experience, resulting in an impairment balance of US\$899,000 (2021: US\$955,000). The remaining other receivables are classified as Stage 1 without any significant increase in credit risk tracked since initial recognition. Their recoverability was assessed with reference to the credit status of the debtors, and the expected credit losses as at 31 December 2022 and 2021 were considered to be insignificant.

本集團採用一般方法計算其他應收款項的預期信貸虧損。與違約債務人相關的其他應收款項歸類為第三階段，根據歷史信貸虧損經驗估計全期預期信貸虧損率為100%，因此減值結餘為899,000美元(二零二一年：955,000美元)。其餘其他應收款項歸類為第一階段，自初步確認後追蹤的信貸風險並無任何重大增加。其可收回性參照債務人的信用狀況評定，而截至二零二二年及二零二一年十二月三十一日的預期信貸虧損被視為不重大。

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23. CASH AND CASH EQUIVALENTS AND PLEDGED DEPOSITS

23. 現金及現金等價物以及已抵押存款

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Cash and bank balances	現金及銀行結餘	736,530	379,995
Time deposits	定期存款	1,273,277	1,232,393
		2,009,807	1,612,388
Less: pledged deposits	減：已抵押存款		
Pledged deposits	已抵押存款	(1,015)	(2,221)
Others	其他	(27)	(27)
Cash and cash equivalents	現金及現金等價物	2,008,765	1,610,140

At the end of the reporting period, the cash and bank balances and time deposits of the Group denominated in Renminbi ("RMB") amounted to US\$1,305,378,000 (2021: US\$975,405,000). The RMB is not freely convertible into other currencies, however, under Mainland China's Foreign Exchange Control Regulations and Administration of Settlement, and Sale and Payment of Foreign Exchange Regulations, the Group is permitted to exchange RMB for other currencies through banks authorised to conduct foreign exchange business.

Cash at banks earns interest at floating rates based on daily bank deposit rates. Short term time deposits are made for varying periods of between seven days and three months depending on the immediate cash requirements of the Group and earn interest at the respective short term time deposit rates. The bank balances are deposited with creditworthy banks with no recent history of default.

於報告期末，本集團的現金及銀行結餘以及定期存款乃以人民幣（「人民幣」）計值，為1,305,378,000美元（二零二一年：975,405,000美元）。人民幣不可自由兌換為其他貨幣。然而，根據中國內地的《外匯管理條例》及《結匯、售匯及付匯管理規定》，本集團獲准透過獲授權開展外匯業務的銀行將人民幣兌換為其他貨幣。

銀行現金乃根據每日銀行存款利率按浮動利率計息。短期的定期存款乃視乎本集團的即時現金需求為期七日至三個月不等，按各短期定期存款的利率賺取利息。銀行結餘乃存放於信譽良好且近期並無違約記錄的銀行。

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24. TRADE PAYABLES

An ageing analysis of the trade payables of the Group as at the end of the reporting period, based on the invoice date, is as follows:

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Within 1 month	1個月以內	141,338	131,102
1 to 3 months	1至3個月	60,772	41,450
3 to 6 months	3至6個月	11,699	7,223
6 to 12 months	6至12個月	9,388	2,767
Over 12 months	12個月以上	13,802	11,843
		236,999	194,385

The trade payables are unsecured, non-interest-bearing and are normally settled on terms of 30 to 60 days.

於各報告期末按發票日期計，本集團貿易應付款項的賬齡分析如下：

貿易應付款項為無抵押、不計息及一般於30天至60天期限內結清。

25. OTHER PAYABLES AND ACCRUALS

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Other payables and accruals	其他應付款項及暫估費用	318,917	307,416
Contract liabilities	合約負債	192,588	182,453
Payroll and bonus payables	應付薪金及花紅	82,439	70,539
Others	其他	27	27
		593,971	560,435

Other payables are unsecured, non-interest-bearing and repayable on demand.

As at 1 January 2021, the carrying amount of contract liabilities was US\$82,720,000.

During the year ended 31 December 2022, contract liabilities of US\$182,453,000 (2021: US\$82,720,000) at the beginning of the year were recognised as revenue. The increase in contract liabilities in 2022 and 2021 was mainly due to the increase in short-term advances received from customers in relation to the sale of semiconductor products.

25. 其他應付款項及暫估費用

其他應付款項無抵押、免息及須於要求時償還。

於二零二一年一月一日，合約負債賬面值為82,720,000美元。

截至二零二二年十二月三十一日止年度，年初182,453,000美元(二零二一年：82,720,000美元)的合約負債被確認為收入。於二零二二年及二零二一年的合約負債增加主要是由於與銷售半導體產品有關的客戶短期墊款增加。

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26. INTEREST-BEARING BANK BORROWINGS

26. 計息銀行借款

		2022 二零二二年		
		Effective interest rate (%) 實際利率(%)	Maturity 到期	US\$'000 千美元
Current	流動			
Bank loans – unsecured	銀行貸款 – 無抵押	0.55-5.50 0.55至5.50	2023 二零二三年	314,039
Current portion of long-term bank loans – secured	長期銀行貸款的即期 部份 – 有抵押	1.20-6.30 1.20至6.30	2023 二零二三年	112,717
				426,756
Non-current	非流動			
Secured bank loans	有抵押銀行貸款	1.20-6.63 1.20至6.63	2024-2030 二零二四年 – 二零三零年	1,451,580
Unsecured bank loans	無抵押銀行貸款	2.00	2024-2030 二零二四年 – 二零三零年	30,000
				1,481,580
				1,908,336
		2021 二零二一年		
		Effective interest rate (%) 實際利率(%)	Maturity 到期	US\$'000 千美元
Current	流動			
Bank loans – unsecured	銀行貸款 – 無抵押	0.78-1.14 0.78至1.14	2022 二零二二年	180,989
Current portion of long term bank loans – secured	長期銀行貸款的即期 部份 – 有抵押	1.20-4.10 1.20至4.10	2022 二零二二年	14,035
				195,024
Non-current	非流動			
Secured bank loans	有抵押銀行貸款	0-4.10 0至4.10	2023-2028 二零二三年至二零二八年	1,395,279
				1,590,303

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二零二二年十二月三十一日26. INTEREST-BEARING BANK BORROWINGS
(continued)

26. 計息銀行借款 (續)

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Analysed into:	分析為:		
Bank loans repayable:	應償還銀行貸款:		
Within one year	一年內	426,756	195,024
In the second year	第二年	183,281	107,943
In the third to fifth years, inclusive	第三至第五年 (包括首尾兩年)	827,919	677,961
After five years	五年後	470,380	609,375
		1,908,336	1,590,303

Except for bank loans of US\$132,562,000 (2021: US\$30,249,000) which are denominated in RMB, all borrowings are dominated in United States dollars.

除132,562,000美元(二零二一年: 30,249,000美元)的銀行貸款以人民幣計值外,所有借款均以美元計值。

As at 31 December 2022 and 2021, certain of the Group's bank loans were secured by pledges of the Group's assets with carrying values as follows:

於二零二二年及二零二一年十二月三十一日,本集團的若干銀行貸款由抵押本集團的資產作擔保,資產的賬面值如下:

			2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
		<i>Notes</i> <i>附註</i>		
Property, plant and equipment	物業、廠房及設備	13	1,803,095	2,256,289
Right-of-use assets	使用權資產	15	50,231	46,604
Properties under development	發展中物業	19	88,033	-
			1,941,359	2,302,893

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27. LEASE LIABILITIES

27. 租賃負債

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Carrying amount at 1 January	於一月一日的賬面值	17,813	21,640
Additions	添置	6,394	-
Accretion of interest	利息增加	880	879
Payments	付款	(4,144)	(4,878)
Exchange realignment	匯兌調整	(1,595)	172
Carrying amount at 31 December	於十二月三十一日的賬面值	19,348	17,813

The maturity profile of lease liabilities as at 31 December 2022 is as follows:

租賃負債於二零二二年十二月三十一日的到期情況如下：

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Within one year	一年內	5,458	2,437
In the second year	第二年	2,615	1,842
In the third to fifth years, inclusive	第三至第五年 (包括首尾兩年)	5,059	5,527
After five years	五年後	10,119	12,895
Total undiscounted lease liabilities	未貼現租賃負債總額	23,251	22,701
Discount amount	貼現額	(3,903)	(4,888)
Total present value of lease liabilities	租賃負債的總現值	19,348	17,813
Current portion	即期部分	4,704	1,676
Non-current portion	非即期部分	14,644	16,137

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Analysed into:	分析為:		
Within one year	一年內	4,704	1,676
In the second year	第二年	2,014	1,142
In the third to fifth years, inclusive	第三至第五年 (包括首尾兩年)	3,622	3,772
After five years	五年後	9,008	11,223
Total present value of lease liabilities	租賃負債的總現值	19,348	17,813

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28. DEFERRED TAX

The movements in deferred tax liabilities and assets during the year are as follows:

Deferred tax liabilities

		Fair value gains on financial investments	Fair value gain on an investment property	Withholding tax	Difference of fixed assets between accounting and tax basis	Total
		金融投資的公平值收益	投資物業的公平值收益	預扣稅	固定資產稅會差異	總計
		US\$'000	US\$'000	US\$'000	US\$'000	US\$'000
		千美元	千美元	千美元	千美元	千美元
As at 1 January 2021	於二零二一年一月一日	2,114	585	10,922	-	13,621
Deferred tax charged/ (credited) to profit or loss during the year (note 10)	年內扣自/(計入)損益的遞延稅項(附註10)	-	27	14,813	-	14,840
Deferred tax charged to other comprehensive income during the year	年內扣自其他全面收益的遞延稅項	2,335	-	-	-	2,335
Exchange realignment	匯兌調整	79	14	-	-	93
As at 31 December 2021 and 1 January 2022	於二零二一年十二月三十一日及二零二二年一月一日	4,528	626	25,735	-	30,889
Deferred tax charged to profit or loss during the year (note 10)	年內扣自損益的遞延稅項(附註10)	-	12	15,533	3,566	19,111
Deferred tax charged to other comprehensive income during the year	年內扣自其他全面收益的遞延稅項	(4,528)	-	-	-	(4,528)
Exchange realignment	匯兌調整	-	(48)	-	55	7
Gross deferred tax liabilities as at 31 December 2022	於二零二二年十二月三十一日遞延稅項負債總額	-	590	41,268	3,621	45,479

Pursuant to the PRC Corporate Income Tax Law, a 10% withholding tax is levied on dividends declared to foreign investors from the foreign investment enterprises established in Mainland China. The Group is therefore liable for withholding taxes on dividends distributed by those subsidiaries established in Mainland China in respect of earnings generated from 1 January 2008. A lower withholding tax rate may be applied if there is a tax treaty between Mainland China and the jurisdiction of the foreign investors.

There are no income tax consequences attaching to the payment of dividends by the Company to its shareholders.

28. 遞延稅項

年內遞延稅項負債及資產的變動如下：

遞延稅項負債

根據《中華人民共和國企業所得稅法》，於中國內地成立的外資企業向外國投資者宣派的股息須按10%繳納預扣稅。因此，本集團須就於中國內地成立的該等子公司自二零零八年一月一日起產生的盈利所分派的股息繳納預扣稅。倘中國內地與外國投資者所屬司法權區間訂有稅務協定，可能適用較低的預扣稅率。

本公司向其股東派付股息並無附帶任何所得稅後果。

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28. DEFERRED TAX (continued)

Deferred tax is not recognised in respect of the Group's investments in associates where the Group is able to control the timing of remittance or other realisation and where remittance or realisation is not probable in the foreseeable future. The aggregate temporary differences relating to unrecognised deferred tax liabilities arising on investments in associates is US\$77,595,000 (2021: US\$71,536,000).

Deferred tax assets

		Write-down of inventories and impairment of receivables	Accruals	Leases	Losses available for offsetting against future taxable profits 可用來抵銷 未來應課稅 溢利的虧損	Fair value loss on financial investments 金融投資的 公平值虧損	Government Grants 政府補助	Total
		存貨撇減及 應收款項減值 US\$'000 千美元	暫估費用 US\$'000 千美元	租賃 US\$'000 千美元	US\$'000 千美元	US\$'000 千美元	US\$'000 千美元	總計 US\$'000 千美元
As at 1 January 2021	於二零二一年一月一日	2,369	5,740	370	486	-	-	8,965
Deferred tax credited to profit or loss during the year (note 10)	於二零二一年一月一日 年內計入損益的 遞延稅項(附註10)	109	(203)	22	(486)	-	-	(558)
Deferred tax charged to other comprehensive income during the year	年內扣自其他全面收益 的遞延稅項	-	-	-	-	-	-	-
Exchange realignment	匯兌調整	56	161	9	-	-	-	226
As at 31 December 2021 and 1 January 2022	於二零二一年 十二月三十一日及 二零二二年一月一日	2,534	5,698	401	-	-	-	8,633
Deferred tax credited/ (charged) to profit or loss during the year (note 10)	於二零二一年 十二月三十一日及 二零二二年一月一日 年內計入/(扣自)損益 的遞延稅項(附註10)	571	1,469	24	-	-	4,607	6,671
Deferred tax charged to other comprehensive income during the year	年內扣自其他全面收益 的遞延稅項	-	-	-	-	3,820	-	3,820
Exchange realignment	匯兌調整	(241)	(702)	(34)	-	59	70	(848)
Gross deferred tax assets as at 31 December 2022	於二零二二年 十二月三十一日 遞延稅項資產總額	2,864	6,465	391	-	3,879	4,677	18,276

28. 遞延稅項(續)

若本集團可控制其於聯營公司的投資的匯款或以其他方式變現的時間，以及於可見未來匯款或變現的機會不大，本集團將不會就此等投資確認遞延稅項。有關於聯營公司投資產生的未確認遞延稅項負債之暫時差異總額為77,595,000美元(二零二一年：71,536,000美元)。

遞延稅項資產

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28. DEFERRED TAX (continued)

For presentation purposes, certain deferred tax assets and liabilities have been offset in the statement of financial position. The following is an analysis of the deferred tax balances of the Group for financial reporting purposes:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Net deferred tax assets recognised in the consolidated statement of financial position	於綜合財務狀況表確認的遞延稅項資產淨額	14,066	3,479
Net deferred tax liabilities recognised in the consolidated statement of financial position	於綜合財務狀況表確認的遞延稅項負債淨額	(41,268)	(25,735)
Net deferred tax liabilities	遞延稅項負債淨額	(27,202)	(22,256)

Deferred tax assets have not been recognised in respect of the following items:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Unused tax losses	未動用稅項虧損	29,540	22,332
Deductible temporary differences	可扣減暫時差額	17,876	17,018
		47,416	39,350

The Group has tax losses arising in Hong Kong of US\$22,576,000 (2021: US\$18,800,000) that are available indefinitely for offsetting against future taxable profits of the companies in which the losses arose. The Group also has tax losses arising in Mainland China of US\$6,964,000 (2021: US\$3,532,000) that will expire in one to five years for offsetting against future taxable profits.

28. 遞延稅項 (續)

出於呈列目的，若干遞延稅項資產及負債已在財務狀況表中抵銷。以下為就財務報告目的對本集團遞延稅項結餘進行的分析：

以下項目並無確認遞延稅項資產：

本集團在香港產生的稅項虧損為22,576,000美元(二零二一年：18,800,000美元)，可無限期抵銷產生虧損的公司的未來應課稅溢利。本集團亦於中國內地產生稅項虧損6,964,000美元(二零二一年：3,532,000美元)，將於一至五年內到期以抵銷未來應課稅溢利。

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28. DEFERRED TAX (continued)

Deferred tax assets have not been recognised in respect of these losses as they have arisen in subsidiaries that have been loss-making for some time and it is not considered probable that taxable profits will be available against which the tax losses can be recognised.

Deferred tax assets have not been recognised in respect of the temporary differences as it is not considered probable that the above items can be recognised.

28. 遞延稅項 (續)

由於遞延稅項資產乃源自已虧損多時的子公司，且不大可能有應課稅溢利可用以抵銷可予確認的稅項虧損，故並無就該等虧損確認遞延稅項資產。

由於認為上述項目不大可能得到確認，故並無就暫時差額確認遞延稅項資產。

29. GOVERNMENT GRANTS

29. 政府補助

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
At 1 January	於一月一日	66,837	58,926
Additions	添置	58,237	154,965
Released to offsetting research and development costs	撥入以抵銷研發成本	(31,368)	(65,596)
Released to offset finance costs	撥入以抵銷財務費用	(11,100)	-
Offset with long term assets	抵銷長期資產	(38,414)	(83,594)
Exchange realignment	匯兌調整	(6,478)	2,136
As at 31 December	於十二月三十一日	37,714	66,837

The Group received government funding for several government-sponsored projects focusing on the research and development of advanced technologies.

本集團的多個政府資助項目均獲得政府撥付資金資助，該等項目專注於研發先進技術。

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30. SHARE CAPITAL

30. 股本

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Issued and fully paid:	已發行及繳足:		
1,306,836,740 (2021: 1,301,191,585) ordinary shares	1,306,836,740股(二零二一年: 1,301,191,585股)普通股	1,994,462	1,986,152

A summary of movements in the Company's share capital is as follows:

本公司股本的變動概述如下:

		Number of shares in issue 已發行股份數目 '000 千股	Amount of share capital 股本金額 US\$'000 千美元
At 1 January 2021	於二零二一年一月一日	1,297,818	1,979,033
Share options exercised (note (a))	行使購股權(附註(a))	3,374	7,119
At 31 December 2021 and 1 January 2022	於二零二一年十二月三十一日及 二零二二年一月一日	1,301,192	1,986,152
Share options exercised (note (a))	行使購股權(附註(a))	5,645	8,310
At 31 December 2022	於二零二二年十二月三十一日	1,306,837	1,994,462

Note:

附註:

(a) The subscription rights attaching to 4,738,000 (2021: 1,197,000) share options under the 2015 Options were exercised at the subscription price of HK\$6.912 per share (2021: HK\$6.912 per share), resulting in the issue of 4,738,000 (2021: 1,197,000) shares for a total cash consideration of US\$4,173,000 (2021: US\$1,065,000). An amount of US\$1,803,000 (2021: US\$465,000) was transferred from the share option reserve to share capital upon exercise of the share options.

(a) 根據二零一五年購股權, 4,738,000份(二零二一年: 1,197,000份)購股權附帶之認購權已按認購價每股6.912港元(二零二一年: 每股6.912港元)行使, 引致發行4,738,000股(二零二一年: 1,197,000股)股份, 總現金代價為4,173,000美元(二零二一年: 1,065,000美元)。購股權獲行使後, 1,803,000美元(二零二一年: 465,000美元)款項已由購股權儲備轉撥至股本。

(b) The subscription rights attaching to 907,000 (2021: 2,177,000) share options under the 2018 Options were exercised at the subscription prices of HK\$15.056 and HK\$17.952 per share (2021: HK\$15.056 and HK\$17.952), resulting in the issue of 907,000 (2021: 2,177,000) shares for a total cash consideration of US\$1,768,000 (2021: US\$4,235,000). An amount of US\$566,000 (2021: US\$1,354,000) was transferred from the share option reserve to share capital upon exercise of the share options.

(b) 根據二零一八年購股權, 907,000份(二零二一年: 2,177,000份)購股權附帶之認購權已按認購價每股15.056港元以及17.952港元(二零二一年: 15.056港元及17.952港元)行使, 引致發行907,000股(二零二一年: 2,177,000股)股份, 總現金代價為1,768,000美元(二零二一年: 4,235,000美元)。購股權獲行使後, 566,000美元(二零二一年: 1,354,000美元)款項已由購股權儲備轉撥至股本。

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31. SHARE OPTION SCHEME

The Company operates a share option scheme (the “Scheme”) for the purpose of providing incentives and rewards to eligible participants who contribute to the success of the Group’s operations. The Scheme includes two batches, each of which was effective on 4 September 2015 (the “2015 Options”) and on 24 December 2018 (the “2018 Options”), respectively. Eligible participants of the Scheme include the Company’s directors, including a non-executive director, an executive director and other employees of the Group. The share options, unless otherwise cancelled or amended, will remain in force for 7 years from the respective effective dates.

The maximum number of unexercised share options currently permitted to be granted under the Scheme is an amount equivalent, upon their exercise, to 10% of the shares of the Company in issue at any time. The maximum number of shares issuable under share options to each eligible participant in the Scheme within any 12-month period is limited to 1% of the shares of the Company in issue at any time. Any further grant of share options in excess of this limit is subject to shareholders’ approval in a general meeting.

Share options granted to a director, chief executive or substantial shareholder of the Company, or to any of their associates, are subject to approval in advance by the independent non-executive directors. In addition, any share options granted to a substantial shareholder or an independent non-executive director of the Company, or to any of their associates, in excess of 0.1% of the shares of the Company in issue at any time or with an aggregate value (based on the price of the Company’s shares at the date of grant) in excess of HK\$5 million, within any 12-month period, are subject to shareholders’ approval in advance in a general meeting.

The exercise period of the share options granted is determinable by the directors, and commences after a vesting period of two to five years and ends on a date which is not later than the expiry date of the Scheme.

31. 購股權計劃

本公司設有一項購股權計劃(「該計劃」),旨在為對本集團順利發展有所貢獻之符合資格參與者提供激勵及獎勵。該計劃分為兩批,各自分別於二零一五年九月四日(「二零一五年購股權」)及二零一八年十二月二十四日(「二零一八年購股權」)生效。該計劃之符合資格參與者包括本公司董事(包括一名非執行董事、一名執行董事)及本集團其他僱員。除非另被取消或修訂,該等購股權將由各生效日期起計7年內有效。

現時可根據該計劃授出之未行使購股權數目不得超過該等購股權行使後本公司不時已發行股份之10%。於任何十二個月期間,該計劃各符合資格參與者根據購股權可獲發行之股份數目不得超過本公司任何時候已發行股份之1%。進一步授予超出此限額之購股權則須股東在股東大會上批准。

向本公司董事、最高行政人員或主要股東或彼等之任何聯繫人士授予購股權須事先取得獨立非執行董事批准。此外,倘若於任何十二個月期間,授予本公司主要股東或獨立非執行董事或彼等各自之任何聯繫人士之購股權超出本公司任何時候已發行股份之0.1%或總值(根據授出日期本公司股份價格計算)超過500萬港元,則須事先在股東大會上取得股東批准。

已授出購股權之行使期由董事決定,並於二至五年歸屬期後開始以及於該計劃屆滿之日前終止。

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31. SHARE OPTION SCHEME (continued)

The exercise price of share options is determinable by the directors, but may not be less than the higher of (i) the Stock Exchange closing price of the Company's shares on the date of offer of the share options; and (ii) the average Stock Exchange closing price of the Company's shares for the five trading days immediately preceding the date of offer.

Share options do not confer rights on the holders to dividends or to vote at shareholders' meetings.

2015 Options

The following 2015 Options were outstanding during the year:

31. 購股權計劃(續)

購股權之行使價為由董事釐定，惟不得少於以下兩者之最高者：(i)本公司股份於授予購股權日期在聯交所之收市價；及(ii)本公司股份於緊接授出日期前五個交易日在聯交所之平均收市價。

購股權並非附帶可令持有人獲得股息或於股東大會投票的權利。

二零一五年購股權

年內，以下購股權尚未根據二零一五年購股權獲行使：

		2022 二零二二年		2021 二零二一年	
		Weighted average exercise price HK\$ per share 加權平均 行使價 每股港元	Number of options '000 購股權數目 千份	Weighted average exercise price HK\$ per share 加權平均 行使價 每股港元	Number of options '000 購股權數目 千份
At 1 January	於一月一日	6.912	4,738	6.912	5,935
Exercised during the year	年內行使	6.912	(4,738)	6.912	(1,197)
At 31 December	於十二月三十一日	—	—	6.912	4,738

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31. SHARE OPTION SCHEME (continued)

2015 Options (continued)

The exercise prices and exercise periods of the outstanding 2015 Options as at the end of the reporting period are as follows:

2022 二零二二年	2021 二零二一年	Exercise price* 行使價*	Exercise period 行使期
Number of options 購股權數目	Number of options 購股權數目	HK\$ per share 每股港元	
'000 千份	'000 千份		
—	1,952	6.912	4 September 2018 to 3 September 2022 二零一八年九月四日至二零二二年九月三日
—	2,786	6.912	4 September 2019 to 3 September 2022 二零一九年九月四日至二零二二年九月三日
—	4,738		

* The exercise price of the share options is subject to adjustment in the case of rights or bonus issues, or other similar changes in the Company's share capital.

The 4,738,000 (2021: 1,197,000) share options exercised under the 2015 Options during the year, resulting in the issue of 4,738,000 (2021: 1,197,000) ordinary shares of the Company for a total cash consideration of US\$4,173,000 (2021: US\$1,065,000). An amount of US\$1,803,000 (2021: US\$465,000) was transferred from the share option reserve to share capital upon the exercise of the share options, as further detailed in note 30 to the financial statements.

31. 購股權計劃 (續)

二零一五年購股權 (續)

於報告期末二零一五年購股權項下尚未行使購股權的行使價及行使期如下：

Exercise price* 行使價*	Exercise period 行使期
HK\$ per share 每股港元	
6.912	4 September 2018 to 3 September 2022 二零一八年九月四日至二零二二年九月三日
6.912	4 September 2019 to 3 September 2022 二零一九年九月四日至二零二二年九月三日

* 倘若進行供股或紅股發行，或本公司之股本有其他類似改動，則購股權之行使價可予調整。

年內，二零一五年購股權項下4,738,000份(二零二一年：1,197,000份)購股權獲行使，引致本公司發行4,738,000股(二零二一年：1,197,000股)普通股，總現金代價為4,173,000美元(二零二一年：1,065,000美元)。如財務報表附註30進一步詳述，購股權獲行使後，1,803,000美元(二零二一年：465,000美元)的款項已由購股權儲備轉撥至股本。

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31. SHARE OPTION SCHEME (continued)

2018 Options

The following 2018 Options were outstanding during the year:

31. 購股權計劃 (續)

二零一八年購股權

年內，以下購股權尚未根據二零一八年購股權獲行使：

		2022		2021	
		二零二二年		二零二一年	
		Weighted average exercise price HK\$ per share	Number of options '000	Weighted average exercise price HK\$ per share	Number of options '000
		加權平均 行使價 每股港元	購股權數目 千份	加權平均 行使價 每股港元	購股權數目 千份
At 1 January	於一月一日	15.317	24,963	15.310	33,547
Exercised during the year	年內行使	15.244	(907)	15.088	(2,177)
Forfeited during the year	年內沒收	15.403	(618)	15.357	(6,407)
At 31 December	於十二月三十一日	15.318	23,438	15.317	24,963

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31. SHARE OPTION SCHEME (continued)

2018 Options (continued)

The exercise prices and exercise periods of the 2018 Options outstanding as at the end of the reporting period are as follows:

2022 二零二二年 Number of options 購股權數目 '000 千份	2021 二零二一年 Number of options 購股權數目 '000 千份	Exercise price* 行使價* HK\$ per share 每股港元	Exercise period 行使期
6,523	6,954	15.056	24 December 2020 to 23 December 2025 二零二零年十二月二十四日至二零二五年十二月二十三日
4,512	4,943	15.056	24 December 2021 to 23 December 2025 二零二一年十二月二十四日至二零二五年十二月二十三日
9,429	9,859	15.056	24 December 2022 to 23 December 2025 二零二二年十二月二十四日至二零二五年十二月二十三日
925	1,025	15.056	24 December 2023 to 23 December 2025 二零二三年十二月二十四日至二零二五年十二月二十三日
62	62	18.400	29 March 2021 to 28 March 2026 二零二一年三月二十九日至二零二六年三月二十八日
125	125	18.400	29 March 2022 to 28 March 2026 二零二二年三月二十九日至二零二六年三月二十八日
125	125	18.400	29 March 2023 to 28 March 2026 二零二三年三月二十九日至二零二六年三月二十八日
125	125	18.400	29 March 2024 to 28 March 2026 二零二四年三月二十九日至二零二六年三月二十八日
256	316	17.952	23 December 2021 to 22 December 2026 二零二一年十二月二十三日至二零二六年十二月二十二日
639	677	17.952	23 December 2022 to 22 December 2026 二零二二年十二月二十三日至二零二六年十二月二十二日
642	677	17.952	23 December 2023 to 22 December 2026 二零二三年十二月二十三日至二零二六年十二月二十二日
75	75	17.952	23 December 2024 to 22 December 2026 二零二四年十二月二十三日至二零二六年十二月二十二日
23,438	24,963		

* The exercise price of the share options is subject to adjustment in the case of rights or bonus issues, or other similar changes in the Company's share capital.

* 倘若進行供股或紅股發行，或本公司之股本有其他類似改動，則購股權之行使價可予調整。

31. 購股權計劃 (續)

二零一八年購股權 (續)

於報告期末二零一八年購股權項下尚未行使購股權的行使價及行使期如下：

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31. SHARE OPTION SCHEME (continued)

2018 Options (continued)

The Group recognised a share option expense of the 2018 Options of US\$1,226,000 (2021: US\$296,000) during the year.

The 907,000 (2021: 2,177,000) share options exercised under the 2018 Options during the year, resulting in the issue of 907,000 (2021: 2,177,000) ordinary shares of the Company for a total cash consideration of US\$1,768,000 (2021: US\$4,235,000). An amount of US\$566,000 (2021: US\$1,354,000) was transferred from the share option reserve to share capital upon the exercise of the share options, as further detailed in note 30 to the financial statements.

At the end of the reporting period, the Company had 23,438,000 2018 Options outstanding. The exercise in full of the outstanding share options would, under the present capital structure of the Company, result in the issue of 23,438,000 additional ordinary shares of the Company and additional share capital of US\$60,844,000 (including US\$14,796,000 transferred from the share option reserve to share capital).

At the date of approval of these financial statements, the Company had 22,670,809 2018 Options outstanding, which represented approximately 1.73% of the Company's shares in issue as at that date.

32. RESERVES

The amounts of the Group's reserves and the movements therein for the current and prior years are presented in the consolidated statement of changes in equity on pages 233 to 234 of the financial statements.

According to the relevant PRC laws and regulations for wholly-foreign-owned enterprises, which are applicable to the Company's subsidiaries in the PRC, profits of the PRC subsidiaries, as determined in accordance with the applicable accounting rules and regulations in the PRC, are available for distribution in the form of cash dividends to the Company after the PRC subsidiaries have (1) satisfied all tax liabilities; (2) provided for losses in previous years; and (3) made appropriations to the statutory reserve funds. The Company's subsidiaries in the PRC are required to appropriate not less than 10% of their profit after taxation to the statutory reserve funds until the reserve balance reaches 50% of their registered capital.

31. 購股權計劃 (續)

二零一八年購股權 (續)

本集團於年內根據二零一八年購股權確認購股權開支1,226,000美元(二零二一年: 296,000美元)。

年內,二零一八年購股權項下907,000份(二零二一年: 2,177,000份)購股權獲行使,引致本公司發行907,000股(二零二一年: 2,177,000股)普通股,總現金代價為1,768,000美元(二零二一年: 4,235,000美元)。如財務報表附註30進一步詳述,購股權獲行使後,566,000美元(二零二一年: 1,354,000美元)的款項已由購股權儲備轉撥至股本。

於報告期末,本公司擁有23,438,000份尚未行使的二零一八年購股權。根據本公司現時的資本架構,悉數行使尚未行使的購股權可能會導致額外發行23,438,000股本公司普通股及增加股本60,844,000美元(包括由購股權儲備轉撥至股本的14,796,000美元)。

於批准該等財務報表日期,本公司擁有22,670,809份尚未行使的二零一八年購股權,佔該日期本公司已發行股份的約1.73%。

32. 儲備

本集團於本年度及過往年度的儲備及相關變動金額於財務報表第233至234頁綜合權益變動表中呈列。

根據中國有關外商獨資企業的法律及法規(適用於本公司的中國子公司),按照適用的中國會計規則及規例釐定的中國子公司的溢利,可於中國子公司(1)償付所有稅務負債;(2)就過往年度虧損作出撥備;及(3)就法定儲備金作出撥備後以現金股息形式向本公司作出分派。本公司的中國子公司須劃撥不少於其除稅後溢利的10%作為法定儲備金,直至儲備結餘達到其註冊資本的50%。

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33. LEASES

As lessor

The Group leases its investment property (note 14) to Shanghai Huali, under an operating lease arrangement, with a lease term of 20 years. The terms of the lease generally also require the tenant to provide for periodic rent adjustments according to the then prevailing market conditions. Rental income recognised by the Group during the year was US\$14,358,000 (31 December 2021: US\$14,488,000), details of which are included in note 5 to the financial statements.

At 31 December 2022 and 2021, undiscounted lease payments receivable by the Group in future periods under non-cancellable operating leases with its tenant are as follows:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Within one year	一年內	14,641	15,754
After one year but within two years	一年後但於兩年內	14,641	15,534
After two years but within three years	兩年後但於三年內	14,641	15,534
After three years but within four years	三年後但於四年內	14,641	15,534
After four years but within five years	四年後但於五年內	14,641	15,534
More than five years	超過五年	32,636	50,190
		105,841	128,080

The Group received advance rental payments of US\$3,041,000 from Shanghai Huali as at 31 December 2022 (31 December 2021: US\$3,606,000).

33. 租賃

作為出租人

本集團根據一項經營租賃安排，將其投資物業(附註14)出租予上海華力，租期為20年。該租約的條款一般亦規定承租人根據當時市況就定期租金調整作出撥備。本集團於年內確認的租賃收入為14,358,000美元(二零二一年十二月三十一日: 14,488,000美元)，其詳情載於財務報表附註5。

於二零二二年及二零二一年十二月三十一日，本集團根據不可撤銷經營租約於未來期間應收其租戶的未貼現租賃付款如下：

於二零二二年十二月三十一日，本集團收到上海華力預付租金3,041,000美元(二零二一年十二月三十一日: 3,606,000美元)。

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33. LEASES (continued)

As lessee

The Group has various lease contracts for land use rights, offices and dormitory properties used in its operation. Lump sum payments were made upfront to acquire the leased land from the owners with lease periods of 42 to 50 years, and no ongoing payments will be made under the terms of these land leases. Leases of offices and dormitory properties generally have lease terms between 2 and 20 years. Generally, the Group is restricted from assigning and subleasing the leased assets outside the Group.

(a) Right-of-use assets and lease liabilities

Detailed information regarding right-of-use assets and lease liabilities is set out in notes 15 and 27, respectively, to the financial statements.

(b) The amounts recognised in profit or loss in relation to leases are as follows:

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Interest on lease liabilities	租賃負債利息	880	879
Depreciation charge of right-of-use assets	使用權資產折舊開支	3,890	5,676
Expense relating to short-term leases	與短期租賃有關的開支	2,625	1,572
Total amount recognised in profit or loss	於損益確認的總金額	7,395	8,127

(c) Total cash outflows for leases and non-cash additions to right-of-use assets and lease liabilities are disclosed in note 39 to the financial statements.

33. 租賃 (續)

作為承租人

本集團擁有用於其業務營運的土地使用權、辦公室及宿舍物業的若干租賃合約。已提前作出一次性付款以向業主收購租賃土地，租期介乎42至50年，而根據該等土地租賃的條款，將不會繼續支付任何款項。辦公室及宿舍物業的租期通常介乎2至20年。一般而言，本集團不可向本集團以外人士轉讓及分租租賃資產。

(a) 使用權資產及租賃負債

與使用權資產及租賃負債有關的資料詳情分別載於財務報表附註15及27。

(b) 於損益中確認的租賃相關金額如下：

(c) 租賃現金流出總額以及使用權資產及租賃負債的非現金添置於財務報表附註39內披露。

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34. COMMITMENTS

The Group had the following capital commitments at the end of the reporting period:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Contracted, but not provided for:	已訂約，但未撥備：		
Property, plant and equipment	物業、廠房及設備	284,304	283,019

34. 承擔

本集團於報告期末有以下資本承擔：

35. RELATED PARTY TRANSACTIONS AND BALANCES

(a) Name and relationship

Name of related party 關聯方名稱	Relationship with the Group 與本集團的關係
Huahong Group and its subsidiaries 華虹集團及其子公司	
– Hua Hong International Inc. (“Huahong International”) – 華虹國際有限公司(「華虹國際」)	26.60% shareholder of the Company 持股26.60%之本公司股東
– Shanghai Huahong Zealcore Electronics Co., Ltd. (“Huahong Zealcore”) – 上海華虹摯芯科技有限公司(「華虹摯芯」)	Subsidiary of Huahong Group 華虹集團子公司
– Shanghai Hongri International Electronics Co., Ltd. (“Hongri”) – 上海虹日國際電子有限公司(「虹日」)	Subsidiary of Huahong Group 華虹集團子公司
– Shanghai Integrated Circuit Research and Development Center (“ICRD”) – 上海集成電路研發中心(「集成電路研發」)	Subsidiary of Huahong Group 華虹集團子公司
– Shanghai Hua Hong Jitong Smart System Co., Ltd. (“Jitong”) – 上海華虹計通智能系統股份有限公司(「計通」)	Subsidiary of Huahong Group 華虹集團子公司
– Shanghai Huali – 上海華力	Subsidiary of Huahong Group 華虹集團子公司
NEC Corporation (“NEC”)*	Shareholder of the Company (before 19 February 2021)
NEC Corporation (「NEC」)*	本公司股東(於二零二一年二月十九日之前)
– NEC Management Partner, Ltd. (“NEC Management”) – NEC Management Partner, Ltd.(「NEC Management」)	Subsidiary of NEC NEC子公司

35. 關聯方交易及結餘

(a) 名稱及關係

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35. RELATED PARTY TRANSACTIONS AND BALANCES (continued)

35. 關聯方交易及結餘 (續)

(a) Name and relationship (continued)

(a) 名稱及關係 (續)

Name of related party 關聯方名稱	Relationship with the Group 與本集團的關係
<p>SAIL and its subsidiaries 上海聯和及其子公司</p> <ul style="list-style-type: none"> – Shanghai Alliance Investment Ltd. (“SAIL”) – 上海聯和投資有限公司(「上海聯和」) – Sino-Alliance International Ltd. (“SAIL International”) – Sino-Alliance International Ltd.(「SAIL International」) 	<p>Holding company of Sino-Alliance International Ltd. Sino-Alliance International Ltd.的控股公司 14.5% shareholder of the Company 持股14.5%之本公司股東</p>
<p>Huahong Technology Development 華虹科技發展</p> <ul style="list-style-type: none"> – Shanghai Huahong Real Estate Co., Ltd. (“Huahong Real Estate”) – 上海華虹置業有限公司(「華虹置業」) – Shanghai Huajin Property Management Co., Ltd. (“Huajin”) – 上海華錦物業管理有限公司(「華錦」) 	<p>Associate of the Group 本集團聯營公司</p> <p>Subsidiary of Huahong Technology Development 華虹科技發展子公司</p> <p>Subsidiary of Huahong Technology Development 華虹科技發展子公司</p>
<p>* NEC disposed of all of its shareholdings in the Company on 19 February 2021. From then on, NEC and its subsidiaries are no longer related parties to the Group.</p>	<p>* NEC於二零二一年二月十九日出售其於本公司的所有股權。自此，NEC及其子公司不再為本集團的關聯方。</p>

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35. RELATED PARTY TRANSACTIONS AND BALANCES (continued)

35. 關聯方交易及結餘 (續)

(b) Related party transactions

The Group had the following material transactions with related parties during the year:

(b) 關聯方交易

本集團於年內已與關聯方進行以下重大交易：

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Sales of goods to related parties (note (i))	向關聯方出售貨品 (附註(i))		
Huahong Zealcore#	華虹摯芯#	9,711	6,404
ICRD#	集成電路研發#	4,394	8,742
Hongri#	虹日#	3,342	3,376
Purchases of goods from related parties (note (ii))	自關聯方購買貨品 (附註(ii))		
Hongri#	虹日#	18,422	18,247
Huahong Zealcore#	華虹摯芯#	825	688
Shanghai Huali	上海華力	69	519
Jitong	計通	20	249
NEC Management	NEC Management	-	233
Rental income from a related party (note (iii))	來自關聯方的租金收入 (附註(iii))		
Shanghai Huali#	上海華力#	14,254	14,497
Service fees charged by related parties (note (iv))	關聯方收取的服務費 (附註(iv))		
Huajin	華錦	400	338
Huahong Real Estate	華虹置業	-	28
Interest expense charged by a related party (notes (iv) and (vi))	關聯方收取的利息開支 (附註(iv)及(vi))		
Huahong Real Estate	華虹置業	714	795
Expense paid on behalf of a related party (note (v))	代關聯方支付的開支 (附註(v))		
Shanghai Huali	上海華力	32,728	30,760

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35. RELATED PARTY TRANSACTIONS AND BALANCES (continued)

(b) Related party transactions (continued)

The related party transactions also constitute continuing connected transactions as defined in Chapter 14A of the Listing Rules.

Note (i) The sales of goods to related parties were made according to the prices and terms agreed between the related parties.

Note (ii) The purchases of goods and intangible assets from related parties were made according to the prices and terms offered by the related parties.

Note (iii) The rental income received from a related party was based on the prices and terms agreed between the related parties.

Note (iv) The service fees and interest expense charged by related parties were based on the prices and terms agreed between the related parties.

Note (v) The expense paid on behalf of the related party is interest-free and repayable on demand.

Note (vi) The Group entered into a 20-year lease in respect of certain dormitory properties from Huahong Real Estate. The amount of rent payable by the Group under the lease is US\$1,696,000 per year. At 31 December 2022, the balances of those right-of-use assets and lease liabilities were US\$12,229,000 (31 December 2021: US\$14,573,000) and US\$14,772,000 (31 December 2021: US\$17,225,000), respectively.

35. 關聯方交易及結餘 (續)

(b) 關聯方交易 (續)

關聯方交易亦構成上市規則第十四A章所界定的持續關連交易。

附註(i) 向關聯方出售的貨品乃根據與關聯方協定的價格及條款作出。

附註(ii) 自關聯方購買的貨品及無形資產乃根據關聯方提供的價格及條款作出。

附註(iii) 來自關聯方的租金收入乃根據與關聯方協定的價格及條款收取。

附註(iv) 服務費及利息開支乃由關聯方根據與關聯方協定的價格及條款收取。

附註(v) 代關聯方支付的開支為不計息，及須按要求償還。

附註(vi) 本集團就自華虹置業租賃的若干宿舍物業訂立一份為期二十年的租約。本集團於租賃項下應付的租金為每年1,696,000美元。於二零二二年十二月三十一日，該等使用權資產及租賃負債的結餘分別為12,229,000美元(二零二一年十二月三十一日：14,573,000美元)及14,772,000美元(二零二一年十二月三十一日：17,225,000美元)。

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35. RELATED PARTY TRANSACTIONS AND BALANCES (continued)

35. 關聯方交易及結餘 (續)

(c) Outstanding balances with related parties

(c) 與關聯方之間的未結清餘額

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Amounts due from related parties	應收關聯方款項		
Shanghai Huali	上海華力	10,996	6,359
Huahong Zealcore	華虹摯芯	1,457	406
ICRD	集成電路研發	553	145
		13,006	6,910
Amounts due to related parties	應付關聯方款項		
Shanghai Huali	上海華力	3,115	3,673
Hongri	虹日	2,613	2,995
Huahong Zealcore	華虹摯芯	211	304
ICRD	集成電路研發	76	468
Huajin	華錦	53	5
Jitong	計通	28	32
Huahong Real Estate	華虹置業	—	24
		6,096	7,501

(d) Compensation of key management personnel of the Group

(d) 本集團主要管理人員的酬金

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Short term employee benefits	短期僱員福利	5,622	6,569
Pension scheme contributions	退休金計劃供款	103	81
Equity-settled share option expense	以權益結算的購股權開支	419	364
Total compensation paid to key management personnel	支付予主要管理人員的酬金總額	6,144	7,014

Further details of directors' remuneration are included in note 8 to the financial statements.

董事薪酬之進一步詳情載於財務報表附註8。

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36. FINANCIAL INSTRUMENTS BY CATEGORY

The carrying amounts of each of the categories of financial instruments as at the end of the reporting period are as follows:

Financial assets – at amortised cost

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Trade and notes receivables	貿易應收款項及應收票據	291,856	181,042
Financial assets included in prepayments, other receivables and other assets (note 22)	計入預付款項、其他應收款項及其他資產的金融資產 (附註22)	23,577	22,530
Due from related parties	應收關聯方款項	13,006	6,910
Restricted and time deposits	已凍結及定期存款	1,042	2,248
Cash and cash equivalents	現金及現金等價物	2,008,765	1,610,140
		2,338,246	1,822,870

Financial assets – at fair value through other comprehensive income without recycling to profit or loss

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Equity investments designated at fair value through other comprehensive income	指定為按公平值計入其他全面收益的股權投資	178,632	257,788

Financial liabilities – at amortised cost

		2022	2021
		二零二二年	二零二一年
		US\$'000	US\$'000
		千美元	千美元
Trade payables	貿易應付款項	236,999	194,385
Financial liabilities included in other payables and accruals (note 25)	計入其他應付款項及暫估費用的金融負債 (附註25)	318,944	307,443
Interest-bearing bank borrowings	計息銀行借款	1,908,336	1,590,303
Due to related parties	應付關聯方款項	6,096	7,501
		2,470,375	2,099,632

36. 按類別劃分的金融工具

各類金融工具於報告期末的賬面值如下：

金融資產 – 按攤銷成本

金融資產 – 按公平值計入其他全面收益 (不得重新計入損益)

金融負債 – 按攤銷成本

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37. FAIR VALUE AND FAIR VALUE HIERARCHY OF FINANCIAL INSTRUMENTS

The carrying amounts and fair values of the Group's financial instruments, other than those with carrying amounts that reasonably approximate to fair values, are as follows:

37. 金融工具的公平值及公平值層級

本集團金融工具(不包括賬面值與公平值大致相若的金融工具)的賬面值及公平值載列如下:

	Carrying amounts		Fair values	
	賬面值		公平值	
	2022	2021	2022	2021
	二零二二年	二零二一年	二零二二年	二零二一年
	US\$' 000	US\$'000	US\$'000	US\$'000
	千美元	千美元	千美元	千美元
Financial assets	金融資產			
Equity investments designated at fair value through other comprehensive income	指定為按公平值計入其他全面收益的股權投資			
	178,632	257,788	178,632	257,788
Financial liabilities	金融負債			
Interest-bearing bank borrowings	計息銀行借款			
	1,481,580	1,395,279	1,537,685	1,417,069

Management has assessed that the fair values of cash and cash equivalents, restricted and time deposits, trade and notes receivables, financial assets included in prepayments, other receivables, trade payables, financial liabilities included in other payables and accruals, amounts due from/to related parties and the current portion of interest-bearing bank borrowings and lease liabilities approximate to their carrying amounts largely due to the short term maturities of these instruments.

The Group's finance department headed by the finance manager is responsible for determining the policies and procedures for the fair value measurement of financial instruments. The finance department reports directly to the chief financial officer. At each reporting date, the finance department analyses the movements in the values of financial instruments and determines the major inputs applied in the valuation. The valuation is reviewed and approved by the chief financial officer. The valuation process and results are discussed with the board of directors twice a year for interim and annual financial reporting.

管理層已評估現金及現金等價物、已凍結及定期存款、貿易應收款項及應收票據、計入預付款項的金融資產、其他應收款項、貿易應付款項、計入其他應付款項及暫估費用的金融負債、應收／應付關聯方款項及計息銀行借款及租賃負債的流動部份的公平值與其賬面值相若，主要是由於該等工具均於短期內到期。

本集團旗下以財務經理為首的財務部負責釐定金融工具公平值計量的政策及程序。財務部直接向財務總監報告。於各報告日期，財務部分析金融工具的價值變動並釐定估值中適用的主要輸入數據。估值由財務總監審核及批准。估值過程及結果由董事會每年討論兩次，以進行中期及年度財務申報。

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財務報表附註

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37. FAIR VALUE AND FAIR VALUE HIERARCHY OF FINANCIAL INSTRUMENTS (continued)

The fair values of the financial assets and liabilities are included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. The following methods and assumptions were used to estimate the fair values:

The fair values of the non-current portion of interest-bearing bank borrowings have been calculated by discounting the expected future cash flows using rates currently available for instruments with similar terms, credit risk and remaining maturities. The changes in fair value as a result of the Group's own non-performance risk for the non-current portion of interest-bearing bank borrowings as at 31 December 2022 were assessed to be insignificant.

The fair values of unlisted equity investments designated at fair value through other comprehensive income have been estimated using the market approach. If there is a recent deal regarding the unlisted investments, the fair values are estimated based on the dealing price. If there is no such deal to be referenced, the directors will determine comparable public companies (peers) based on industry, size, leverage and strategy, and calculate an appropriate price multiple, such as price to book value ("P/B") multiple, for each comparable company identified. The multiple is calculated by dividing the enterprise value of the comparable company by net assets. The trading multiple is then discounted for considerations such as illiquidity based on company-specific facts and circumstances. The discounted multiple is applied to the corresponding net assets of the unlisted equity investments to measure the fair value. The directors believe that the estimated fair values resulting from the valuation technique, which are recorded in the consolidated statement of financial position, and the related changes in fair values, which are recorded in other comprehensive income, are reasonable, and that they were the most appropriate values at the end of the reporting period.

37. 金融工具的公平值及公平值層級 (續)

金融資產及負債的公平值是按當前與自願方交易(而非被迫或清盤出售)中可交換有關工具的金額列賬。估計公平值乃使用以下的方法及假設:

計息銀行借款的非流動部份的公平值乃透過採用具有類似年期、信貸風險及剩餘到期期限的工具的現行利率貼現預期未來現金流量而計算。本集團評估後認為,於二零二二年十二月三十一日因其自身的計息銀行借款的非流動部分不履約風險而導致的公平值變動並不重大。

指定為按公平值計入其他全面收益的非上市股本投資之公平值採用市場法估算。倘最近成交交易有關未上市投資,公平值乃基於交易價估算。倘並無該等交易可供參考,董事將根據行業、規模、影響力及策略釐定可比較上市公司(同行),且就已確定的各可資比較公司計算適當的價格倍數,如市賬率(「市賬率」)倍數。該倍數乃按可資比較公司之企業價值除以淨資產所得。交易倍數隨後根據公司特定情況及狀況就非流動性等因素予以貼現。貼現倍數適用於非上市股本投資的相應淨資產以計量公平值。董事認為,計入綜合財務狀況表的估值技術所產生的估計公平值以及計入其他全面收益的公平值相關變動屬合理,而於報告期末的價值最為恰當。

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37. FAIR VALUE AND FAIR VALUE HIERARCHY OF FINANCIAL INSTRUMENTS (continued)**Fair value hierarchy**

The following tables illustrate the fair value measurement hierarchy of the Group's financial instruments:

Financial assets measured at fair value
31 December 2022

37. 金融工具的公平值及公平值層級 (續)**公平值層級**

下表顯示本集團金融工具的公平值計量層級：

按公平值計量的金融資產
二零二二年十二月三十一日

		Fair value measurement using 公平值計量採用以下基準			
		Quoted prices in active markets 於活躍市場 的市場報價 Level 1 第1級 US\$'000 千美元	Quoted prices in active markets 於活躍市場 的市場報價 Level 2 第2級 US\$'000 千美元	Quoted prices in active markets 於活躍市場 的市場報價 Level 3 第3級 US\$'000 千美元	Total 總計 US\$'000 千美元
Equity investments designated at fair value through other comprehensive income	指定為按公平值 計入其他全面 收益的股權投資	2,442	—	176,190	178,632

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37. FAIR VALUE AND FAIR VALUE HIERARCHY OF FINANCIAL INSTRUMENTS (continued)

Fair value hierarchy (continued)

Financial assets measured at fair value (continued)
31 December 2021

		Fair value measurement using 公平值計量採用以下基準			
		Quoted prices in active markets 於活躍市場 的市場報價	Quoted prices in active markets 於活躍市場 的市場報價	Quoted prices in active markets 於活躍市場 的市場報價	Total 總計
		Level 1 第1級 US\$'000 千美元	Level 2 第2級 US\$'000 千美元	Level 3 第3級 US\$'000 千美元	US\$'000 千美元
Equity investments designated at fair value through other comprehensive income	指定為按公平值 計入其他全面 收益的股權投資	14,310	2,236	241,242	257,788

The Group's policy is to recognise transfers between levels of the fair value hierarchy at the end of the reporting period.

During the year, there were no transfers of fair value measurements between Level 1 and Level 2 (2021:Nil).

During the year, there was a transfer from Level 2 to Level 3 for an equity investment designated at fair value through other comprehensive income with a carrying amount of US\$2,236,000 as at 31 December 2022 because there was no recent dealing price to be referenced and the significant inputs used in the fair value measurements were unobservable.

37. 金融工具的公平值及公平值層級(續)

公平值層級(續)

按公平值計量的金融資產(續)
二零二一年十二月三十一日

於報告期末，本集團的政策為確認公平值層級之間的轉移。

於年內，第1級與第2級公平值計量之間並無轉移(二零二一年：無)。

於年內，於二零二二年十二月三十一日，賬面值為2,236,000美元的指定為按公平值計入其他全面收益的股權投資自第2級轉入第3級，因為並無近期交易價可供參考，且公平值計量所用重大輸入數據為不可觀察。

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37. FAIR VALUE AND FAIR VALUE HIERARCHY OF FINANCIAL INSTRUMENTS (continued)

Fair value hierarchy (continued)

The recurring fair value measurement for the Group's financial assets at fair value through profit or loss was performed using significant unobservable inputs (Level 3) as at 31 December 2022 and 2021. Below is a summary of the valuation technique used and the key inputs to the valuation:

37. 金融工具的公平值及公平值層級 (續)

公平值層級 (續)

本集團按公平值計入損益的金融資產的週期公平值計量乃使用二零二二年及二零二一年十二月三十一日的重大不可觀察輸入數據 (第3級) 作出。下文為估值所用估值技術及主要輸入數據概要：

	Valuation technique 估值技術	Significant unobservable input 重大不可觀察輸入數據	Range 範圍	Sensitivity of fair value to the input 公平值對輸入數據之敏感度
Equity investments designated at fair value through other comprehensive income	指定為按公平值計入其他全面收益的股本投資	Average P/B multiple of peers	2022: 1.3x-2.7x 2021: 0.8x-3.4x	5% (2021: 5%) increase/decrease would result in increase/decrease in fair value by 5% (2021: 5%)
	估值倍數	同業平均市賬率	二零二二年: 1.3x-2.7x 二零二一年: 0.8x-3.4x	5% (二零二一年: 5%) 的增加/減少將導致公平值增加/減少5% (二零二一年: 5%)
		Average P/S multiple of peers	2022: 3.8x-8.5x	5% (2021: 5%) increase/decrease would result in increase/decrease in fair value by 5% (2021: 5%)
		同業平均市銷率	二零二二年: 3.8x-8.5x	5% (二零二一年: 5%) 的增加/減少將導致公平值增加/減少5% (二零二一年: 5%)
		Discount for illiquidity	2022: 20%-30% 2021: 20%-30%	5% (2021: 5%) increase/decrease would result in decrease/increase in fair value by 5% (2021: 5%)
		缺乏流通性的折讓價	二零二二年: 20%-30% 二零二一年: 20%-30%	5% (二零二一年: 5%) 的增加/減少將導致公平值減少/增加5% (二零二一年: 5%)

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37. FAIR VALUE AND FAIR VALUE HIERARCHY OF FINANCIAL INSTRUMENTS (continued)

Fair value hierarchy (continued)

The movements in financial assets categorised into Level 3 during the year are as follows:

37. 金融工具的公平值及公平值層級 (續)

公平值層級 (續)

年內分類為第3級的金融資產變動如下:

		Equity investments designated at fair value through other comprehensive income 指定為按公平值計入 其他全面收益的 股權投資 US\$'000 千美元
At 1 January 2021	於二零二一年一月一日	227,757
Total gains recognised in other comprehensive income	於其他全面收益確認的 收益總額	8,155
Exchange realignment	匯兌調整	5,330
At 31 December 2021 and 1 January 2022	於二零二一年十二月三十一日及 二零二二年一月一日	241,242
Transfer from level 2	自第2級轉入	2,236
Total losses recognised in other comprehensive income	於其他全面收益確認的虧損總額	(48,629)
Exchange realignment	匯兌調整	(18,659)
As at 31 December 2022	於二零二二年十二月三十一日	176,190

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財務報表附註

**38. FINANCIAL RISK MANAGEMENT
OBJECTIVES AND POLICIES**

The Group's principal financial instruments comprise bank loans, cash and short-term deposits. The main purpose of these financial instruments is to raise finance for the Group's operations. The Group has various other financial assets and liabilities, such as trade and other receivables and trade and other payables, which arise directly from its operations.

The main risks arising from the Group's financial instruments are interest rate risk, foreign currency risk, credit risk and liquidity risk. The board of directors reviews and agrees policies for managing each of these risks and they are recognised below.

Interest rate risk

The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's interest-bearing bank borrowings with a floating interest rate. The Group's policy is to manage its interest cost using a mix of fixed and variable rate debts.

As at 31 December 2022, if the interest rates had been 100 basis points higher/lower with all other variables held constant, profit before tax for the year would have been US\$14,546,223 lower/higher (31 December 2021: US\$7,793,346), mainly as a result of higher/lower interest expense on floating rate bank borrowings.

38. 財務風險管理目標及政策

本集團的主要金融工具包括銀行貸款、現金及短期存款。該等金融工具的主要用途乃為本集團的營運籌措資金。本集團有多種直接自其營運產生的其他金融資產及負債，如貿易及其他應收款項以及貿易及其他應付款項。

本集團金融工具所產生的主要風險為利率風險、外幣風險、信貸風險及流動資金風險。董事會檢討及協定管理各類該等風險的政策，有關政策概述於下文。

利率風險

本集團面臨市場利率變動的風險，主要與本集團浮動利率計息銀行借款有關。本集團的政策為運用固定及浮動利率債務組合管理利息成本。

於二零二二年十二月三十一日，倘利率增加或減少100基點，而所有其他變量維持不變，年內稅前溢利將減少或增加14,546,223美元（二零二一年十二月三十一日：7,793,346美元），乃主要由於浮動利率銀行借款的利息開支增加或減少。

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OBJECTIVES AND POLICIES (continued)**Foreign currency risk**

The Group has transactional currency exposures. These exposures arise from sales or purchases by its significant subsidiary operating in Mainland China in US\$ other than the subsidiary's functional currency, which is RMB. During the year, approximately 27% (2021: 26%) of the Group's sales were denominated in currencies other than the functional currency of the subsidiary making the sale, whilst 71% (2021: 70%) of costs of sales were denominated in the subsidiary's functional currency.

In addition, the Group has currency exposures from interest-bearing bank borrowings, held by its subsidiary operating in Mainland China. As at 31 December 2022, interest-bearing bank borrowings with a carrying amount of US\$1,775,774,000 (31 December 2021: US\$1,560,054,000) are dominated in United States dollars, other than the subsidiary's functional currency, which is RMB.

The following table demonstrates the sensitivity at the end of the reporting period to a reasonably possible change in the RMB exchange rates, with all other variables held constant, of the Group's profit before tax (arising from USD and RMB denominated financial instruments):

		Increase/ (decrease) in US\$ rate 美元匯率增加/ (減少)	Increase/ (decrease) in profit before tax 稅前溢利增加/ (減少)
Year ended 31 December 2022	截至二零二二年十二月三十一日止年度		
If US\$ weakens against RMB	倘美元兌人民幣貶值	5%	60,535
If US\$ strengthens against RMB	倘美元兌人民幣升值	(5%)	(60,535)
Year ended 31 December 2021	截至二零二一年十二月三十一日止年度		
If US\$ weakens against RMB	倘美元兌人民幣貶值	5%	48,160
If US\$ strengthens against RMB	倘美元兌人民幣升值	(5%)	(48,160)

38. 財務風險管理目標及政策
(續)**外幣風險**

本集團面臨交易外匯風險。該等風險產生自其在中國內地經營的重要子公司以美元進行的買賣，而並非以其功能貨幣人民幣進行。於年內，本集團的銷售額中約27% (二零二一年：26%) 乃以進行銷售的子公司的功能貨幣以外的貨幣計值，與此同時，銷售成本中71% (二零二一年：70%) 乃以子公司的功能貨幣計值。

此外，本集團面臨來自計息銀行借款的外幣風險，該借款由其在中國內地經營的子公司持有。於二零二二年十二月三十一日，賬面值為1,775,774,000美元 (二零二一年十二月三十一日：1,560,054,000美元) 的計息銀行借款以美元計值，而非以該子公司的功能貨幣人民幣計值。

下表顯示在所有其他變量維持不變的情況下，於報告期末本集團稅前溢利 (由美元及人民幣計值的金融工具產生) 對人民幣匯率的合理可能變動的敏感度：

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財務報表附註

**38. FINANCIAL RISK MANAGEMENT
OBJECTIVES AND POLICIES (continued)****Credit risk**

Credit risk is the risk that a counterparty cannot meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Group is exposed to credit risk from its operating activities (primarily trade receivables).

The Group trades only with recognised and creditworthy third parties and related parties. It is the Group's policy that all customers who wish to trade on credit terms are subject to credit verification procedures. In addition, receivable balances are monitored on an ongoing basis and the Group's exposure to bad debts is not significant.

The carrying amounts of cash and cash equivalents, trade and notes receivables, financial assets included in prepayments, other receivables and other assets, amounts due from related parties and restricted and time deposits included in the consolidated statement of financial position represent the Group's maximum exposure to credit risk in relation to its financial assets. The Group has no other financial assets which carry significant exposure to credit risk.

Further qualitative and quantitative information regarding trade receivables, for which the Group applies the simplified approach in calculating ECLs under HKFRS 9, is disclosed in note 21 to the financial statements.

Apart from trade and notes receivables, all the carrying amounts of financial assets at amortised cost, applying the general approach under HKFRS 9, are classified as Stage 1 in terms of ECLs as at 31 December 2022 in addition to the fully impaired other receivables classified as Stage 3, as stated in note 22 to the financial statements.

Liquidity risk

The Group's policy is to monitor regularly the current and expected liquidity requirements to ensure that it maintains sufficient reserves of cash and adequate committed lines of funding from major financial institutions to meet its liquidity requirements in the short and long term.

**38. 財務風險管理目標及政策
(續)****信貸風險**

信貸風險指對手方無法履行金融工具或客戶合約項下責任而引致金融損失之風險。本集團面臨來自其經營活動(主要為貿易應收款項)的信貸風險。

本集團僅與獲認可及信譽良好的第三方及關聯方交易。本集團的政策規定,所有擬按信用方式交易的客戶均須通過信用核實程序。此外,由於持續對應收款項結餘進行監控,故本集團的壞賬風險並不重大。

綜合財務狀況表內現金及現金等價物、貿易應收款項及應收票據及計入預付款項、其他應收款項及其他資產的金融資產、應收關聯方款項以及已凍結及定期存款的賬面值為本集團就其金融資產所面臨的最大信貸風險。本集團並無其他存在重大信貸風險的金融資產。

有關貿易應收款項的進一步定性及定量資料(本集團根據香港財務報告準則第9號對其採用簡化方法計算預期信貸虧損)於財務報表附註21內披露。

除財務報表附註22內所載分類為第三階段的全數已減值的其他應收款項(除貿易應收款項及應收票據外),所有按攤銷成本計量的金融資產的賬面值(根據香港財務報告準則第9號採用一般方法)就二零二二年十二月三十一日的預期信貸虧損分類為第一階段。

流動資金風險

本集團的政策為定期監控現時及預期流動資金需要,以確保維持充裕的現金儲備及從主要金融機構獲得足夠的融資承擔額度,以應對其短期及長期流動資金需要。

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OBJECTIVES AND POLICIES (continued)

Liquidity risk (continued)

The maturity profile of the Group's financial liabilities as at the end of the reporting period, based on the contractual undiscounted payments, is as follows:

31 December 2022

	On demand	Less than 3 months	3 to 12 months	1 to 5 years	Over 5 years	Total	
	按要求	少於三個月	三至十二個月	一至五年	五年以上	總計	
	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	
	千美元	千美元	千美元	千美元	千美元	千美元	
Interest-bearing bank borrowings	計息銀行借款	–	43,521	486,724	1,290,956	521,043	2,342,244
Lease liabilities	租賃負債	–	1,626	3,832	7,674	10,119	23,251
Trade payables	貿易應付款項	34,889	202,110	–	–	–	236,999
Financial liabilities included in other payables and accruals	計入其他應付款項及暫估費用的金融負債	223,271	95,673	–	–	–	318,944
Amounts due to related parties	應付關聯方款項	6,096	–	–	–	–	6,096
		264,256	342,930	490,556	1,298,630	531,162	2,927,534

31 December 2021

二零二一年十二月三十一日

	On demand	Less than 3 months	3 to 12 months	1 to 5 years	Over 5 years	Total	
	按要求	少於三個月	三至十二個月	一至五年	五年以上	總計	
	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	US\$'000	
	千美元	千美元	千美元	千美元	千美元	千美元	
Interest-bearing bank borrowings	計息銀行借款	–	43,255	176,631	868,841	631,600	1,720,327
Lease liabilities	租賃負債	–	731	1,706	7,369	12,895	22,701
Trade payables	貿易應付款項	21,833	172,552	–	–	–	194,385
Financial liabilities included in other payables and accruals	計入其他應付款項及暫估費用的金融負債	215,220	92,223	–	–	–	307,443
Amounts due to related parties	應付關聯方款項	7,501	–	–	–	–	7,501
		244,554	308,761	178,337	876,210	644,495	2,252,357

38. 財務風險管理目標及政策
(續)

流動資金風險(續)

於報告期末，本集團金融負債根據合約未貼現付款的到期情況如下：

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OBJECTIVES AND POLICIES (continued)****Interest rate benchmark reform**

As at 31 December 2022, the Group had certain interest-bearing bank borrowings denominated in United States dollars. The interest rates of these instruments are based on the LIBOR with a tenor of three to twelve months, which will cease to be published after 30 June 2023. Replacement of the benchmark rates of these instruments from LIBOR to an RFR has yet to commence but it is expected that there will be renegotiations of terms in the future. During the transition, the Group is exposed to the following risks:

- Parties to the contract may not reach agreement in a timely manner as any changes to the contractual terms require the agreement of all parties to the contract
- Additional time may be needed for the parties to the contract to reach agreement as they may renegotiate terms which are not part of the interest rate benchmark reform (e.g., changing the credit spread of the bank borrowings due to changes in credit risk of the Group)
- The existing fallback clause included in the instruments may not be adequate to facilitate a transition to a suitable RFR

The Group will continue to monitor the development of the reform and take proactive measures for a smooth transition.

The information about financial instruments based on an interbank offered rate that has yet to transition to an alternative benchmark rate is as follows:

As at 31 December 2022**38. 財務風險管理目標及政策
(續)****利率基準改革**

於二零二二年十二月三十一日，本集團擁有若干以美元計值的計息銀行借款。該等金融工具的利率基於倫敦銀行同業拆息，期限為三至十二個月，將在二零二三年六月三十日之後停止公佈。尚未開始將該等工具的基準利率從倫敦銀行同業拆息替換為無風險利率，但預計未來將重新協商條款。於過渡期間，本集團面臨以下風險：

- 由於合約條款的任何變更均須經合約各方同意，故合約各方或許無法及時達成協議
- 由於合約各方或許會重新協商不屬於利率基準改革的條款（例如，因集團信貸風險的變動而改變銀行借款的信貸利差），故合約各方或許需要額外時間達成協議
- 工具中含有的現有備用條款或許不足以促進過渡到一個適當的無風險利率

本集團將繼續監控改革進展，並採取積極措施實現平穩過渡。

關於基於銀行同業拆息但尚未過渡到替代基準利率的金融工具的資料如下：

於二零二二年十二月三十一日

		Non-derivative financial liabilities – carrying value 非衍生金融負債 – 賬面值 US\$'000 千美元
Interest-bearing bank borrowings – United States dollar LIBOR	計息銀行借款 – LIBOR美元	1,542,514

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OBJECTIVES AND POLICIES (continued)

Capital management

The primary objectives of the Group's capital management are to safeguard the Group's ability to continue as a going concern and to maintain healthy capital ratios to support its business and maximise shareholders' value.

The Group manages its capital structure and makes adjustments to it in light of changes in economic conditions. To maintain or adjust the capital structure, the Group may adjust the dividend payment to shareholders, return capital to shareholders or issue new shares. The Group is not subject to any externally imposed capital requirements. No changes were made in the objectives, policies or processes for managing capital during the year.

The Group monitors capital using a gearing ratio, which is net debt divided by total equity plus net debt. The Group includes, within net debt, trade payables, other payables and accruals, interest-bearing bank borrowings, lease liabilities and amounts due to related parties, less cash and cash equivalents. The gearing ratios as at the end of each of the reporting periods were as follows:

		31 December 2022	31 December 2021
		二零二二年 十二月三十一日	二零二一年 十二月三十一日
		US\$'000	US\$'000
		千美元	千美元
Trade payables	貿易應付款項	234,293	194,385
Other payables and accruals (note 25)	其他應付款項及暫估費用(附註25)	401,383	377,982
Interest-bearing bank borrowings	計息銀行借款	1,908,336	1,590,303
Lease liabilities	租賃負債	19,348	17,813
Amounts due to related parties	應付關聯方款項	6,096	7,501
Less: Cash and cash equivalents	減: 現金及現金等價物	(2,008,765)	(1,610,140)
Net debt	淨負債	560,691	577,844
Total equity	權益總額	4,135,468	3,684,547
Total equity and net debt	權益總額及淨負債	4,696,159	4,262,391
Gearing ratio	資產負債比率	11.94%	13.56%

38. 財務風險管理目標及政策
(續)

資本管理

本集團資本管理的首要目標為，維護本集團的持續經營能力及維持良好的資本比率，以支持其業務及實現股東價值最大化。

本集團根據經濟狀況的變動管理及調整其資本架構。為維持或調整資本架構，本集團或會調整派付予股東的股息、向股東返還資本或發行新股。本集團不受任何外部施加的資本要求規限。於年內，本集團管理資本的目標、政策或程序概無任何變動。

本集團以資產負債比率監控資本，資產負債比率按淨負債除以權益總額加淨負債計算。本集團將貿易應付款項、其他應付款項及暫估費用、計息銀行借款、租賃負債以及應付關聯方款項扣除現金及現金等價物計入淨負債。於各報告期末的資產負債比率如下：

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財務報表附註

39. NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS

(a) Major non-cash transactions

During the year, the Group had non-cash additions to right-of-use assets or lease liabilities of US\$6,394,000 (2021: Nil) in respect of lease arrangements for buildings.

(b) Changes in liabilities arising from financing activities are as follows:

		Interest-bearing bank borrowings 計息銀行借款 US\$'000 千美元	Lease liabilities 租賃負債 US\$'000 千美元
As at 1 January 2021	於二零二一年一月一日	566,175	21,640
Changes from financing cash flows	融資現金流量變動	1,022,945	(4,878)
Interest expense	利息開支	–	879
Foreign exchange movements	外匯變動	1,183	172
As at 31 December 2021 and 1 January 2022	於二零二一年十二月三十一日及二零二二年一月一日	1,590,303	17,813
Changes from financing cash flows	融資現金流量變動	268,564	(4,144)
Interest expense	利息開支	39,451	880
New leases	新租賃	–	6,394
Foreign exchange movements	外匯變動	10,018	(1,595)
As at 31 December 2022	於二零二二年十二月三十一日	1,908,336	19,348

(c) Total cash outflow for leases

The total cash outflow for leases included in the statement of cash flows is as follows:

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Within operating activities	經營活動內	2,625	1,572
Within financing activities	融資活動內	4,144	4,878
		6,769	6,450

39. 綜合現金流量表附註

(a) 主要非現金交易

於年內，本集團與建築物租賃安排有關的使用權資產或租賃負債的非現金添置為6,394,000美元(二零二一年：無)。

(b) 融資活動所產生的負債變動如下：

(c) 租賃現金流出總額

計入現金流量表的租賃現金流出總額如下：

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40. PARTLY-OWNED SUBSIDIARY WITH MATERIAL NON-CONTROLLING INTERESTS

Details of the Group's subsidiary that has material non-controlling interests are set out below:

		2022 二零二二年	2021 二零二一年
Percentage of interest held by non-controlling interests:	非控股權益持有權益比率：		
Hua Hong Wuxi	華虹無錫	49%	49%

The board of directors is the supreme governing body for Hua Hong Wuxi, in which non-controlling shareholders hold three seats out of seven. Therefore, the proportion of voting rights is different from that of the ownership interest above.

40. 有重大非控股權益之非全資子公司

本集團具有重大非控股權益之子公司之詳情如下：

董事會為華虹無錫的最高管理機構，由七名董事組成，其中三名董事為非控股股東。因此，投票權比例不同於上述所有權權益比例。

		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元
Loss for the year allocated to non-controlling interests:	分配至非控股權益之年內虧損：		
Hua Hong Wuxi	華虹無錫	(43,341)	(30,505)
Accumulated balances of non-controlling interests at the reporting date:	於報告日期非控股權益累計結餘：		
Hua Hong Wuxi	華虹無錫	1,104,998	814,188

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The following tables illustrate the summarised financial information of the above subsidiary. The amounts disclosed are before any inter-company eliminations:

40. 有重大非控股權益之非全資子公司 (續)

下表概述上述子公司的財務資料，所披露之金額為任何公司間抵銷前之金額：

		Hua Hong Wuxi 華虹無錫 2022 二零二二年 US\$'000 千美元	Hua Hong Wuxi 華虹無錫 2021 二零二一年 US\$'000 千美元
Revenue	銷售收入	1,007,153	481,167
Other income	其他收入	30,296	32,757
Total expenses	開支總額	(1,125,901)	(576,179)
Loss and total comprehensive loss for the year	年內虧損及全面虧損總額	(88,452)	(62,255)
Current assets	流動資產	1,648,490	1,019,923
Non-current assets	非流動資產	2,862,686	2,539,652
Current liabilities	流動負債	(877,123)	(610,803)
Non-current liabilities	非流動負債	(1,378,965)	(1,287,163)
Net cash flows generated from/(used in) operating activities	經營活動所得/(所用)現金流量淨額	240,417	(8,320)
Net cash flows used in investing activities	投資活動所用現金流量淨額	(866,530)	(824,666)
Net cash flows generated from financing activities	融資活動所得現金流量淨額	1,085,213	922,342
Effect of foreign exchange rate changes, net	外匯匯率變動影響，淨額	(20,577)	5,299
Net increase in cash and cash equivalents	現金及現金等價物增加淨額	438,523	94,655

41. EVENT AFTER THE REPORTING PERIOD

There is no material subsequent event undertaken by the Group after 31 December 2022.

41. 報告期後事項

本集團於二零二二年十二月三十一日後概無發生重大期後事項。

NOTES TO FINANCIAL STATEMENTS

財務報表附註

31 December 2022
二零二二年十二月三十一日

42. STATEMENT OF FINANCIAL POSITION OF THE COMPANY

Information about the statement of financial position of the Company at the end of the reporting period is as follows:

42. 本公司的財務狀況表

有關本公司於報告期末的財務狀況表資料載列如下：

		31 December 2022 二零二二年 十二月三十一日 US\$'000 千美元	31 December 2021 二零二一年 十二月三十一日 US\$'000 千美元
NON-CURRENT ASSETS	非流動資產		
Investments in subsidiaries	投資於子公司	2,155,052	1,976,048
Total non-current assets	非流動資產總額	2,155,052	1,976,048
CURRENT ASSETS	流動資產		
Trade and notes receivables	貿易應收款項及應收票據	5,785	-
Prepayments, other receivables and other assets	預付款項、其他應收款項及其他資產	1,649	6,027
Due from a subsidiary	應收子公司款項	998	998
Restricted and time deposits	已凍結及定期存款	27	27
Cash and cash equivalents	現金及現金等價物	56,171	28,112
Total current assets	流動資產總額	64,630	35,164
CURRENT LIABILITIES	流動負債		
Other payables and accruals	其他應付款項及暫估費用	689	903
Due to subsidiaries	應付子公司款項	98,309	95,841
Total current liabilities	流動負債總額	98,998	96,744
NET CURRENT LIABILITIES	流動負債淨額	(34,368)	(61,580)
TOTAL ASSETS LESS CURRENT LIABILITIES	資產總值減流動負債		
Net assets	淨資產	2,120,684	1,914,468
EQUITY	權益		
Share capital	股本	1,994,462	1,986,152
Reserves (note)	儲備(附註)	126,222	(71,684)
Total equity	權益總額	2,120,684	1,914,468

Suxin Zhang
張素心
Director
董事

Jun Ye
葉峻
Director
董事

NOTES TO FINANCIAL STATEMENTS

31 December 2022
二零二二年十二月三十一日

財務報表附註

42. STATEMENT OF FINANCIAL POSITION OF THE COMPANY (continued)

42. 本公司的財務狀況表(續)

Note:

A summary of the Company's reserves is as follows:

附註:

本公司的儲備概述如下:

		Other reserve	Share option reserve	(Accumulated losses)/ Retained profits	Total
		其他儲備 US\$'000 千美元	購股權儲備 US\$'000 千美元	(累計虧損)/ 留存溢利 US\$'000 千美元	總計 US\$'000 千美元
As at 1 January 2021	於二零二一年一月一日	(68,260)	17,100	(17,467)	(68,627)
Loss for the year	年內虧損	-	-	(1,534)	(1,534)
Equity-settled share option arrangements	以權益結算的購股權安排	-	296	-	296
Issue of shares	發行股份	-	(1,819)	-	(1,819)
At 31 December 2021 and 1 January 2022	於二零二一年十二月三十一日及二零二二年一月一日	(68,260)	15,577	(19,001)	(71,684)
Profit for the year	年內溢利	-	-	199,049	199,049
Equity-settled share option arrangements	以權益結算的購股權安排	-	1,226	-	1,226
Issue of shares	發行股份	-	(2,369)	-	(2,369)
As at 31 December 2022	於二零二二年十二月三十一日	(68,260)	14,434	180,048	126,222

43. APPROVAL OF THE FINANCIAL STATEMENTS

43. 財務報表的批准

The financial statements were approved and authorised for issue by the board of directors on 30 March 2023.

財務報表已於二零二三年三月三十日獲董事會批准及授權刊發。

FIVE YEAR FINANCIAL SUMMARY

五年財務概覽

A summary of the results and of the assets, liabilities and non-controlling interests of the Group for the last five financial years, as extracted from the published audited financial statements, is set out below.

下文載列本集團於最近五個財政年度的業績以及資產、負債及非控股權益的概要，有關資料乃摘錄自己刊發經審核財務報表。

		Year ended 31 December 截至十二月三十一日止年度				
		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元	2020 二零二零年 US\$'000 千美元	2019 二零一九年 US\$'000 千美元	2018 二零一八年 US\$'000 千美元
RESULTS	業績					
REVENUE	銷售收入	2,475,488	1,630,754	961,279	932,567	930,268
Cost of sales	銷售成本	(1,631,832)	(1,179,156)	(726,486)	(650,107)	(619,114)
Gross profit	毛利	843,656	451,598	234,793	282,460	311,154
Other income and gains	其他收入及收益	70,986	60,758	57,313	69,091	43,613
Fair value gain on an investment property	投資物業的公平值收益	78	183	198	163	247
Selling and distribution expenses	銷售及分銷費用	(12,464)	(10,673)	(8,169)	(8,828)	(7,771)
Administrative expenses	管理費用	(266,666)	(198,920)	(261,139)	(169,796)	(122,323)
Other expenses	其他費用	(111,360)	(165)	(10)	(406)	(11,106)
Finance costs	財務費用	(40,331)	(13,226)	(2,968)	(1,242)	(2,203)
Share of profits of associates	分佔聯營公司溢利	12,171	6,765	26,059	10,131	9,444
PROFIT BEFORE TAX	稅前溢利	496,070	296,320	46,077	181,573	221,055
Income tax expense	所得稅開支	(89,499)	(65,349)	(12,762)	(26,588)	(35,447)
PROFIT FOR THE YEAR	年內溢利	406,571	230,971	33,315	154,985	185,608
Attributable to:	以下各項應佔:					
Owners of the parent	母公司擁有人	449,912	261,476	99,443	162,237	183,158
Non-controlling interests	非控股權益	(43,341)	(30,505)	(66,128)	(7,252)	2,450
		406,571	230,971	33,315	154,985	185,608
		As at 31 December 於十二月三十一日				
		2022 二零二二年 US\$'000 千美元	2021 二零二一年 US\$'000 千美元	2020 二零二零年 US\$'000 千美元	2019 二零一九年 US\$'000 千美元	2018 二零一八年 US\$'000 千美元
Total assets	資產總值	7,052,670	6,202,099	4,568,586	3,613,303	3,078,274
Total liabilities	負債總額	(2,917,202)	(2,517,552)	(1,214,465)	(530,711)	(373,942)
Non-controlling interests	非控股權益	(1,104,998)	(814,188)	(825,679)	(837,351)	(549,076)
		3,030,470	2,870,359	2,528,442	2,245,241	2,155,256

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