



JD Logistics, Inc.

京东物流股份有限公司

(A company incorporated in the Cayman Islands with limited liability)

Stock Code: 2618

An aerial photograph of a two-lane road winding through a dense forest. The trees are mostly green, but a section on the right side of the road shows autumn foliage in shades of yellow and orange. A red JD Logistics truck is driving on the road, and a white car is visible further ahead.

2021

Environmental, Social and Governance Report

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Report Profile

Release Form of the Report

This Environmental, Social, and Governance (hereinafter referred to as “ESG”) report is presented in electronic version and available in Chinese and English. In case of ambiguity or conflict between the two languages, the Chinese version shall take precedence.

Reference and Principles

The report is prepared in compliance with the *ESG Reporting Guide* from the Stock Exchange of Hong Kong Limited (the “Hong Kong Stock Exchange” or “HKEX”), the United Nations Sustainable Development Goals (SDGs), the GRI Standards issued by the Global Sustainability Standards Board (GSSB), the Ten Principles of the UN Global Compact, and industry standards issued by the Sustainability Accounting Standards Board (SASB). In particular, the relevant contents of dealing with climate change are prepared by referring to the HKEX *Guidance on Climate Disclosure* and the framework suggested by the Task Force on Climate-related Financial Disclosures (TCFD).

Source of Information

The information and data in this report mainly come from the Company’s internal data collection system, and work report and public information, including the prospectus, Annual Reports, and media releases. Unless specified, the monetary amounts shown in this report are all presented in RMB. For ease of presentation, “JD Logistics,” “we,” “JDL” and “the Company” all refer to “JD Logistics, Inc.” “JD,” “JD.com” and “the Group” all refer to “JD.com, Inc.”

Reporting Scope

This report covers the period from January 1, 2021, to December 31, 2021, focusing on the ESG performance of JD Logistics. To maintain the continuity and integrity of information, some contents have been reviewed and extended.

Contact Us

We value your feedback and opinions and appreciate you emailing us at jdliir@jd.com, or mailing a letter to JD Logistics at 10th Floor, Building B, No. 18 Kechuang 11 Street, Yizhuang Economic and Technological Development Zone, Daxing District, Beijing, 100176, the People’s Republic of China. For more information, please visit our official website at <https://www.jdl.com>.



Overview

JD Logistics and Corporate Philosophy

JD Logistics: become the world’s most trusted supply chain solutions and logistics services provider

In 2007, JD Logistics was established as the logistics department of JD.com. In April 2017, JD Logistics officially became independent and started to serve external customers. In May 2021, JD Logistics was listed on the main board of the Hong Kong Stock Exchange. As China’s largest integrated supply chain logistics services provider, JD Logistics primarily focuses on six industries including fast-moving consumer goods (“FMCG”), home appliances and home furniture, apparel, 3C, automotive and fresh produce. With integrated supply chain logistics services as our core competence, JD Logistics provides consumers with technology-driven integrated supply chain solutions and logistics services to help enterprises, industries, and the whole society reduce costs and boost efficiency.

JD Logistics has established six synergized logistics networks, including warehouse network, line-haul transportation network, last-mile delivery network, bulky item logistics network, cold chain logistics network, and cross-border logistics network. By the end of 2021, JD Logistics had been running more than 1,300 warehouses, including 43 Asia No.1 smart mega warehouses. The aggregate gross floor area (GFA) is over 24 million square meters, including the area managed by JDL’s Open Warehouse Platform.

JD Logistics always attaches importance to the critical role of technological innovation in corporate development. Based on underlying technologies such as 5G, artificial intelligence, big data, cloud computing and Internet of Things, etc., JD Logistics is continuously improving its capabilities in automation, operation digitalization, and intelligent decision-making. Simultaneously, JD Logistics has built a collaborative and symbiotic supply chain network, incorporating partners from various industries in China and worldwide. Through cooperation with international and domestic partners, JD Logistics has established numerous international routes covering more than 220 countries and regions, with nearly 80 bonded and overseas warehouses.

At the same time, JD Logistics strives to implement the strategic project of the “Green Stream Initiative” to coordinate with industrial and social forces to pay attention to the sustainable development of mankind. As the first logistics enterprise in China to commit to setting the Science Based Targets, JD Logistics promotes using more clean energy and environmentally friendly materials, practicing green sustainable development. Furthermore, JD Logistics is adhering to the core development strategy of being “experience-oriented, technology-driven and efficiency-winning.” As such, JD Logistics continues to share its long-term experiences accumulated as a new type of real economy enterprise and the digital and intelligent capabilities brought by long-term investment in technology, serving the real economy and continuously creating social value.

Corporate Brand Concept

Vision	Values	Mission	Core Strategy	Business Philosophy
Become the world’s most trusted supply chain solutions and logistics services provider	Customer first, integrity, collaboration, gratitude, dedication, and ownership	Drive superior efficiency and sustainability for global supply chain through technology	Experience-oriented, technology-driven, and efficiency-winning	Customer-oriented, reliable supply chain service to create value continuously

Message from CEO



2021 is a crucial year for JD Logistics to proceed with development and transformation. I have been thinking about what social missions JD Logistics should undertake. While providing our customers with better, more efficient, and more sustainable logistics solutions, what other contributions can we make to the sustainable development of the industry, society, and the world?

In 2007, we were established as the logistics department of JD.com. Since the very beginning, we planned and built our logistics infrastructure based on the positioning of providing integrated supply chain solutions. We have continuously expanded the investment in logistics technology research and development (“R&D”), deepened our industry insight, and strengthened our core service capabilities. In 2017, JD Logistics officially became independent, and we further opened up our logistics capabilities that used to serve JD Retail to give impetus to external customers to comprehensively improve their logistics quality and efficiency. In 2021, JD Logistics’ revenue reached RMB 104.7 billion, an increase of 42.7% compared with 2020, of which the revenue from external customers reached RMB 59.1 billion, accounting for 56.5% of the total. Meanwhile, the annual investment in R&D of JD Logistics reached RMB 2.8 billion, up 36.9% year-on-year, and more than 5,500 patents and software licenses have been applied for. In 2021, JD Logistics was successfully listed on the main board of the Hong Kong Stock Exchange, marking JD Logistics entering a new development era.

Sailing along the main course of “providing integrated supply chain logistics services,” JD Logistics is committed to energy conservation and carbon emission reduction, building a green supply chain by continuously concerning the potential impact of climate change. In 2019, JD Logistics became the first logistics enterprise in China to join the Science Based Targets initiative (SBTi). Through JD Logistics “Green Stream Initiative,” reusable delivery boxes were used 65 million times, and 6 million reusable “plastic woven bags” were put into use in 2021. In addition, JD Logistics has deployed 20,000 new energy vehicles in more than 50 cities in China. To accelerate the goal of 100% new energy applied in logistics transport vehicles by 2030, JD Logistics will develop and deploy thousands of autonomous delivery vehicles in the next 2-3 years to support green transportation. By the end of 2021, the installed photovoltaic capacity of JD Logistics across our nationwide smart logistics parks reached more than 100 megawatts, with an annual power generation of 160 million kWh. In the next three years, JD Logistics plans to realize the total photovoltaic power generation capacity of 1,000 MW, providing green energy for 85% of JD Logistics’ smart logistics parks. JD Logistics’ Xi’an Asia No.1 smart mega warehouse

had realized carbon neutrality in 2021, becoming the first “zero-carbon” logistics park in China. JD Logistics will invest RMB 1 billion in building a green and low-carbon integrated supply chain network in the next five years and increase our carbon efficiency by 35%. Meanwhile, we will cooperate with upstream and downstream partners to jointly explore and promote the green and low-carbon integrated supply chain, contributing to a green and low-carbon integrated supply chain ecosystem.

JD Logistics adheres to the business value of “achieving success the right way” with a deep concern for employees’ health, safety, and career growth and comprehensively promotes high-quality employment. By the end of 2021, the total number of employees of JD Logistics reached 316,000. We always insist on signing standardized labor contracts with all front-line employees. By providing stable income, five social insurances plus one housing fund and other benefits, we enable employees to obtain a better life and a promising career. We empower more than 200,000 rural families to have stable incomes, covering more than 1 million rural population. Regarding local employment enhancement, those who get employed in the provinces where they reside account for more than 60% of JD Logistics’ front-line employees.

JD Logistics attaches importance to social responsibility, continuously supporting the development of small and medium businesses and promoting rural revitalization and common prosperity. We contribute to rural revitalization leveraging our integrated supply chain logistics infrastructure and services, and promote the efficient docking of production and sales. On the one hand, we constantly improve the intelligent logistics infrastructure, improve the efficiency of fulfillment, vitalize the rural consumption market, and promote the rural consumption upgrade. On the other hand, we have also built a successful pattern that localizes the integrated supply chain in the production regions, which helps the marketing of local signature agricultural products, and fully empowers rural areas to increase income. As of now, we have provided corresponding supply chain services for more than 1,000 agricultural production regions and industry zones in China.


As China’s leading technology-driven supply chain solutions and logistics services provider, JD Logistics relies on robust logistics infrastructure to actively participate in public governance and emergency support under extreme conditions. In 2021, JD Logistics provided timely support for relief supplies when Henan and Shanxi provinces suffered floods. During COVID-19 pandemic, JD Logistics made every effort to ensure the transportation of vaccines and livelihood necessities. By the end of 2021, JD Logistics had transported more than 4.3 million doses of vaccine. JD Logistics had applied nearly 400 Level-4 autonomous delivery vehicles to play the essential role in contactless, and last 100 meters delivery.


2021 marks the inaugural year for JD Logistics to release an ESG report. During the preparation of this report, we thoroughly reviewed what we have been doing in the areas of environmental, social, and governance and conducted a systematic evaluation and optimization. This year, it is worth mentioning that we incorporated the topic of climate-related financial information disclosure into this ESG report. For the first time, we comprehensively analyzed the opportunities and risks faced by JD Logistics in different climate scenarios, based on which we formulated the risk management strategy for 2030. In the future, we will keep deepening the integrated supply chain logistics services, promote global efficient circulation and sustainable development with technological empowerment, and take every step steadily by incorporating efficiency with caring for all in the business ecosystem to drive for a prosperous future for the planet together.


Yui Yu
Executive Director and Chief Executive Officer, JD Logistics


Key Performance Overview

Highlights of Company Performance

In 2021, JD Logistics’ total revenue reached RMB **104.7 billion** an increase of **42.7%** from 2020 

In 2021, R&D investment reached RMB **2.8 billion**, up **36.9%** 
More than **5,500** patents and software permissions had been filed for approval, among which the number of patents related to automation and unmanned technology exceeded **3,000**

In 2021, the number of external customers of JD Logistics’ integrated supply chain services reached **74,602** with a year-on-year increase of **41.7%** 

Revenue from external customers reached RMB **59.1 billion**, up **72.7%** year-on-year, 
accounting for **56.5%** of total revenue

Highlights of Responsibility Performance in Key Areas

Linking with Partners for a Shared Success

By the end of 2021, the total number of JD Logistics employees had reached **316,000**

In 2021, those employed in the province where they reside accounted for more than **60%** of JD Logistics’ front-line employees

In 2021, more than **80%** of the front-line employees of JD Logistics came from rural areas of China. By providing stable income, five social insurances and one housing fund, and other benefits, the Company provided better life and career paths for employees. JD Logistics ensured the stable income of more than **200,000** rural families covering over **1 million** rural population

In 2021, nearly **3,000** training courses were developed for talent development. Employees received nearly **1,000** trainings from online to offline, corresponding to the different career development scenarios, such as onboarding, management reserving, getting new appointments, and on-the-job capacity building

At present, **100%** of JD Logistics purchased vehicles have been installed the ADAS¹ intelligent driving assistance system, ensuring the complete safety of drivers

¹ADAS: Advanced Driver Assistance System.

Linking with Demands for a High-quality Service


In 2021, users’ satisfaction rate on express delivery service continued to rank as the **first tier** in the industry


In 2021, about **90%** of the total online retail orders from JD.com handled by JD Logistics were delivered on the **same-day or the next-day**, and about **60%** of the orders were fulfilled under the “211” program

As of the end of 2021, JD Logistics had employed over **200,000** in-house delivery personnel and operated over **7,200** delivery stations covering **31** provinces, municipalities and autonomous regions and **444** cities and municipal districts in China 

As of the end of 2021, JD Logistics had run over **10,000** self-operated service stations and self-service lockers, and **300,000** partnered self-service lockers and service points, providing 24/7 smart pick-up and drop-off services

Linking with Industry for a Quality Improving and High Efficiency Growth

By the end of 2021, JD Logistics had served more than **300,000** corporate customers 

By the end of 2021, JD Logistics had been running more than **1,300** warehouses, including **43** Asia No. 1 smart mega warehouses in **33** cities across China. The aggregate GFA is over **24 million** square meters, including the area managed by JD Logistics’ Open Warehouse Platform 

By the end of 2021, JD Logistics had a self-operated fleet consisting of over **18,000** trucks and other vehicles. In addition, JD Logistics had more than **1,000** air cargo routes, including **10** domestic all-cargo routes

By the end of 2021, JD Logistics had operated approximately **80** bonded and overseas warehouses with a total area of over **700,000** square meters managed. JD Logistics’ international supply chain network can reach more than **220** countries and regions worldwide

Linking with Wellbeing for a Common Prosperity

To promote “express delivery into villages,” JD Logistics actively improves accessibility and service efficiency across the three levels of county, town, and village, and promotes inclusive logistics in urban and rural areas. In 2021, JD Logistics succeeded in providing same-day or next-day deliveries to **93%** of counties and **84%** of towns and villages nationwide

JD Logistics continues to drive the regional development of e-commerce in Tibet. There are more than **100** warehousing robots in JD Logistics’ newly established and automated warehouses in Tibet. In 2021, the growth rate of JD Logistics orders in Tibet had reached **43%**

Linking with Future for a Greener Planet

In the next five years, JD Logistics promises to continue investing RMB **1 billion** in the construction of the green, low-carbon integrated supply chain, and increase our carbon efficiency by **35%**

JD Logistics’ Xi’an Asia No.1 smart mega warehouse has realized carbon neutrality in 2021, becoming the **first** “zero-carbon” logistics park in China

In 2021, the “Green Stream Boxes” were used more than **5 million** times, the reusable cooler boxes were used more than **60 million** times, and **6 million** reusable “plastic woven packaging bags” were put into use. The average utilization rate of reusable transfer bags reached **100%**, saving the use of **140 million** times of disposable woven bags and **70 million** disposable plastic woven bags annually

By upgrading new materials, the thickness of buffer packaging materials gets reduced, and the annual use of PE is reduced by about **20,000** tons

In 2021, JD Logistics reduced paper use by more than **240,000** tons, plastic by nearly **35,000** tons, and packaging material waste by more than **30%**

In 2021, we replaced **4,960** traditional fuel delivery vehicles, which reduced carbon dioxide emissions by **22,832** tons. Now, all self-operated intra-city delivery vehicles in Beijing have been replaced with NEVs, reducing about **400,000** tons of carbon dioxide emissions every year

Statement from the Board

JD Logistics promises that the Company strictly abides by the requirements of the environmental, social, and governance (ESG) reporting guidances of the stock exchanges where JD Logistics is listed.

JD Logistics’ Board of Directors gets engaged in the supervision and decision-making of ESG work in diversified ways. In 2021, the Board of Directors was deeply involved in supervising the ESG strategy and reporting work. In light of our business influence, in combination with global sustainable development trends and considering the expectations of multiple stakeholders inside and outside the Company, JD Logistics evaluated and determined the economic, environmental, social, and governance issues that are material to the development of the Company. The materiality evaluation results serve as the key basis for identifying the risks and opportunities for JD Logistics and formulating our sustainable development strategy. At the same time, the Board of Directors reviewed the identification results of the Company’s material ESG issues and improved the ESG governance by building and continuously improving the ESG governance structure. In 2022, JD Logistics will establish ESG management metrics and performance evaluation mechanism based on ESG high-priority issues and conduct regular information collection, feedback, and tracking to ensure the implementation of ESG metrics in all business lines, co-constructing and sharing the value and culture of sustainable development at the corporate level.

As China’s leading technology-driven supply chain solutions and logistics services provider, JD Logistics will continue to contribute more sustainable logistics solutions to promote the comprehensive green transformation of industry partners with integrated supply chain capability. In the future, JD Logistics will continue to strengthen ESG governance and actively fulfill the mission of “Drive superior efficiency and sustainability for global supply chain through technology,” aiming to become the world’s most trusted supply chain solutions and logistics services provider.



ESG Governance Structure

JD Logistics has established an ESG governance structure that lays a solid foundation for ESG planning, regular evaluation, and management of related risks. By creating an ESG governance structure, JD Logistics will manage non-financial risks such as environmental, social, and corporate governance more effectively. JD Logistics will maintain effective communication and good relations with multiple stakeholders such as regulatory authorities, investors, customers, and the public. JD Logistics will continuously improve its governance and strengthen its vision to “become the world’s most trusted supply chain solutions and logistics services provider” to realize the steady operation and sustainable development of the business.

The ESG governance structure of JD Logistics consists of decision-making, daily management, work implementation, and external professional resources:

Decision-making:

The Board of Directors and CEO jointly participate in decision-making related to ESG, formulate ESG management metrics and mechanisms, and supervise and guide the implementation of the work. For instance, the CEO shall establish a strategic framework based on the identification of climate-related risks and opportunities and conduct regular supervision and reporting on risk management and the target fulfillment process.

Daily management:

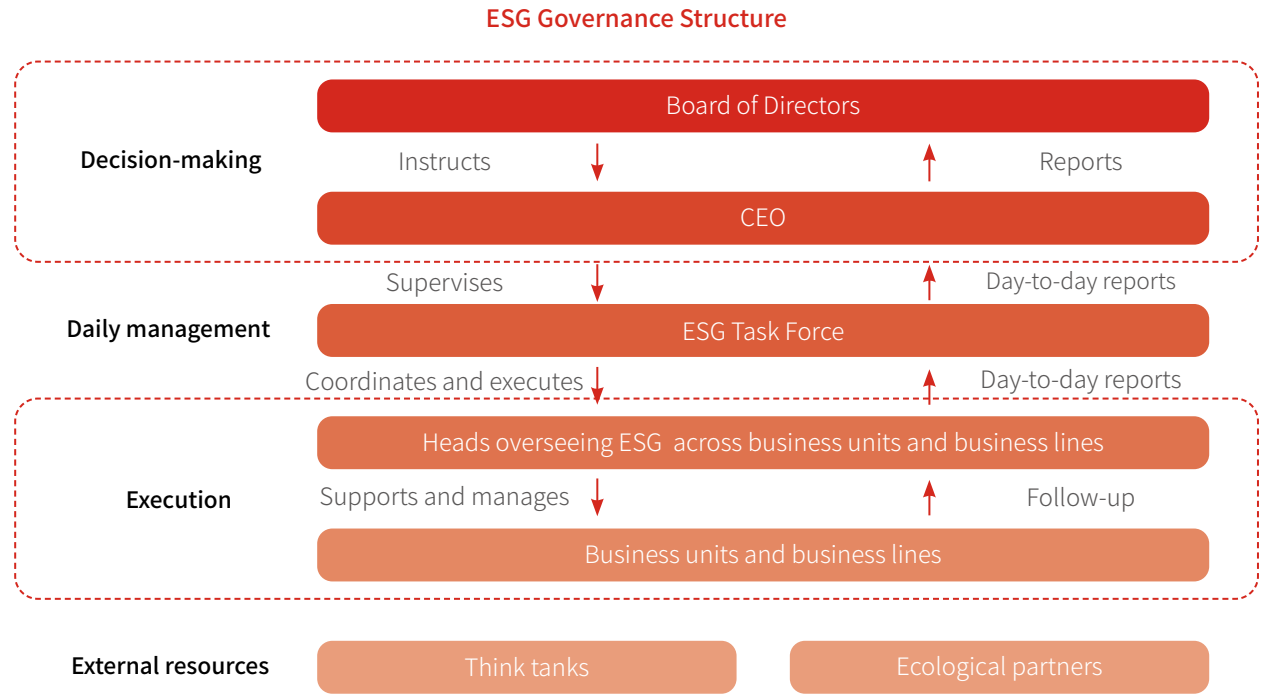
An ESG Task Force is organized under the leadership of the Marketing and Public Relations Department and consists of the Finance department, Human Resources Department and other departments. This ESG Task Force is responsible for the daily management of ESG-related work and coordinates with representatives from various departments and business lines.

Implementation:

All departments and business lines implement specific work related to ESG according to established management metrics and mechanisms, and report to the ESG Task Force regularly.

External professional resources:

ESG Task Force cooperates with external professionals composed of external think tanks and industrial partners to incorporate their expectations and adopt their advice for the ESG-related work of JD Logistics to further improve its ESG governance.



ESG Strategic Framework

Adhering to the strategic mission of “Drive Superior Efficiency and Sustainability for Global Supply Chain through Technology,” JD Logistics aims to become the world’s most trusted supply chain solutions and logistics services provider. In 2021, empowered by the ESG governance system and technology-driven integrated supply chain infrastructure, JD Logistics continued to implement the sustainability framework and fully interpreted a perspective that promotes technological progress, industrial development, a harmonious society, and beautiful ecology by providing high-quality customer service, facilitating the cost reduction and efficiency enhancement of industrial development, promoting the shared prosperity of society, achieving joint growth with partners and leading green and low-carbon development.

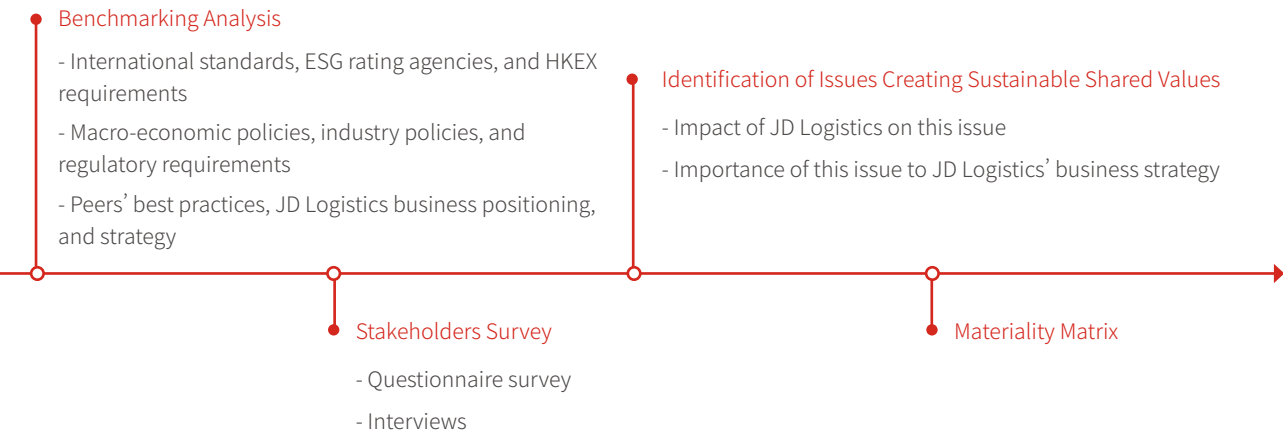


Materiality Assessment and Stakeholder Engagement

Identification and Analysis of Material Issues

Through benchmarking analysis and stakeholders survey, JD Logistics selected 31 strategic issues conducive to creating sustainable shared values and formed a materiality matrix. The high and moderate priority material issues are regarded as the key disclosure topics in this report. The scope and boundary of the report are determined according to the data availability.

Materiality Assessment Flow









Materiality Matrix



Stakeholder Engagement

JD Logistics considers the comprehensive impact of its operation on stakeholders. By maintaining regular and diversified communication with stakeholders, i.e., clients, employees, shareholders and investors, government regulatory agencies, and business partners alongside the value chain, as well as the communities and environment, and promptly responding to their concerns and expectations, JD Logistics has continuously strengthened its ESG governance and communication mechanism. At the same time, maintaining good relations and continuous communication with stakeholders provides an essential reference for JD Logistics to identify important sustainability issues, improve performance, and carry out information disclosure.

Stakeholders	Material Issues ²	Communication
 Clients	Safe, high-quality, and fast delivery and transportation services Integrated supply chain solutions Consumer satisfaction Promote dual circulation with high-quality domestic demand growth Sustainable revenue growth	Continuous online and offline communication 24/7 customer service hotline Daily media communication Social media communication Client research
 Employees	Consumer satisfaction Safe, high-quality, and fast delivery and transportation services Emergency/disaster preparedness and response Sustainable revenue growth Integrated supply chain solutions	All-staff emails, communication meetings, forums, the employees' representative congress, training activities and feedback mechanisms Online and offline employee survey activities Employee complaint mailbox VOE ³ platform
 Shareholders and Investors	Consumer satisfaction Sustainable revenue growth Anti-corruption compliance Data security and privacy protection Integrated supply chain solutions	Phone calls, meetings and company visits Corporate annual report, quarterly reports, and announcements Roadshow Daily reports and communication on sustainability and ESG related issues
 Government and Regulatory Agencies	Supplier management Consumer satisfaction Sustainable revenue growth Anti-corruption compliance Data security and privacy protection	Daily reports and communication Participation in policy recommendations Industry forums and conferences Field investigation Cooperation agreements signing and strategic partnership establishment Responding to inquiries for listed companies from regulatory agencies
 Partners on the Value Chain	Safe, high-quality and fast delivery and transportation services Data security and privacy protection Integrated supply chain solutions Supplier management Consumer satisfaction	Daily procurement, training, and evaluation Industry forums Supplier conferences
 Communities and Environment	Reusable logistics packaging Strategic philanthropy and charity Energy consumption reduction and resource utilization	Long-term charity programs Daily media communication Social media communication CSR forums and activities Volunteer activities

² The material issues as the key topics are based on the analysis results of the ESG material issues of JD Logistics and the comprehensive identification of the daily communication with JD Logistics' stakeholders.
³ VOE: Voice of Employee.

01

Linking with Partners for a Shared Success

Join hands with ecosystem partners and grow with talents and business partners to achieve a shared success

JD Logistics regards compliance as an important foundation for corporate development. We guarantee a clean and compliant business environment by establishing a compliance management system and compliance enforcement mechanism, and strictly observing and implementing national laws and regulations on anti-corruption compliance as well as policies of JD.com. We attach great importance to protecting information security, personal privacy and intellectual property rights. At the same time, we are committed to working together with our ecological partners to build a more sustainable business environment by actively improving our talent development platform and supplier management mechanism.



Internal Control and Compliance Management

JD Logistics always adheres to the principle of “achieving success the right way” and constantly improves the internal control and compliance management system, guaranteeing the Company’s compliance and healthy development.

Compliance Management System

One Principle: Achieving Success the Right Way

Guided by JD.com’s concept of “achieving success the right way,” JD Logistics complies with laws and regulations, builds a culture of integrity and anti-corruption, realizes effective compliance management driven by technology and data, and establishes a forward-looking, flexible, and efficient compliance system.

Three Defensive Lines: All-Round Guarantee

The first defensive line

applicable to all staff

▶ Every employee is familiar with and firmly implements the Company’s compliance system and adheres to the bottom line of compliance by resisting undesirable temptations.

The second defensive line

applicable to risk management teams including legal, finance, information security, and risk control

▶ The professional teams publicize and implement a good compliance culture, apply intelligent technology to all essential practices of risk and compliance management, reduce corporate risks, and ensure the long-term and stable development of JD Logistics.

The third defensive line

applied to the independent supervision and audit team

▶ By following the compliance system and upholding the principle of fairness, justice, and independence, the supervision and audit team oversees the compliance practices of each business unit, investigates and combats corruption, and ensures operational compliance.

Five Perspectives:

Laws and regulations compliance

JD Logistics follows the compliance requirements of JD.com, regards legal compliance as the fundamental requirement to achieve its business objectives, and strictly abides by relevant national laws, regulations, and rules.

Anti-corruption and integrity compliance

JD Logistics has always upheld a “zero tolerance” attitude towards corruption and is determined to create an incorruptible and integrity-focused business environment.

Information security and compliance

JD Logistics ensures the information security of consumers and business clients, as well as the confidentiality, integrity, and availability of information and data in JD Logistics. We only obtain and use information and data within a necessary scope to ensure and maintain the security of information assets.

Auditing compliance

JD Logistics strictly complies with all legal requirements for a listed company. The management makes a written statement on the effectiveness of internal control evaluation in the annual report.

Transaction risk control

Aligned with the requirements of JD.com, all business units in JD Logistics maintain a keen awareness of transaction risk management. We standardize business activity rules, improve the business transaction system, and connect to JD’s risk control system to ensure the accurate identification and intelligent confrontation of business transaction risk behaviors.

Compliance Enforcement Mechanism

Full publicity and implementation

JD Logistics ensures that the compliance policy is deeply rooted in the consciousness of all employees through in-depth publicity and implementation.

Joint accountability

The system of “Accountability Basics and Control (ABC)”⁴ and collateral penalties are carried out in case of significant compliance issues.

Rewards

JD Logistics offers rewards to employees who have performed well in compliance and those who have reported violations.

Compliance in Doing Business

Administrative Licensing

100% Business Coverage

100% Territorial Coverage

Qualification Guarantee

More than 177 categories

Nine major fields of warehousing, transportation, express delivery, cold chain, medicine, international business, unmanned equipment, investment, and other businesses.

JD Logistics — Qualification and License Management

Certification and Accreditation

6 High-tech Enterprise Certificates

12 Credit Evaluation Certificates

6 Logistics Enterprise Rating Certificates

22 Management System Certificates

Safeguard Business

Compliance and Healthy Development

⁴Based on the “ABC principle” of JD.com, JD Logistics implements a two-level decision-making system in terms of financial power and personnel power. In addition to the special provisions of multi-level approval, the general decision-making of managers should be resolved within two superior levels.

Zero Tolerance for Corruption

Anti-Corruption Compliance Regulations

JD Logistics strictly abides by Chinese laws and regulations in related fields, such as the *Anti-Unfair Competition Law*, *Interim Measures on Prohibiting Commercial Bribery*, and the rules and policies issued in the different regions where JD Logistic operates. JD Logistics implements JD.com’s anti-corruption system and regulations, including but not limited to *the JD.com Business Conduct and Ethics Code*, *JD.com Anti-corruption Regulations*, *JD.com Whistle-blower Protection and Reward System*, *JD.com Integrity Reward Policy*, *JD.com Active Filing Reward Policy (for Trial Implementation)*, *JD.com Gifts Management Regulations*, and *Vendor Paid Travel and Business Dinner Regulations*; JD Logistics establishes and implements *JD Logistics Red Line Management Regulations* and adheres to the principle, “compliance represents development,” and the core value of “integrity.”

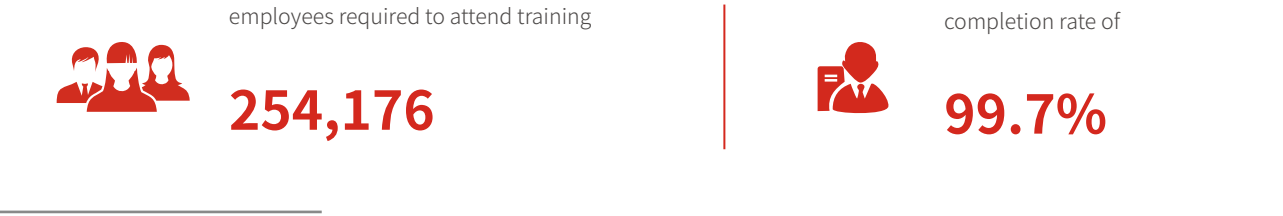
The Company has always upheld an attitude of “zero tolerance” towards corruption, advocated “anti-corruption by everyone,” and encouraged employees, suppliers, and other partners to take actions on anti-corruption. Moreover, JD Logistics implements the “ABC Accountability Principle” and required managers to prevent corruption.

At the same time, JD Logistics requires regular employees and dispatched workers to sign the *Employees’ Commitment Letter on Compliance with ‘JD.com Employee Handbook’ and Anti-corruption*. By having employees sign, JD Logistics ensures that employees are aware of the Company’s requirements for integrity and anti-corruption and establishes the basic code of conduct to comply with the Company’s anti-corruption regulations. Meanwhile, all suppliers and other partners must sign the *Anti-Commercial Bribery Agreement*.

According to the *JD.com Integrity Reward Policy*, relevant employees can get 50% of the bribing amount that they refused to receive as a reward. The Company has established various reporting channels, including but not limited to reporting by a special hotline, a given email address, or post, etc. For employees, suppliers, and other partners who report corruption, duty crimes, and other violations, a cash reward with a maximum amount of RMB 10 million will be given according to the *JD.com Whistle-blower Protection and Reward System*. At the same time, many strict protection measures have been formulated for the business units or individuals who report with their real names to fully protect the legitimate rights and interests of the whistleblower from infringement.

Training Against Corruption

The staff, management level included, are required to attend anti-corruption training at least once per year. In 2021, the Company carried out an online integrity and compliance training and exam covering all employees, with a completion rate of 99.7%⁵ for the 254,176 regular employees required to attend training. The training and exam contents include but not limited to the Company’s anti-corruption system and requirements, corruption reporting and supervision methods, etc., with at least one face-to-face training for employees in key positions such as sales and management levels. At the same time, the Company conducted integrity and compliance training for suppliers and other partners through various online and offline activities, including but not limited to JD Logistics Partners Integrity and Compliance Conference, etc.



⁵Regular employees required for online integrity and compliance training and exam exclude the ones who are pre-resigned, taking leaves or undergoing a labor dispatch. The calculation method of online integrity and compliance training and the exam completion rate is the actual number of employees participating in the training and exam/the total number of regular employees who shall participate in the training and exam, of which the actual number of employees participating in the training and exam is 253,329.

Information Security and Privacy Protection

Sound System Guarantee

JD Logistics has built a multi-dimensional defense system in data security and compliance, governance, leakage prevention, security information, and other aspects to comprehensively protect users’ personal data and business data.

JD Logistics actively follows the information security management policies of JD.com, such as the *Technical Guide on JD.com Information Security and Compliance*, *JD.com Data Security Management Norms*, *JD Supplier Security Management Specification*, *JD.com User Personal Information and Important Data Security Regulation* and *JD Logistics Information Security Management Rules*, etc.

JD Logistics has taken a series of measures to protect the sensitive data of users’ personal information in strict accordance with the requirements of relevant national laws:

- ▶ Comprehensively applies the privacy waybill technology, by which customers’ information, including names, addresses, and phone numbers, are encrypted so that JD Logistics staff in all operation activities cannot see the customer’s private information from the parcel waybill.
- ▶ Carries out life-cycle security management for all sensitive personal information, including encrypted storage, encrypted transmission, page display after data mask, page watermark setting, access logs recording, unified monitoring of access logs, etc.
- ▶ Minimizes the authority scope to control private information and regularly reviews the access authority of employees to personal information.





JD Logistics has implemented the personal information data impact assessment and protection strategy in

12 business lines



Strengthened the security of all

57 applications/mini programs



Screened and rectified **13** risk points for sensitive data exports



Completed **2** rounds of inspections and reviewed on the authority for sensitive data control covering

170,000 people

In 2021, in response to the “Data Security and Privacy Compliance Special Project” at the corporate level of JD.com, JD Logistics carried out comprehensive compliance governance in the aspects of the sorting of personal information collection scenarios, personal information impact assessment, mobile application security reinforcement, updates of the privacy policy, data life-cycle protection, data sharing, etc. As a result, the monitoring and auditing of data usage and circulation were improved. JD Logistics has implemented the personal information data impact assessment and protection strategy in 12 business lines, strengthened the security of all 57 applications/mini programs, screened and rectified 13 risk points for sensitive data exports, and completed two rounds of inspections and reviews on the authority for sensitive data control covering 170,000 people.

In addition, to ensure the data security and user privacy compliance of international logistics, in 2021, JD Logistics developed and provided corresponding overseas versions based on various domestic technical components and platform tools, to better meet global compliance requirements and help the R&D teams develop and deliver application systems quickly, conveniently, and compliantly. At the same time, JD Logistics has established a rapid response mechanism for international business data security and privacy incidents. Through mailboxes and telephones by special hotlines, JD Logistics can ensure reliable responses and immediate handling.

Underlying Technical Support

JD Logistics always regards protecting users’ privacy and ensuring enterprise information security as its due responsibility and is committed to providing a safe and reliable information infrastructure for consumers and business partners.

The solid underlying technical capability of JD Logistics guarantees information security. The network configuration is protected at several levels to ensure that our database is protected from unauthorized access. The sophisticated security protocols are applied to communicate among mobile applications, websites, and plug-ins. The firewall system is equipped to prevent unauthorized access, and an isolation zone is set up to separate external services from internal systems. The reliable information security system and the underlying cloud technology that helps deploy the information system enabled JD Logistics to obtain the Level-3 Certification of Security Level Protection approved and issued by the Ministry of Public Security. At the same time, JD Logistics obtained the certification of ISO 27001 Information Security Management System and ISO 27701 Privacy Information Management System, realizing the integration of information security management with international mainstream standards. This achievement also demonstrated the leading role of JD Logistics globally in mechanism and technology for user privacy and data security protection. In 2021, JD Logistics was awarded the fourth level Certificate of Data Management Capability Maturity (DCMM) by China Federation of Electronics and Information Industry, the first logistics enterprise in China that obtained the fourth level certification.

In addition, JD Logistics is constantly trying to protect consumers’ personal information with innovative technologies. Since 2016, JD Logistics has fully launched the “Smiling Waybill”⁶ as a privacy waybill technology. JD Logistics aims to manage all personal information across the entire data life cycle, minimize the authority control of sensitive information and ensure consumers’ personal information security.

⁶ JD Logistics takes technical means to partially hide users’ names and phone numbers, using “Smiling Waybill” to protect users’ personal privacy and information security.



Intellectual Property Protection

JD Logistics encourages employees to apply for patents, protects R&D innovation, and collaboratively rolls out various incentives to encourage employees’ regular engagement in patent development and application, such as rewarding measures, publicity opportunities, talent evaluation, etc. To implement the *JD.com Patent Incentive Measures*, JD Logistics has continuously awarded prizes to patent inventors for many years, and some business groups have further given additional awards to inventors who have obtained patents and are outstanding in innovation and transformation.

Every year, on April 26, World Intellectual Property Day, the Intellectual Property Department creates an innovative atmosphere by carrying out various online and offline events. We also vigorously publicize the external awards that we received, such as the China Patent Award, to honor the outstanding innovation achievements and enhance the inventor’s sense of pride. Every year, JD Logistics organizes the patent award selection among the employees at the end of the year to further raise employees’ awareness of patent work and encourage employees to actively apply for patents. At the same time, the talent management system is connected with the patent management system, and the employees’ individual patent innovation is also incorporated into the talent evaluation system as one of the aspects for JD Logistics to evaluate the technical talents.

Based on quality-strengthened and value-oriented patent work, JD Logistics Autonomous Delivery Vehicle won the Silver Award for the 22nd China Patent Award for Design in 2021. The Navigation Analyst Patent of the AGV robot “Dilang” won the 2021 High-Value Patent Award of Beijing Economic Technological Development Area.

JD Logistics also attaches great importance to trademark protection and continuously compiles the core trademarks in domestic and global markets, making sufficient preparations for the business to go overseas. Moreover, JD Logistics regularly invites intellectual property experts and consultants to train employees, raise their awareness of protecting trademarks, brands, and all kinds of intellectual property, and lays a solid foundation for building reliable brand recognition.

Regarding the copyright, JD Logistics strongly supports copyright compliance within the Company and among other enterprise partners through policymaking and implementation, compliance management in raw material use and published contents, copyright content protection, and management system construction. While preventing copyright risks, JD Logistics strengthens the protection of software products and copyrighted content and enhances the copyright awareness of employees and other enterprise partners through training.

Human Resources and Talents Development

Employment Situation

By the end of 2021, the total number of employees of JD Logistics had reached 316,000. More than 80% of the front-line employees in JD Logistics came from rural areas of China. By providing them with a stable income, five social security insurances, one housing fund, and other benefits, the Company provided better life and career paths for employees. JD Logistics ensured the income security of more than 200,000 rural families covering over 1 million rural populations. In terms of contributing to local employment, the number of JD Logistics' front-line employees working locally accounted for more than 60%.



By the end of 2021, the total number
of employees of JD Logistics reached

316,000



In 2021, those employed in the
provinces where they reside
accounted for more than **60%**
of JD Logistics' front-line employees



Employment and Labor Standards

JD Logistics respects and protects employees' rights and interests and follows the principles of relevant international human rights rules, including the *Universal Declaration of Human Rights* and the international labor conventions approved and recognized by the Central People's Government of the PRC, on the premise of observing the laws and regulations of the areas where it operates.

JD Logistics adheres to the principles of openness, fairness, impartiality and equal recruitment, signs labor contracts in accordance with the law, forbids any forms of discrimination, treats employees of different countries, nationalities, genders, religious beliefs and cultural backgrounds equally, actively provides employment opportunities for the disabled groups, guarantees the rights of female employees, ensures the men and women employee to enjoy the equal pay for equal work, strictly implements the maternity leave regulations for female employees. To prohibit the use of child labor and forced labor, our *Employee Handbook* strictly defined the relevant employment qualifications, and clearly stipulated that hiring individuals under the age of 16 is prohibited. During the reporting period, there were no incidents of child labor and forced labor in our company. JD Logistics guarantees the equal legal rights and interests of every employee according to law. The *Employee Handbook* clearly stipulates the reporting process and relevant policies of employees' vacations. JD Logistics regulates employment according to law, and establishes labor and employment management rules including labor contract management, employee recruitment, vacation, education, and training, etc. In the talent recruitment and retention process, we strive to encourage employees to make the best use of their talents.

Employee Remuneration and Welfare

Remuneration System

JD Logistics is committed to providing employees with competitive remuneration and benefit, constantly improving remuneration and incentive policies, and implementing the requirements of national laws and regulations to improve workers' income and rights protection. From July 2021 onwards, JD Logistics plans to take two years to gradually increase the employees' average annual revenue from a 14-month salary to a 16-month salary to increase the incentive for talents.

Regarding the payment scheme, a "contributor-oriented" value reward mechanism is applied for management level and professionals, rolling out a salary structure combining a fixed salary and performance salary based on employees' capability and performance. At the same time, according to the characteristics of the industry, the piece-rate wage system is mainly applied to the front-line employees, aiming to encourage them to get more pay for more work done.

Welfare and Allowance

In terms of welfare allowance, JD Logistics pays basic endowment insurance, basic medical insurance, unemployment insurance, employment injury insurance, maternity insurance, and housing provident fund for full-time employees in strict accordance with the relevant provisions of the *Labor Law of the PRC* and *Law of the PRC on Employment Contracts*. In addition, JD Logistics provides supplementary accident insurance with a certain amount of coverage for front-line employees engaged in delivery, warehousing, transportation, etc. An employee relief fund is set up to help families of employees in need. During Chinese traditional festivals and Internet shopping festivals, JD Logistics increases allowances and provides more welfare allowances to employees who still work on the front line.

JD Logistics provides several caring measures corresponding to employees' positions and service years, such as seniority salary, food allowance, congratulatory benefits for weddings and childbirth, environmental allowance, night shift allowance, etc. When on-the-job employees who have served for more than one year outside the headquarters get married or have children, JD Logistics provides congratulatory benefits in addition to legal ones. In case of the death of an immediate family member, JD Logistics provides an additional pension for the employee. Moreover, JD Logistics encourages employees to get more pay for more work done. The salary level of front-line couriers is reviewed annually, and their income level will be improved continuously through various means.



Employee Vacation System

To ensure the work-life balance for employees, JD Logistics strictly abides by relevant national and local laws and regulations and guarantees employees' reasonable rights to take a vacation based on the Company's actual needs and situation. Vacations mainly include statutory holidays, sick leave, annual leave, marriage leave, maternity examination leave, maternity leave, nursing leave, breastfeeding leave, funeral leave, work-related injury leave, personal leave, parental leave, and other vacations stipulated by the Company. In cases where overtime work is necessary, JD Logistics gives overtime pay according to the regulations in combination with varied working hours rules.

Trade Union

JD Logistics puts the relevant requirements of the *Trade Union Law of the PRC* as the primary principles, which are fully adopted in its trade union construction and actively responds to the institutional requirements of the *Guiding Opinions on Protecting the Labor Rights and Interests of Workers under New Forms of Employment*. In the collective bargaining negotiation held in November 2021, representatives of workers and the Company fully negotiated on labor remuneration, safety, and other issues; finally, *JD Logistics Collective Contract* was developed as a key outcome. The negotiation provided valuable experiences for exploring the protection and maintenance of workers' rights and interests in new employment forms such as couriers. In addition, JD Logistics organized several employee caring activities in partnership with all levels of trade unions to let front-line employees feel the warmth and care from trade unions.

Employee Feedback Channel

Based on the actual operating conditions of front-line employees, JD Logistics sets up the online and offline communication channels to hear employees' voices, timely solve employees' problems, and protect employees' legitimate rights and interests. Relying on VOE, employee forums, and others, JD Logistics provides employees with feedback channels functioning in consultation, complaints, whistleblowing, and suggestions. In addition, employees can complain and report violations of the Company's corruption red lines and information security violations through online and offline channels, including the monitoring service hotline. JD Logistics encourages real-name reporting and grants those who report the truth rewards.

Employee Health and Safety

JD Logistics attaches great importance to the health and safety of all employees and regards personnel safety as an essential principle of the whole production and operation activities. When making decisions and deploying production and business activities, production safety management requirements are primarily considered, and the matters related to safety management would be arranged as a top priority. The Company continuously guarantees the investment in production safety management, provides necessary resources, and deals with various potential dangers, thus providing qualified safe conditions for production and business operation.

Warehouse

JD Logistics promotes the visualization of safety standards in the warehouse, identifies the risks of the operation site and formulates corresponding management measures, and puts up safety tips and signs in conspicuous positions. In the use of forklifts, JD Logistics has installed a warning device by setting the speed limit and planning driving routes to prevent the forklift from colliding with people. The safety protection articles are also equipped for forklift drivers to ensure their safety. In addition, JD Logistics distributes work clothes uniformly for operators and provides cold-proof clothes for staff working in low-temperature warehouses to protect their health and safety.

In the aspect of sorting operation, JD Logistics comprehensively carries out risk management, identifies all kinds of hazardous factors in worksites and activities, and manages personnel safety risks to an acceptable level. In the sorting center, JD Logistics focuses on the regular investigation of potential safety hazards and continuously invests in safety upgrades for equipment operation. JD Logistics protects operators' safety by taking measures, including setting protective covers on the rotating parts of the exposed shaft of the conveyor belt. Meanwhile, for the safe operation of vehicle loading and unloading, JD Logistics provides operators with personal protective equipment such as safety belts, helmets, and gloves and provides devices such as anti-rolling vehicle to safeguard the operation safety.

Courier and Driver Safety

Safety Management Measures for JD Logistics' Self-employed Drivers

Traffic Safety Control Measures

JD Logistics attaches great importance to the traffic safety of front-line employees in the process of logistics delivery as we always put employee safety in the first place. In terms of the couriers' equipment safety, JD Logistics has equipped all the couriers with protective equipment such as safety helmets and reflective work clothes. In terms of traffic safety control and management, JD Logistics always adheres to a high standard and normalized management in the daily inspection, repair, and maintenance of vehicles. *The Safety Management Standard for Operating Vehicles* clearly stipulates that the inspection of six safety items, including hygiene and vehicle condition, etc., should be well executed before using the vehicle. At the same time, a patrol inspection mechanism is set up to conduct random inspections on the technical conditions and maintenance of vehicles on a weekly, monthly, and quarterly basis.

Defensive Driving Measures

In terms of defensive driving, JD Logistics has invested tens of millions to install the ADAS (Advanced Driver Assistance System) intelligent system for vehicles. By the end of 2021, 100% installation of ADAS equipment had been completed in JD Logistics' self-purchased vehicles. At the same time, a full-time safety management team was deployed to warn and correct inappropriate driving behaviors in a timely manner to avoid traffic accidents. In the aspect of preventing fatigue driving, the *Safety Management Standard for Operating Vehicles* and the *Incentive Plan for Operation Safety Management* clearly stipulate that drivers should take shifts on time to avoid fatigue driving. All sorting centers are equipped with staff lounges for drivers from main and branch lines to have a rest, ensuring driving safety and relieving fatigue after driving.

Traffic Safety Training

In the aspect of safety training, JD Logistics raises drivers' safety awareness by insisting on giving them safety tips and publicizing accident cases before every day's driving. JD Logistics carried out the special activities of the Terminal Operation Safety Month from August to September 2021. The special activities involved safety training, assessment, inspection, appraisal, etc., which further strengthened the awareness of the safe operation of terminal units, prevented and controlled various safety accidents, and ensured the safety of personnel, property, and operation.

As for the employees who have completely lost their ability to work or passed away due to diseases or accidents, JD Logistics provides an aid fund to their children to support them in completing their studies.



Safety Management Measures for Drivers of Road Transport Carriers

In terms of carrier operation management, JD Logistics has issued the management standards and methods related to safe operation, including *Road Transport Carrier Operation Management Measures*, *Regulations on Management and Assessment of Road Carrier*, *Carrier Operation Training Standards*, etc., which clearly stipulate relevant requirements and measures such as vehicle and operation safety. At the same time, the analysis of regional safety management is regarded as the main topic incorporated into the carrier regular communication, interview, and training. Meanwhile, the communication and analysis meetings will be held every month for carriers with abnormal performance in safety. The implementation of all management rules and standards provides effective guidelines and methods for restraining unexpected behaviors, ensuring the safe operation of carriers, and improving and standardizing the employee safety management mechanism of carriers.

Employee Training and Development

JD Logistics has the most diversified posts compared with other companies in the industry, providing employees with targeted training programs at all levels and promoting high-quality talents development with systematic and personalized training mechanisms.

Employee Training System

The construction of the employee training system of JD Logistics centers around the following three directions:

- Building a general and professional training system to improve the capacity and quality of JD Logistics employees and promote a shared success of both employees and the Company.

- Cultivating the leadership skills of managers at all levels to ensure the effective implementation of JD Logistics business strategy.

- Operating the learning platform efficiently to accumulate the know-how and best practices and construct the knowledge management system of JD Logistics.

In 2021, nearly 3,000 training courses were developed for talent development. Employees received nearly 1,000 trainings from online to offline corresponding to the different career development scenarios, such as onboarding, management reserving, getting new appointments, and on-the-job capacity building. From junior employees to the management level, newly recruited employees, front-line employees who are all working hard to get promoted, and reserve managers at all levels can participate in training programs based on the development path of each post and business needs.



Excellent Front-line Employees

A batch of outstanding front-line employees in JD Logistics has continuously emerged. Luan Yushuai and Song Xuewen, our front-line couriers, had the honor to participate in the torch relay of the winter sports events. Xong Xuewen was also honored as a National Outstanding CCP Member and Luo Ming, also our front-line courier, was rewarded with National May 1 Labor Medal. In the first Beijing “Most Beautiful Courier” selection and award ceremony jointly hosted by Beijing Postal Administration and Capital Civilization Office, three JD logistics couriers, namely Chen Xiaoliang, Zhao Jie, and Li Hao, won this honorary title.



Expert Team

JD Logistics not only has the most energetic front-line employees but also attracts and gathers many top domestic technical talents and logistics experts, striving to bring cutting-edge scientific breakthroughs into the real world for application. The honors won by our professional expert team include the “Science and Technology Progress Award” sponsored by national industry associations, Beijing “Strategy and Technology” talents, “Haiju” talents, Zhongguancun “Gaoju” talents, etc. At the same time, through unremitting exploration and efforts, our expert team, by leveraging its expertise and experiences, has achieved many significant achievements for JD Logistics in key domestic and international scientific research projects, such as “2030 Megaproject — New Generation Artificial Intelligence” and solved the bottleneck problems in the transportation, supply chain, and logistics circulation fields. The participation of outstanding scientists and industry experts has continuously injected vitality into the intelligent, technological, and digital development and innovation of the JD logistics supply chain. In the future, JD Logistics will continuously improve the talent team construction and build a frontier of science and technology innovation as a platform for the logistics industry.

Supplier Management

Strengthening the compliance management of suppliers and manufacturers is an important guarantee for the healthy and steady development of JD logistics, and a key measure to realize the high-quality development of our integrated supply chain. JD Logistics continues to cooperate with supplier partners to build a win-win cooperation value chain ecosystem owing to the well-established and comprehensive supplier management and the advanced digital and intelligent management platform.

Supplier Admittance and Compliance Management

The main product categories under management within JD’s Procurement and Expenditure Department include engineering, administrative, IT operations, and material operations. Relying on the full-process supplier management system built by JD.com, JD Logistics actively cultivates and maintains its strategic suppliers’ relations. In the meantime, JD Logistics adheres to the concept of mutually beneficial cooperation and integrity management, and always insists on placing the interests of clients, business partners, and employees in a priority position. “Achieving success the right way” is the long-standing business philosophy that we consistently uphold, and we are dedicated to creating a transparent business environment with our partners.

Core Policies

Bidding and Procurement Business Process

Bidding and Procurement Business Management Measures

Tripartite Performance Appraisal Procedure

Non-operating Procurement Acceptance Process

Supplier Quality Exceptional Handling Procedure

Green Procurement Management Regulation

Supplier Agreement Honoring Feedback and Handling Process

Strict Procurement Process

Supplier Bidding

JD Logistics has established a complete process for supplier selection and bidding.

Supplier management platform

Suppliers need to complete the registration according to the requirements of JD.com Supplier Collaboration Platform on Recruitment and Procurement. When registering, they need to provide a company introduction, business license (three certificates in one), account opening license, audit reports, or financial statements in the past three years (mainly including cash flow statement, profit and loss statement, and balance sheet), industry qualification certification, relevant management system certification (such as environmental certification, quality certification, etc.) and other professional qualifications including printing business license, building decoration qualification, safety production license, fire safety qualification, and intelligent building qualification, etc.

Credit investigation

JD Logistics inquires about the supplier’s credit performance, penalty information, and other information on the relevant credit website.

Long and short list

Suppliers who meet the requirements of JD Logistics after the screening process, including initial contact, inspection, sample testing, on-site investigation, etc., can be selected for the long and short list of the project. JD Logistics has set corresponding detailed requirements and shortlist qualifications for suppliers bidding for each category and project. Only those who pass a comprehensive evaluation can be incorporated into procurement operations.



Supply Compliance Management

In accordance with suppliers’ qualifications and service delivery capacity and incorporating our business perspective, strategic goals, as well as past cooperative experiences with certain suppliers, JD Logistics manages its suppliers by categories and grades. At the same time, we continue to follow up the entire process of suppliers’ contracts performance, timely track and solve relevant risks raised from the demand issuing departments, strictly conduct a quarterly assessment of suppliers, and implement rewards and punishments accordingly. As the existing regulation requires, we strictly assess the annual suppliers and single-time cooperative suppliers of key projects. On the premise of fairness and justice, the principle of “select the superior and eliminate the inferior” is practiced. A comprehensive evaluation is conducted every quarter according to the performance appraisal results, with which the supplier’s business undertaking volume in the next quarter is matched.

Negative List System

A negative list system is also established in JD Logistics. The suppliers who violate Chinese laws and regulations are not allowed to be shortlisted. We declare that it is forbidden for our partner suppliers to engage in illegal employment and violate labor laws. In case of violation, we will start the investigation process as soon as possible and initiate a blacklist process against the severely non-compliant suppliers. After internal approval, the suppliers will be listed as entities with whom JD Logistics shall never cooperate. If the issues are severe, we will report to the state administration for industry and commerce or transfer them to the judicial authorities for handling.

Environmental and Social Screening and Auditing System

JD Logistics strives to ensure that its business ecosystem does not harm the environment, climate, and the interests of laborers and employees and actively practices this principle in supplier management. The supplier screening and auditing standards include factors on environment, climate, labor, employees’ rights and interests, and other considerations. When performing supplier screening and auditing, JD Logistics pays attention to the relevant industry qualifications of suppliers, inquires and evaluates the rights and interests of labor and employees through the information accessed in the system, and identifies and evaluates the impact of relevant information.

At the stage of supplier screening and shortlisting, JD Logistics not only considers suppliers’ quotation and supply capacity but also fully considers relevant requirements of environmental protection. For example, the manufacturing suppliers who have a significant impact on environmental pollution should provide environmental impact assessment certificates and other licensing documents. At the same time, JD Logistics consumables (such as cartons, waterproof bags, logistics labels, express envelopes, and buffer packaging) during processing and transportation delivery should strictly control the emission of pollutants, e.g., “three wastes” (wastewater, waste oil, waste gas, etc.), to ensure all indicators to comply with environmental protection standards. A full-time “three wastes” handler should be equipped in the production and processing enterprises to oversee the regular and point-fixed collection and treatment of sewage, waste gas, solid waste, etc., in the factory, and improve the environmental protection filing and raw material control measures. This handler will also be responsible for avoiding buying and adding toxic and harmful substances, as well as the recycling materials bringing risks to human health. In addition, when it comes to labor and employees’ rights and interests, especially the issues related to production safety, suppliers should provide specific insurance for employees.

Green Procurement Management

JD Logistics constantly implements relevant management measures and standards to improve suppliers’ environmental and social performance.



Since 2020, JD Logistics has formulated green procurement management policies to standardize its procurement business. The concept of environmental protection and green development is integrated into the supplier development, certification and project admittance, procurement management, contract signing, contract performance, day-to-day management of suppliers, and other activities involved in the non-operating procurement business of JD’s Procurement and Expenditure Department. At the same time, the “Green Stream Initiative” is fully implemented throughout all businesses to achieve the green procurement goals.



We have established a negative list mechanism for green procurement suppliers. For suppliers shortlisted in the green procurement resource system, we shall suspend or terminate the procurement contracts if any circumstances defined in the negative list or other environmental problems occur. Suppose the Company incurred any loss because suppliers deliberately concealed their violation of environmental laws and regulations, JD Logistics has the right to protect its own interests in accordance with relevant laws and regulations.



In the bidding and pricing process, suppliers’ contribution to environmental protection can be served as a bonus. In the process of contract signing, JD Logistics will clarify the punishment policy for violating the green management regulations in the contract terms. In supplier performance evaluation, the Company adds corresponding environmental protection assessment clauses for green procurement categories, and supervises suppliers in environmental protection, resource conservation, corporate social responsibility, and sustainable development.



JD Logistics provides special training for suppliers on carbon neutrality in order to better respond to China’s carbon peak and carbon neutrality goals and enable the enterprises to exert their efforts to accelerate the carbon neutrality progress. JD Logistics invites the partner suppliers to participate in Science Based Targets special training on carbon neutrality.

02

Linking with Demands for a High-quality Service Delivery

Driven by technologies, we bring a more efficient and high-quality service experience to all kinds of clients

Always putting customer experience in the first place, JD Logistics continues to provide integrated supply chain services with the best experience and the most efficient cost for customers and create value for all kinds of clients based on its supply chain infrastructure, operation experience, industry insights and leading supply chain technology capabilities accumulated for over 10 years.



High-quality Service Empowers the Overall Development of the Industry

Based on internal and external business scenarios and driven by long-term investment in technology and innovation, JD Logistics continuously strengthens the core competitiveness of the trinity of supply chain logistics technology by integrating software, hardware, and system. JD Logistics provides customers with supply chain solutions of all-chain integrated operation, all-scenario intelligent management and omni-channel intensive service, explores the application of innovative supply chain logistics technologies, and eventually improves supply chain efficiency.

In 2021, JD Logistics obtained several authoritative certifications and honors. At the same time, we also participated in formulating several national and industry standards. As a benchmark recognized by the industry, we have proactively promoted the transformation and upgrade of the manufacturing industry and the development of the digital supply chain network with our years of accumulated experience.

Certifications

JD Logistics has obtained multiple management system certifications in environment, quality, occupational health and safety, information security, privacy information and corporate intellectual property rights as well as product after-sales service evaluation certifications in various aspects such as warehousing and transportation of commodities, one-stop logistics solutions for enterprise customers, logistics intelligent robots, commodity sales service, and the after-sales service of smart logistics integrated system.

Environmental Management System Certification	»	GB/T24001-2016 idt ISO14001:2015
Quality Management System Certification	»	GB/T19001-2016 idt ISO9001:2015
Occupational Health and Safety Management System Certification	»	GB/T45001-2020 idt ISO 45001:2018
Information Security Management System Certification	»	ISO/IEC27001:2013
Privacy Information Management System Certification	»	ISO/IEC27701:2019
Enterprise Intellectual Property Management System Certification	»	GB/T29490-2013
Evaluation Certification of After-Sales Service of Commodities	»	GB/T27922-2011

Participation in Formulating Industry Standards

JD Logistics led and participated in the formulation of several national level standards, such as *Express Electronic Waybill*, and also took part in the formulation of some industry level standards, including *Evaluation Index of Enterprise Green Logistics*, *Specification of Mail and Express Delivery Service by the Unmanned Vehicle*, *Specifications for Security Inspection Data Exchange of Express Items in Railway Transport*, *Guide for Mail and Express Packaging Recovery and Recycling*, *Requirements for Post and Express Service and Environmental Protection Packaging of Agricultural Products*, *Inspection Operational Specifications of Real-name Sending and Receiving of Mail and Express Package*, *Technical Requirements of RFID Application for Post and Express Packaging*, *Requirements for Restricting Excessive Packaging of Post and Express Items*, *Technical Requirements for Cold Chain Delivering Insulation Box*, *Classification and Codes for Express Package*, etc.

Publish of Industry-related Research Reports

In conjunction with China Europe International Business School, JD Logistics uses the accumulated big data to evaluate how the different ways and quality performance of logistics influence consumers’ behaviors, which is of great significance in reaching industry consensus, leading corporate innovation, and accelerating application and promotion. As the chairman organization of the Alliance of Industrial Internet, JD Logistics jointly completed the *White Paper of Empowerment of Industrial Supply Chain by Industrial Internet Platform* and the *White Paper of Supply Chain Innovation and Application based on Industrial Internet* by cooperating with academic and industrial organizations, released the *White Paper of 5G Empowering Future Logistics — Solution of New Logistics Infrastructure Based on 5G Wireless Private Network* together with China Telecom, jointly released the *White Paper of 5G Intelligent Logistics* with Huawei, and independently released the *Application Guide of 5G and IoT Based Technologies for Smart Logistics Park* and *Special Report of “New Infrastructure” Leading Innovation and Breakthrough*, etc.⁷

Experience-oriented, Consumer Satisfaction First

JD Logistics adheres to the core development strategy of “experience-oriented, technology-driven and efficiency-winning,” continuously optimizes service quality, protects customer privacy and promotes product innovation.

Constantly Upgrading Delivery Efficiency to Ensure the Perfect Consumer Experience

In order to enable consumers to enjoy the privileged service with the fastest delivery, JD Logistics constantly improves its service efficiency. JD Logistics applies the business model of self-constructed terminal logistics centers, which covers the three business lines of intra-city delivery fleets, dispatch service stations and last-mile delivery stations. Through the full coverage of logistics infrastructure, JD Logistics provides customers with higher quality and more convenient delivery services and continuously strives to improve consumers’ experience.

⁷ *White Paper on Industrial Internet Platform Empowering Industrial Chain Supply Chain*, *White Paper on Supply Chain Innovation and Application Based on Industrial Internet* and *White Paper on 5G Intelligent Logistics* were published in 2021, *5G Empowering Future Logistics — New Infrastructure Solution for Logistics Based on 5G Wireless Private Network*, *Series Topics on New Infrastructure Leading Innovation and Breakthrough* were published in 2020, and *Application Guide of 5G and IoT Based Technologies for Smart Logistics Park* was published in 2019.

By the end of 2021, JD Logistics has been running more than 1,300 warehouses (incl. 43 Asia’s No.1 smart mega warehouses), operating over 24 million square meters of warehouses including the area managed under the JDL’s Open Warehouse Platform. Using a variety of automation equipment and refined operation, JD Logistics can realize classified and customized distribution services, including “211” (same- and next-day delivery), 24-hour delivery, flash delivery (2-hour delivery), scheduled delivery (up to 30-minute accuracy), luxury delivery, the cold chain delivery with temperature control over the whole process and customized delivery. In 2021, about 90% of the total online retail orders of JD.com handled by JD Logistics were delivered on the same or the next day, in which about 60% of the orders were fulfilled under the “211” program.

As of the end of 2021



JD Logistics has been running more than

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square meters of warehouses

24 million

about 90% of the total online retail orders of the Group handled by JD Logistics were delivered on the same day or the next day



about 60% of the orders were fulfilled under the “211” program



In addition to in-house delivery, JD Logistics has also built self-service infrastructure for various scenarios, including service points in various community convenience stores, Star Distribution Stations⁸ for self-service and to-door delivery in buildings, 24-hour self-pickup lockers, “JD Sending (京东派),” which provides comprehensive services for college students across the country, etc. By the end of 2021, we had been operating over 10,000 self-operated service stations and self-pickup lockers, and over 300,000 partnered self-pickup lockers and service points, providing 24/7 smart pick-up and drop-off services.



As of the end of 2021, we had been operating over

10,000

self-operated service stations

⁸ JD Star Distribution Service is targeted to community customers, which is supported by physical stores integrating self-pick-up, distribution, parcel collection, and other services.



Full Coverage of Customers’ Insight to Improve Customer Satisfaction

JD Logistics highly values the customers’ opinions and suggestions. We actively broaden channels to collect customers’ feedback and conduct online research and offline interviews to understand customers’ experiences throughout the whole journey of logistics service from pre-sales, admission, warehousing, collection, delivery, payment settlement, and after-sales by means of big data extracting, feedbacks at backend collected through platform tools, social media monitoring, and consumer satisfaction research, etc. In 2021, JD Logistics collected more than 45,000 valid questionnaires. By exploring the service concerns and expectations from the customer’s perspective, we find out the strengths and problematic points that customers care in each product and experience of JD Logistics, and continuously follow up on the points to improve the experience. In 2021, user satisfaction on JD Logistics express delivery reached 97.50%. Customer satisfaction in four areas, namely, sales and operation maintenance services, warehouse delivery and warehousing services, items collection, and settlement services, has been significantly improved. Furthermore, JD Logistics also released the industry’s first *Five-Star Delivery Service Standard* and implemented unified and undifferentiated service nationwide to ensure that consumers get high-quality service experience while enjoying a fast delivery service. In 2021, in terms of public satisfaction for express delivery enterprises, JD Logistics continued to rank among first-class services providers in the industry with its excellent public satisfaction and became a favorable courier service brand in the market.



In 2021, JD Logistics collected

more than 45,000 valid questionnaires

In 2021, user satisfaction on JD Logistics express delivery reached






Service Upgrade and Intelligent Customer Service to Reshape the Service Model

In terms of after-sales customer service, in 2021, JD Logistics reshaped the service model and continuously improved customer experience through two major ways of service upgrade and intelligent customer service. JD Logistics has three call centers and seven complaint handling centers in China, which handle 120,000 inquiries through customer service personnel and 70,000 inquiries by self-service every day. The year-round restless service team enables customers to come with questions and expectations and leave with satisfaction and trust. The annual satisfaction rate of complaint handling reached 95%, truly fulfilling our value of customer first and responsibility as a high priority.

JD Logistics customer service realizes the upgrading of automatic and intelligent claims processing and management system by standardizing the claims settlement process, iterating the claims management model, and strengthening the function of claims processing system. It is to create a new logistics claims settlement pattern combining logistics with circulation and provide customers and merchants with high-quality and professional claims service.

In terms of personnel training and assessment, JD Logistics customer service center has developed a customized training and assessment system satisfying different positions such as customer service representative, customer service supervisor, quality inspection specialist, training specialist, knowledge management specialist, and field management specialist, etc. We formulate new employees' training and assessment to determine positions, enhancement training, training and assessments for new position adaptation, and annual skills reconfirmation assessments. We are committed to bringing customers a superior experience with bespoke professional services.

JD Logistics has

 **3** call centers and **7** complaint handling centers in China

Helping Efficient Public Governance by Integrated Supply Chain

Relying on the integrated supply chain infrastructure, JD Logistics actively supports livelihood improvement and public governance. JD Logistics fully supports vaccine and livelihood supplies' transportation during the COVID-19 pandemic, provides timely material transportation when encountering the extreme weather, and leverages its logistics expertise to respond to social needs and convey social values.

Guaranteeing the Capacity for National Food Transport

Based on its logistics supply chain infrastructure and the leading technology that JD Logistics has developed for more than 10 years, we proactively perform our social responsibility and support the national food emergency relief and facilitate the construction of the information system and warehousing facilities. JD Logistics integrated its resources and capabilities and further optimized the internal emergency responding mechanism to guarantee the efficient allocation and transportation of the livelihood necessities, including grain and edible oil, as well as the emergency relief supplies. We've built up a safeguarding system based on our integrated supply chain that allows routine service delivery and the timely delivery of relief materials during a disaster. JD Logistics became one of the first batch of state-level food emergency support enterprises in October 2021.

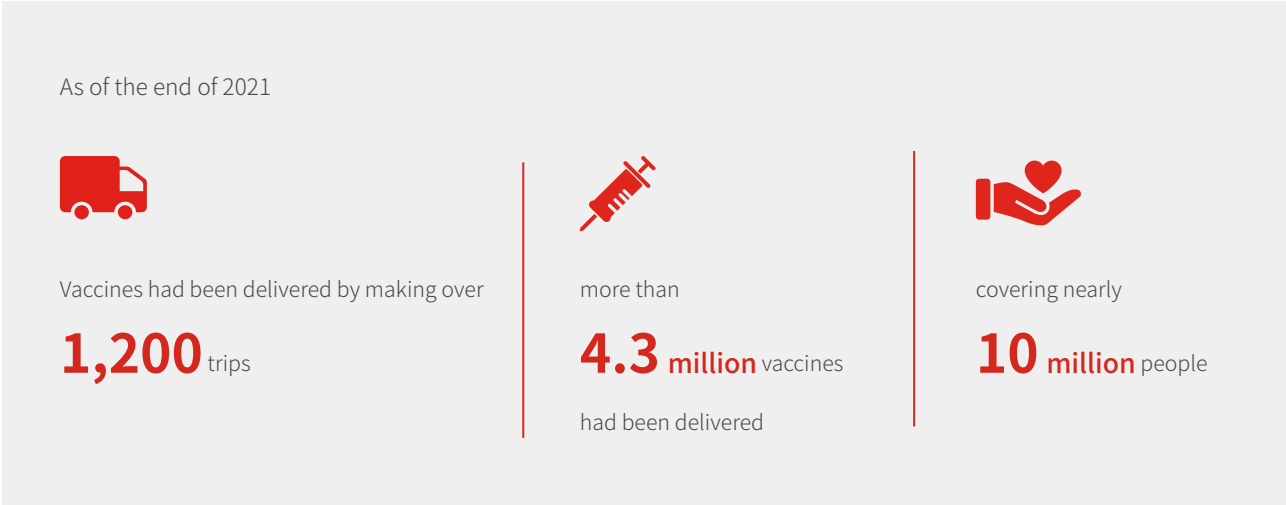
In the future, JD Logistics will continue to unleash its value as a new type of real economy enterprise. We will further improve the circulation efficiency of the whole food chain by taking four strategic measures, including optimizing the emergency responding mechanism for food transportation, strengthening the construction of a market-oriented supply chain for food stocks, promoting the modernization of the warehousing network for food reserving, and co-creating an ecosystem to engage the key enterprises to ensure the adequate supply of food. We will cooperate with relevant departments and partners to comprehensively promote the upgrading of the food industry, support the rural revitalization and contribute more value to the national food emergency system and even the food security of mankind.



COVID-19 Vaccine Delivery

Actively responding to the national epidemic normalized prevention and control, JD Logistics relying on our business advantages in the pharmaceutical cold chain business and leveraging our technology strength in intelligent infrastructure and the cold chain traceability platform, undertook the transportation of COVID-19 vaccines in Beijing. JD Logistics is the first vaccine distribution service enterprise recognized by the Beijing Municipal Medical Products Administration and the vaccine distribution enterprise designated by the Beijing Municipal Commission of Transport. By the end of 2021, more than 4.3 million vaccines had been delivered by making over 1,200 trips, covering nearly 10 million people, to help build the epidemic prevention wall for the capital.

Through vaccine distribution, JD Logistics achieved a new breakthrough in pharmaceutical cold chain service and promoted the formulation of the industry regulation *Technical Guideline for Road Transportation of Covid-19 Vaccine*, which helped promote a win-win for both business and social value creation.



Reserve Transport Capacity When Encountering Extreme Weathers and Natural Disasters

JD Logistics actively contributes to the construction of a national emergency resource management platform. Abiding by principles namely centralizing management and allocation, enabling both regular service and emergency relief during a disaster, combining purchasing and storage capacity, and ensuring cost-saving and high efficiency, JD Logistics can realize the sharing and centralized allocation of the relief supplies among the regions once there is an emergency event, attaining the standardized and intelligent emergency management. Coordinating with departments at all levels of emergency management as well as the food and strategic materials’ reserving, JD Logistics helped establish a collaborative safeguard mechanism to achieve normalized management of emergency logistics. Once there is an emergency event, JD Logistics will respond quickly by leveraging its integrated supply chain system consisting of warehousing, transportation, and allocation. In addition, JD Logistics fully motivates the society forces to participate in the construction of the national emergency management system, and continuously promotes the service quality in emergency supplies delivery.

After the outbreak of the floods in Henan and Shanxi in 2021, JD Logistics quickly organized a task force and allocated a large number of flood relief materials such as shovels, life jackets, raincoats, and rubber boots, as well as livelihood necessities materials such as mineral water, instant noodles, and ham sausages from the nearest Asia No.1 smart mega warehouse, so as to alleviate the difficulties in food supply and sanitary drinking water of the disaster affected citizens.

In 2021, unmanned warehouses helped ensure the security of China’s basic energy supply, especially when public service infrastructure such as the power grid encounters an emergency event or requires urgent repair. The “self-service picking” in unmanned warehouses can realize “on-call” and 24/7 service. JD Logistics’ leading integrated supply chain solutions ensures the safe and reliable operation of the main grid of the national West-East Power Transmission project, realizing the optimal allocation of power resources in a wider range, and making the great contributions to the sustainable development of the economy and society in the five southern provinces (regions).

Animal Protection

We launched the “Box for Home” project to promote the deep combination of low-carbon environmental protection and civilized pet keeping. During the event in 2021, JD Logistics used 100,000 express boxes that can be transformed into pet nests through its self-operated warehousing system. At the same time, JD Logistics prepared 2 tons of high-quality pet food and 2,000 express boxes as pet nests, which were donated to homeless animals waiting to be adopted so as to call on public concerns over the living conditions of homeless animals.

JD Logistics put **100,000** express boxes that can be transformed into pet nests through its self-operated warehousing system

JD Logistics prepared
high-quality pet food **2** tons
express boxes as pet nests **2,000**

03

Linking with Industry for a Quality Improving and High Efficiency Growth

Empowering the sustainable development of industry with integrated supply chain

As China's leading technology-driven supply chain solutions and logistics services provider, JD Logistics takes integrated supply chain logistics service as its core competence. We integrate a connective, efficient and more agile end-to-end logistics network. By leveraging our in-depth business experiences, industry insights, and automation, digitalization, and intellectual capabilities, we provide our customers with one-stop supply chain solutions and high-quality logistics services covering all business scenarios, from warehousing to distribution and from manufacturing to end-users. At the same time, we enable various industries, including FMCG, home appliances and home furniture, apparel, 3C, automotive and fresh produce, to reduce costs and create more value for all the industries. In 2021, JD Logistics provided standardized and customized solutions for top and small and medium-sized corporate customers, serving about more than 300,000 corporate customers such as ANTA, Bosideng, Skechers, Volvo, MUJI, Xiaomi and Cheers, etc.

Area 1: Kunshan Toshi TAC 150
Area 2: Kunshan Toshi TAC 150
Area 3: Kunshan Toshi TAC 150
Area 4: Kunshan Toshi TAC 150
Area 5: Kunshan Toshi TAC 150
Area 6: Kunshan Toshi TAC 150
Total Service Optimal Longtime PD 15



Collaborative, Efficient and More Agile End-to-end Logistics Network Covering All Scenarios

Differentiated from traditional logistics services providers, JD Logistics provides customers with a full-scenario, end-to-end, green, and low-carbon one-stop solution from strategic consultation, warehouse network planning, warehouse management, commodity packaging and transportation, smart distribution, etc., through its collaborative and efficient integrated logistics network, with efficient response to the logistics service needs of users in all scenarios.

Warehouse network

Our warehouse network is one of the largest networks with nationwide coverage in China and serves as a core component of our integrated supply chain logistics services. By the end of 2021, our warehouse network covered nearly all counties and districts in China, comprising over 1,300 self-operated warehouses and more than 1,700 owner-operated cloud warehouses on JDL's Open Warehouse Platform.

Line-haul transportation network

We adopted a synergistic approach to expand the coverage of our line-haul transportation network and strengthen the network flexibility by collaborating with our strategic partners in land, marine, and air transportation. By the end of 2021, we had a self-operated fleet consisting of over 18,000 trucks and other vehicles. In addition, we operated approximately 210 sorting centers in China and ran more than 1,000 air cargo routes, including 10 all-cargo routes.

Last-mile delivery network

Our last-mile delivery network primarily consists of delivery stations, service stations, and self-service lockers, supported by our well-trained in-house delivery team. Through high-quality service and industry-leading operational efficiency, JD Logistics can meet the needs of different types of clients with safe, reliable, time-efficient, professional, and intimate courier and express services. By the end of 2021, we employed over 200,000 in-house delivery personnel and operated over 7,200 delivery stations covering 31 provinces, municipalities and autonomous regions and 444 cities and municipal districts in China.

As of the end of 2021



comprising over

1,300

self-operated warehouses



the self-operated fleet consisting
of over

18,000

trucks and other vehicles



covering

31

provinces, municipalities and
autonomous regions and

444

cities and municipal districts in China



As of the end of 2021



the aggregate GFA of warehouses
with bulky and heavy-item storage
capabilities is reached

2.6 million square meters



we operated more than **100**
temperature-controlled cold chain
warehouses

28 warehouses designated for
pharmaceuticals and medical instruments



aggregate GFA of bonded and
overseas warehouses exceeds

700,000
square meters

Bulky item logistics network

Our bulky item logistics network, comprising of multi-level warehouses, to-door delivery, value-added installation, and after-sales service capabilities, ensures we deliver a compelling customer experience by offering one-stop delivery and installation solutions to end customers. As of the end of 2021, we had over 80 warehouses with bulky and heavy-item storage capabilities and nearly 100 sorting centers with an aggregate GFA of 2.6 million square meters.

Cold chain logistics network

JD Logistics relies on the comprehensive cold chain service capacity of the “trinity” network of storage, transportation, and distribution, taking products as its foundation and science and technology as its core. Through the construction of a socialized cold chain collaborative network, JD Logistics built a one-stop cold chain service platform of F2B2C⁹ throughout the whole process and all scenarios, realizing the safe delivery to merchants and consumer terminals. As of the end of 2021, we operated more than 100 temperature-controlled cold chain warehouses designed for fresh foods, refrigerated foods, and frozen foods. Furthermore, 28 warehouses designated for pharmaceuticals and medical instruments.

Cross-border logistics network

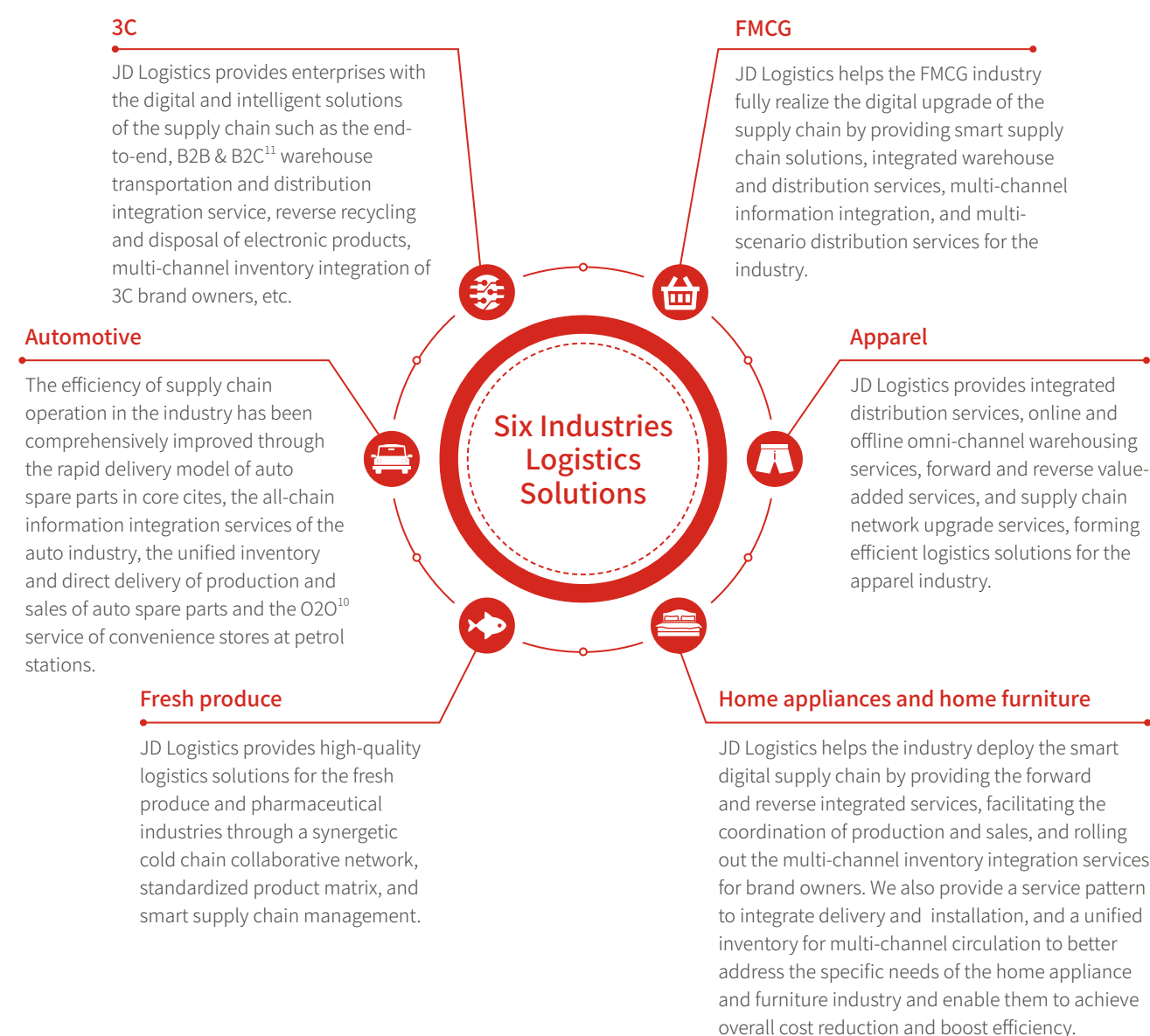
JD Logistics empowers Chinese manufacturing to go abroad and helps the entry of global goods into China. By providing merchants with one-stop cross-border supply chain services, JD Logistics can meet the diversified one-stop service demands of customers at home and abroad for logistics scheme design, product compliance consultation, professional warehousing, distribution and transportation, customs declaration and inspection, traditional services and information systems, etc. We operate approximately 80 bonded and overseas warehouses, covering an aggregate GFA of more than 700,000 square meters. Our international supply chain network reaches more than 220 countries and regions around the world. JD Logistics successively launched chartered cargo routes between China and Thailand, China and the United States, China and Britain, and the services of delivery, air, railway, and maritime transport, and truck delivery on the mainstream routes between China and the United States, China and Europe, and China and Britain. JD Logistics has significantly improved the speed of cross-border freight transportation and achieved door-to-door delivery within 48 hours at the earliest. Through the warehouse in Netherlands, we provide warehousing and distribution to Hunkemöller, the eminent European ready-to-wear brand, in four countries. This has greatly improved the brand’s inventory turnover rate and enabled JD Logistics to become a typical case of integrated supply chain logistics solutions that succeed abroad.

⁹ F2B2C: Factory-to-Business-to-Customer.

Multi-industry Insights and Customized Services

JD Logistics forms its business cognition on users’ geographical distribution, demand and purchase frequency, as well as industry insights such as product features and consumption cycles, which, compounded with its advanced scientific and technology abilities, help enterprise customers minimize inventory levels, improve the accuracy of performance, improve the efficiency of operational capital, and promote cost reduction and efficiency through more efficient, perfect, and customized logistics solutions.

Six Industries Logistics Solutions



¹⁰ O2O: Online-to-Offline.

¹¹ B2B: Business-to-Business; B2C: Business-to-Customer.

Empowering Volvo to Transform the Digital Supply Chain

JD Logistics, with the strong fundamental logistics capabilities, facilitates the implementation of warehousing, transportation, distribution, packaging, and other services. With our digital technology capabilities accumulated over the years, we provide Volvo with comprehensive logistics services empowered by technology such as demand forecasting, inventory planning, supply planning, intelligent replenishment, logistics control tower, and others based on big-data forecast. As such, JD Logistics provides support for realizing cost reduction and efficiency increase.

Cooperation Background

In recent years, Volvo’s car ownership in China has continued to grow at a rapid speed, and the after-sales market demand has gradually been released, which mainly focuses on maintenance and spare parts replacement, etc. However, due to the characteristics of spare parts and SKU¹² distribution, Volvo has encountered difficulties in after-sales supply chain management. Meanwhile, in order to ensure the end-customer experience, Volvo has high expectation for supply chain efficiency. Therefore, the overall supply chain cost is high, and it is difficult to attain the balance between efficiency and cost.

Solutions

Apply big data into analysis and diagnosis to form supply chain business network model and SKU planning .

Based on the development of Volvo’s business scenarios, JD Logistics has formed the supply chain business network model and SKU planning after conducting a comprehensive business diagnosis and analysis. With that, we helped expand Volvo’s network from the original 4 warehouses to 8 warehouses and made a prediction with optimized algorithms for historical data, life cycle data, car networking, regional distribution, network structure, and other data across all operation activities, to improve the accuracy of demand prediction and provide key operational decision foundations for inventory planning and supply chain planning.

Adopt multi-dimensional SKU Characteristic analysis dynamic storage and inventory strategy to form the inventory optimization mechanism.

JD Logistics has conducted a multi-dimensional and accurate segmentation of the spare parts (price + liquidity + regional characteristics) and set independent purchasing, replenishment, allocation, and balanced inventory strategies for each subcategory of spare parts. Through differentiated inventory strategy, the dynamic adjustment and management of spare parts inventory in the whole supply chain can be realized.

Long-term demand plan and short-term replenishment plan are effectively coordinated.

By managing the medium- and long-term demand and supply of Volvo supply chain, JD Logistics provides the basis for the development of medium- and long-term supply chain strategy to guarantee a reliable supply capacity. At the same time, for the short-term replenishment and allocation plan, the final demand forecast is summarized by calculating safety stock, 14-day short-term forecast, dealer orders, and end-user orders. JD Logistics forms daily purchasing and replenishment suggestions in accordance with the in-transit inventory and spare parts allocation strategy across the network.

Achievements of Cooperation

Efficiency Increase of Supply Chain Management

According to previous data from the Xi’an pilot warehouse, after the upgrade, the fulfillment rate of spare parts orders has been raised to over 95%. It is expected that the inventory cost can be further reduced after the full implementation in eight warehousing centers across the country.

Process Optimization of Supply Chain

Based on the business scenarios of after-sales spare parts, the digital supply chain middle station system realizes automatic order stimulating and coordination, global inventory management, automatic inventory sourcing, automatic order coordination in out-of-stock and reverse business scenario, order efficiency management, and logistics performance visualization, providing support for multi-level warehouse network management and intelligent supply and demand planning, so as to optimize the supply chain performance of after-sales spare parts.

The implementation of Volvo supply chain digital transformation project demonstrates the great values of integrated supply chain that JD Logistics can bring after cooperation. In the future, both parties will continue to explore more cooperation opportunities, jointly optimize the automobile industry’s supply chain efficiency, and create a higher-quality service experience for consumers.

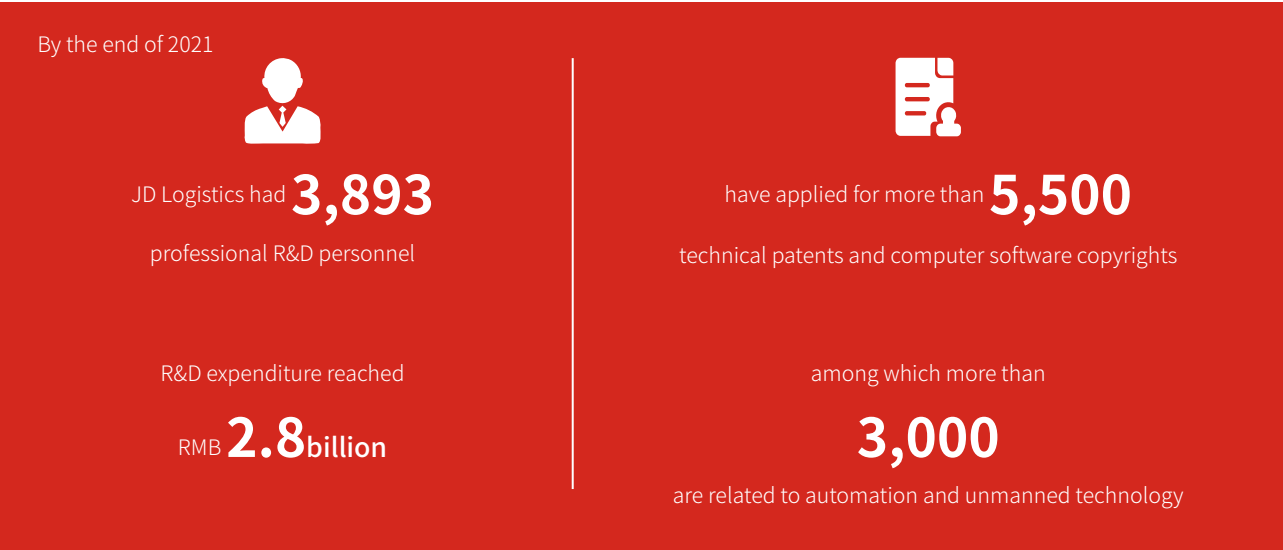


¹² SKU: Stock Keeping Unit.

Leading Logistics Technology Empowering Integrated Supply Chain

JD Logistics always attaches importance to the key role of technological innovation in enterprise development. Driven by long-term investment in technology and innovation, JD Logistics has formed the core competitiveness around the trinity of supply chain technology, integrating software, hardware, and system integration. We provide customers with technology products and solutions covering key supply chain activities such as industrial parks, warehousing, sorting, transportation, distribution, etc. JD Logistics is comprehensively improving forecasting, decision-making, and intelligent execution capabilities, helping more corporate customers to fully optimize the supply chain network and improving digital intelligence capabilities and operational efficiency. By the end of 2021, JD Logistics had 3,893 professional R&D personnel and our R&D expenditure reached RMB 2.8 billion. We have applied for more than 5,500 technical patents and computer software copyrights, among which more than 3,000 are related to automation and unmanned technology.

Based on underlying technologies such as 5G, artificial intelligence, big data, cloud computing and Internet of Things, etc., JD Logistics is continuously improving its capabilities in automation, digitalization, and intelligent decision-making. Through automatic handling robots, sorting robots, autonomous delivery vehicles, drones, etc., efficiency has been greatly improved. By the end of 2021, JD Logistics had deployed a total of nearly 400 Level-4 autonomous delivery vehicles. In addition, JD logistics independently developed warehousing, transportation and order management systems, etc., to support the full digitalization of the supply chain, which helped make decisions in sales forecasting, commodity distribution planning, and supply chain network optimization through proprietary algorithms.



Intelligent Warehouse Management Solutions

Through big data analysis and deep learning algorithms, JD Logistics works out the intelligent warehouse management solution, in which the optimal number of regional warehouses is recommended to corporate customers, and the optimal distribution of inventory among different regional warehouses is planned, responding to the key challenges such as unleashing potential existing customers, product expansion, loss warning, silence activation, etc. By means of selecting high-potential customers, network exploring, visiting strategy recommendations, abnormal attribution analysis, etc., JD Logistics will build an intelligent customer growth system and business knowledge map with more efficient technology output, more comprehensive and valuable data and more practical plans targeted to the different scenarios to meet corporate customers’ demand for growth and raise the operation efficiency.

Conducting Technological Innovation to Improve Quality and Increase Efficiency

In terms of transportation, over one hundred G7 vehicle-mounted measuring devices are introduced for JD Logistics line-haul and branch line transportation vehicles to realize digital monitoring of the loading rate in the transportation, with the trace-back capability of the loading situation. The equipment has been put into use in Shanghai, Guangdong, Shandong, and other provinces and cities. At present, 143 sets of in-use equipment can be monitored in real-time under the G7 platform account of JD Logistics. In addition, through statistical reasoning, operational planning, deep learning, simulation optimization (digital twin), the O2O strategy system, and other innovative means, JD Logistics has realized the optimization of in-warehouse picking efficiency, the improvement of vehicle loading rates, the unmanned transformation of pre-sorting operations and maintenance, the reduction of bidding and procurement cost of transportation capacity, and the increase of logistics operation efficiency, helping our corporate customers improve the productivity and operation efficiency.

Carrying Out Systematic Management to Promote Efficient Decision-making

JD Logistics has created the “Jinghui” digital supply chain product, which is deeply used in three areas: supply chain planning and design, supply chain management, and supply chain implementation and control. Based on big data and smart decision-making technology, relying on leading data algorithms and scientific decision-making models, JD Logistics provides enterprises with integrated services for big data, network optimization, intelligent prediction, intelligent replenishment and transfer, and intelligent execution. We help enterprises reduce costs and increase efficiency through quantitative decision-making and refined operations and assist Chinese corporations in digital and intelligent strategic transformation. In addition, the proprietary warehouse management system (WMS) and proprietary transportation management system (TMS) developed by JD Logistics can monitor and manage data transmission throughout the whole process from inventory, workforce, to warehouse network, thus improving inventory visibility and operational efficiency. It helps corporate customers manage the whole transportation process more comprehensively through real-time tracking of vehicles and commodities, automated screening of third-party transportation carriers, and expense settlement.



04

Linking with Wellbeing for a Common Prosperity

JD Logistics leverages its supply chain strength to contribute to a more inclusive and prosperous economy and society

Relying on the integrated supply chain capability, JD Logistics supports the development of small and medium-sized enterprises and promotes high-quality employment. We actively respond to the nation's rural revitalization strategy and participate in philanthropic activities. Meanwhile, we strive to take action to promote the development of a more inclusive and a more prosperous society.

Rural Revitalization

JD Logistics actively responds to the nation's rural revitalization strategy. We support rural areas, farmers and agriculture with our concrete actions. JD Logistics, aligned with JD's rural revitalization "Benfu Plan," takes advantage of our digital and intelligent social supply chain to drive more farmers to enjoy the shared prosperity through the construction of new infrastructure, logistics, and digital villages, etc.

JD Logistics adheres to the strategies of "facilitate the marketing of agricultural products" and "enable express delivery into villages," which strives to make both urban and rural residents enjoy distinctive and high-quality products. We are trying to build a bridge that interconnects the resources between urban and rural areas. Meanwhile, we promote the increase of farmers' income and guarantee urban residents' diversified needs, which helps realize a win-win situation while the rural revitalization proceeds.

Empowering Logistics Infrastructure in the Countryside to Enable "Express Delivery to the Countryside"

Over the years, JD Logistics has always promoted logistics infrastructure construction in the countryside. We laid out logistics infrastructure for low-tier cities and key counties and towns by leveraging our solid infrastructure and innovative digital technology capabilities. In recent years, JD Logistics has continuously upgraded the time-efficiency accelerating initiative — "24-hour delivery in tens of thousands of counties and towns." Furthermore, we have consistently promoted inclusive logistics in urban and rural areas and boosted regional economic development. Nowadays, the Asia No.1 smart mega warehouses have been gradually constructed in second-and third-tier cities. JD Logistics operated the Asia No.1 smart mega warehouses in Urumqi, Yinchuan, Deyang, and other places, which substantially improved logistics timeliness in remote regions. More than 100 warehousing robots were officially equipped in Lhasa, Tibet, and the first smart logistics park was built on the Tibetan plateau. To promote "express delivery into villages," JD Logistics actively improves the logistics accessibility in the county, town, and village, as well as the service timeliness. By the end of 2021, JD Logistics had brought same-day or next-day delivery coverage to 93% of counties and 84% of towns and villages across the country. In the future, JD Logistics will cultivate the lower-tier market continuously enabled by its technology-driven integrated supply chain logistics service and further strive for rural revitalization and common prosperity.



Promoting "Agricultural Products Marketing" with the Integrated Supply Chain Capability



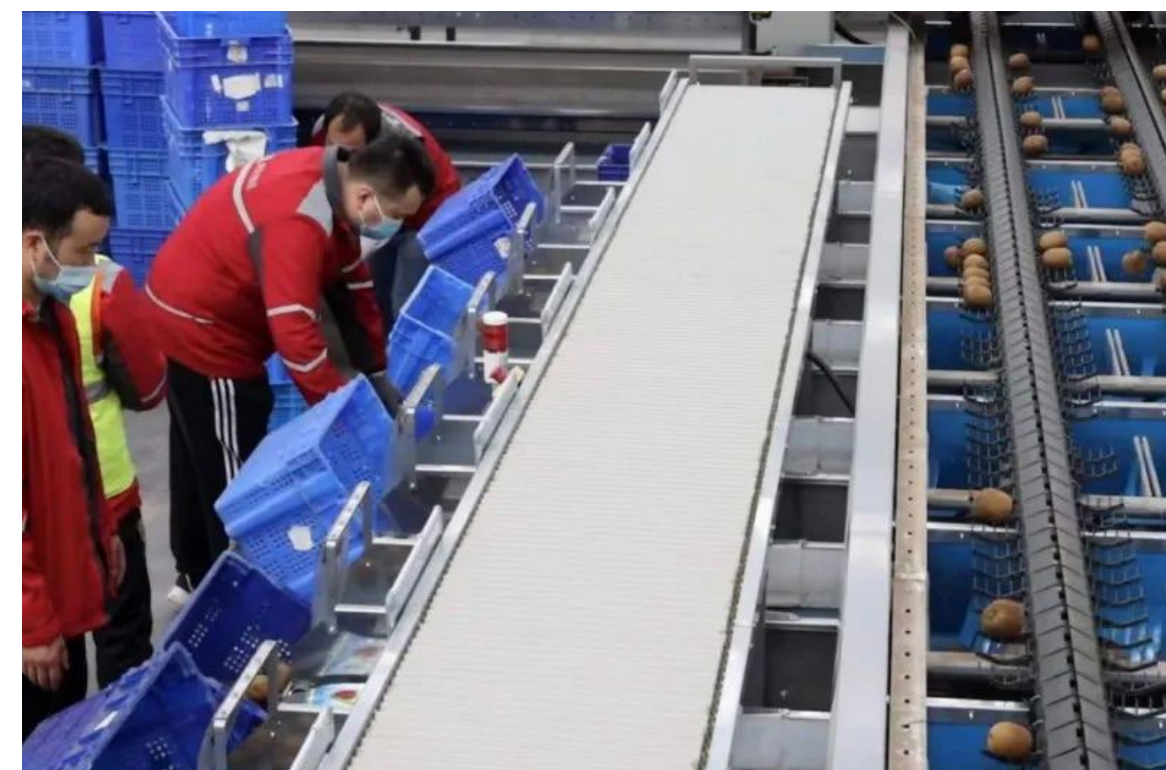
Setting up the Cold Chain Warehouse in the Production Region — Jiashi Prune of Xinjiang

JD Logistics operates four cold chain warehouses in the Jiashi Prune Modern Industrial Park, Xinjiang Uyghur Autonomous Region. Two cold chain warehouses with a total area of more than 20,000 square meters have been put into use, which helped fruit farmers solve the storage problem. In 2022, the other two refrigerated warehouses will be in use, and the total area will reach more than 40,000 square meters. With a substantial increase in inbound and outbound transportation, the efficiency is expected to increase.



Smart Supply Chain Center Located in Producing Area — Shaanxi Wugong

In 2021, to solve the supply chain problems of specialty agricultural products in remote regions, JD Logistics cooperated with Wugong county, Shaanxi province, to build its first smart supply chain center in the production area by relying on the integrated service capability of "logistics technology + supply chain," which promotes the implementation of smart logistics infrastructure. The newly opened supply chain center covers an area of 36,000 square meters, with cold chain warehouses, an intelligent sorting center, and a circulation sorting center. Equipped with the world's leading sorting equipment, the facility enabled automation throughout the whole process. Furthermore, the sorting equipment was capable of classifying and grading products to satisfy multiple sales channels. In addition, the facility is in the Wugong county, which radiates to the northwest region. The processing, supply, and sales of fruit products in Aksu and Korla of Xinjiang, Tianshui Pingliang, and Qingyang in Gansu Province, and other regions can be transported to this facility and quickly supplied to all places of the country through JD Logistics.





JD Logistics helped Lhasa build the
“smart warehouse with
the highest altitude in
China”



JD Logistics had realized automatic
operation with more than **100**
warehousing robots in the newly
built warehouses in Lhasa area



increase an additional
warehouse area of
6,000 square meters



the growth rate of JD Logistics orders
has reached **43%**

Fully Facilitating Rural Revitalization with Integrated Supply Chain Capability — Integrated District-wide Demonstration Project in Tibet under National E-commerce in Rural Areas



Exploring Integrated Supply Chain Capability Catering to Tibet

Building the logistics infrastructure

JD Logistics has completed the construction of modern logistics infrastructure in Tibet, including autonomous region-level public logistics warehousing and distribution centers, public logistics warehousing and distribution centers in Shannan and Changdu prefecture-level cities, and various distribution stations, etc. As a result, Lhasa has the “intelligent warehouse with the highest altitude in China.” This project is a signature one in Tibet. As of June 2021, JD Logistics had realized automatic operation with more than 100 warehousing robots in the newly built warehouses in Lhasa area. In 2021, JD Logistics continued to expand its local logistics service capacity in Tibet and coordinated with local warehouses and merchants to increase an additional warehouse area of 6,000 square meters. Through building a series of fundamental supply chain capabilities, the growth rate of JD Logistics orders has reached 43%.

Establishing an intelligent logistics system

JD Logistics assists the Tibetan government in establishing a digital management platform for supply and distribution network, building a three-level regional logistics distribution system, providing the systematic planning for network, warehousing, distribution, industrial chain development, and other services, and supporting the efficient transportation and circulation of agricultural products. For example, in April 2021, JD Logistics kicked off the border tea business in Tibet by purchasing tea from seven major tea factories in Pu'er, Lincang, Zhongcha, Gangjian, Helong, Langsai, and Lvdu. JD Logistics planned to transport 9,165 tons of tea, whereas eventually, about 9,279 tons were delivered. It took four months to fulfill this goal. The tea was distributed to 710 townships in Ali, Changdu, Lhasa, Linzhi, Naqu, Shigatse, and Shannan, benefiting three million Tibetans.

Exploring the feasible approaches for facilitating the marketing of specialty agricultural products

To create a one-stop sales solution customized for Tibet, JD Logistics joined hands with the Tibet Autonomous Region to launch a series of pilot demonstration projects such as Naqu Cordyceps Internet of Things Base, Linzhi Tricholoma Matsutake and Fungus Base, a prototype model for the integration of agriculture, animal husbandry, culture and tourism, and district-city-county-level brand marketing.



Promoting the Development of SMEs

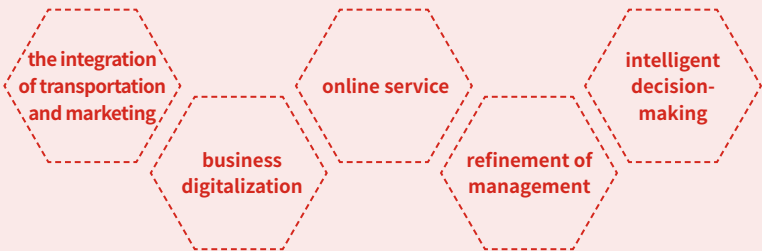
JD Logistics believes that the development of SMEs is conducive to a sustainable economy, social fairness, and justice. To this end, JD Logistics attaches great significance to serving SMEs and empowering them to embrace the digital opportunities and get new growth momentums with its digital and intelligent supply chain infrastructure.

- JD Logistics cooperates with local small and medium-sized carriers to satisfy regional transportation demands. In addition, JD Logistics promotes the intelligent upgrade of logistics for many SMEs and our Bulk cargo transportation platform well demonstrates this upgrade.



Case of Bulk Cargo Transportation Platform

The bulk cargo transportation platform is dedicated to promoting the resource integration and digital transformation of the energy industry. Giving full play to the advantages of 5G, big data, informatization, and intelligent technologies, JD Logistics is accelerating the development of modern and smart logistics in the energy industry. Taking the coal industry as the breakthrough point, JD Logistics realizes the integration of transportation and distribution, business digitalization, online service, refinement of management, and intelligent decision-making. The platform currently integrates more than 300 consignors and carriers, and introduces more than 20,000 drivers, which helps increase the income of local residents and SMEs.



Cultivation of High-quality Talents

JD Logistics actively participates in the standard formulation and certification of national vocational grading. Based on our hiring demands from the logistics business, JD Logistics launched a “1+X” certification by collaborating with vocational schools and further deepened industry-education integration and school-enterprise cooperation to give full support to talent development and the high-quality employment of colleges and universities.

Participating in the Formulation and Certification of National Occupational Grade Standards

JD Logistics successfully applied for the vocational skill level certification granted by the Ministry of Education. As one of the evaluation organizations, JDL facilitated the formulation of standards and certification assessment of three vocational skills’ grading, namely, *Intelligent Warehouse Big Data Analysis*, *Intelligent Warehouse Equipment Application and Maintenance*, and *Operation and Maintenance of Drones in Logistics*. Thus, JD Logistics contributes a lot to the development of national standards.

“1+X Certification,” Combining Academic Certification with Vocational Skill Level Certification

JD Logistics 1+X Certification Examination has been successfully held in Chongqing College of Electronic Engineering, Sichuan Vocational and Technical College, Guangdong Polytechnic College of Science and Trade, Liaoning Economic Management Cadre Institute College, and other colleges. Based on practical hiring demands in JD Logistics, we comprehensively deploy teaching resources such as the curriculum system, the examination and training platform, and other teaching materials with the cooperated colleges.

Deepening the Industry-education Integration, and School-enterprise Cooperation

Integrating Industrial Technologies into the Competition Design to Improve the Adaptability of Talent Training

JD Logistics supports two National Vocational College Skills Competitions hosted by the Ministry of Education. The competitions are “Innovative Entrepreneurship” and “Intelligent Logistics Operation Scheme Design and Implementation.” JD Logistics integrates real business scenarios and industrial applied standards into the competition design, fully demonstrating students’ innovation, entrepreneurship, and marketing ability under the digital economy, which truly improves students’ skills by practicing the philosophy of taking competition as real practices.

Actively Promoting School-enterprise Cooperation and Establish Industrial Colleges

JD Logistics jointly establishes intelligent supply chain industry college with Shenzhen Technology University, Qingdao Technical College, Jiangxi Technology Business Polytechnic, Kunming Metallurgy College, Guangzhou Panyu Polytechnic, etc. With these partnership programs, JD Logistics aims to explore the philosophy of school-enterprise cooperation, promoting the innovation of talent cultivation, and set a benchmark for the deep integration of industry and education.

JD Logistics creates a campus supply chain ecosystem that integrates front stores and the rear warehouses, both online and offline

Based on the actual operation scenarios of e-commerce and logistics, JD Logistics provides students with a practical training environment that matches relevant professional courses and practices throughout the business, from product selection, procurement, transportation, warehousing, sales, and distribution to aftermarket. In 2021, the project was implemented in Sichuan Vocational and Technical College of Communications, Liaoning Agricultural College, and other institutions.



05

Linking with Future for a Greener Planet

Safeguarding the green planet with integrated supply chain solutions

JD Logistics actively adapts to the national policies on insisting the green development. We regard environmental protection, “nation’s carbon peak and carbon neutrality goals in China,” and “1 + N” policy system as important strategies for corporate development. JD Logistics is the first logistics company in China to set the Science-Based Targets and has always been committed to building green and low-carbon supply chain logistics. JD Logistics is striving to be a leading logistics company in green packaging, warehousing, transporting, and reuse of resources while it is able to enhance the cooperation on green development within the integrated supply chain business ecosystem. JD Logistics will continue to promote green energy and provide carbon-neutral solutions for the smart logistics parks. At the same time, JD Logistics will adopt high energy efficiency solutions, facilitate resource recycling, and support energy consumption visualization to promote emission reduction and the development of a green supply chain. JD Logistics will continue to invest RMB 1 billion in building a green and low-carbon integrated supply chain in the next five years to achieve a 35% increase in its own carbon efficiency. Meanwhile, we will cooperate with upstream and downstream partners to jointly build a green and low-carbon integrated supply chain ecosystem.

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Energy Conservation and Emission Reduction

Green Transportation

In 2021, JD Logistics totally replaced 4,960 fossil fuel delivery vehicles, reducing 22,832 tons carbon dioxide emissions. JD Logistics has put into use 20,000 new energy vehicles in more than 50 cities across the country; all self-operated intra-city delivery vehicles in Beijing have been replaced with the ones using new energy, which can reduce about 400,000 tons of carbon dioxide emissions per year, equivalent to the amount of carbon dioxide absorbed by 20 million trees per year. In addition, JD Logistics actively explores the technological applications of new energy vehicles with battery swapping and hydrogen energy vehicles. We plan to complete the test and implementation of the new energy vehicles with replaceable batteries and hydrogen energy vehicles in the first half of 2022. In the coming two to three years, JD Logistics will continue developing and deploying thousands of autonomous delivery vehicles, continuously improving service experience and service efficiency, aiming to achieve a goal of 100% new energy for delivery vehicles by 2030.

JD Logistics is changing the traditional pattern of freight transportation and reducing energy consumption and carbon emissions by converting parts of road transportation to railway transportation. In 2021, the freight volume converted from highway to railway reached 54,900 tons for greener transportation. While increasing the proportion of new energy vehicles, JD Logistics actively guides upstream and downstream suppliers to use new energy vehicles. In October 2021, JD Logistics launched a new five-year plan for the “Green Stream Initiative,” aiming to collaborate with upstream and downstream partners to promote clean energy vehicles in major cities across the country.



Green Warehousing

Warehousing is the core infrastructure of JD Logistics to achieve a green and low-carbon supply chain. In 2021, JD Logistics actively invoked the dual-core power by “green infrastructure + technical innovation of carbon emission reduction” and continuously optimized the storage technology of warehouses. We improved the efficiency of energy recycling and built carbon-neutral logistics parks which will be pioneered to implement in the Asia No.1 smart mega warehouses in Xi’an and Suqian.



Alternative Energy

Changing the energy structure and replacing traditional energy with green energy based on wind and solar energy are the key factors for reducing carbon emissions in logistics. As early as 2017, a roof-distributed photovoltaic power generation system was laid out at the Asia No.1 smart mega warehouse in Jiading of Shanghai, which was officially connected to the power grid in 2018. The average photovoltaic power generated per year can reduce carbon dioxide emissions by approximately 4,400 tons, saving about 1,700 tons of standard coal, reducing sulfur dioxide emissions by approximately 32.29 tons and nitrogen oxide emissions by about 48.49 tons, which is equivalent to planting about 38,238 trees per year. As of the end of 2021, the installations of photovoltaics were completed in the first batch of 12 Asia No.1 smart mega warehouses nationwide. With a total installed capacity of over 100 MW and an annual power generation of 160 million kWh which can supply 50,000 ordinary households for one year. In the next three years, the total photovoltaic power generation capacity of JD Logistics will reach 1,000 MW, providing green energy for 85% of smart logistics parks. The distributed lithium battery energy warehousing system in the Xi’an Asia No.1 smart mega warehouse, which is now under construction, will help smooth and adjust the power, alleviate the shock on the power grid system during peak hours and realize the peak load leveling of photovoltaic power.

Efficient Operation

The Asia No.1 smart mega warehouse in Xi’an is equipped with a well-established energy-saving management system. The system continuously optimizes the sorting and transportation processes, realizes efficient sorting and light-off operation in the stereoscopic warehouses, and reduces carbon emissions while improving efficiency. At the same time, we prioritize using solar streetlamps for lighting in the park according to the lighting conditions. In addition, JD Logistics Xi’an Asia No.1 smart mega warehouse takes full advantage of its renewable power and uses distributed air conditioning instead of a boiler room to use as little fossil fuel as possible while accurately meeting the local heating demand. In addition, while the photovoltaic capacity built by JD Logistics can ensure the operation and use of automation equipment in the park, the green energy in the park can simultaneously charge the new energy vehicles through the pilot project of “automobile + charging pile + photovoltaic.” By the end of 2021, there were 22 sets of charging terminals in the Xi’an Asia No.1 smart mega warehouse with the capacity for charging 44 new energy vehicles simultaneously and meeting the charging demand of operating vehicles and visitors’ vehicles in the park.

Verification and Disclosure of Greenhouse Gases

In March 2022, JD Logistics’ Asia No.1 smart mega warehouse in Xi’an was certified carbon neutral by the China Beijing Green Exchange and Centre Testing International Group (CTI). Through Shenzhen CTI Co. Ltd., a third-party certification body authorized by the China National Accreditation Council for Conformity Assessment (CNAS), the annual greenhouse gas emissions of the park were calculated and verified according to the international standard, ISO14064-1:2018, and the result was voluntarily disclosed to the public. JD Logistics’ Asia No.1 smart mega warehouse in Xi’an becomes the first “zero-carbon” logistics park in China. At the same time, the certification work of the carbon-neutral logistics park in JD Logistics’ Asia No.1 smart mega warehouse in Suqian has been started. Valid data for one year’s power generation needs to be provided to meet the certification requirements, and it is expected to be officially certified in 2023.

Energy-saving Refrigeration Equipment

JD Logistics will eliminate R22 refrigerant in all self-built and leased cold chain warehouses and cold storage by 2025. We will replace the original R22 refrigerant with environmentally friendly R404 and R507 and CO₂ cascade refrigerant, since Chlorine in the R22 refrigerant will cause harm to the earth’s ozone layer. While with a zero-depletion coefficient to the ozone layer, R404 and R507 refrigerants are environmentally friendly. In addition, using carbon dioxide as the refrigerant in CO₂ cascade refrigeration technology is environmentally friendly and harmless to the ozone layer.

Efficient Reuse of Resources

Green Packaging



Original packaging is a packaging in which goods are sent out directly from the manufacturers. Original packaging is an important solution to the problem of over-packaging in the logistics industry and has been recognized by upstream and downstream enterprises. To actively promote the transformation of green packaging, JD Logistics has implemented preferential policies to encourage original packaging among brands, including Procter & Gamble, Unilever, Yunnan Baiyao and BRITA, etc. Thousands of SKUs of various brands were delivered with the original packaging from manufacturing plants, reducing the use of delivery cartons by more than 2 billion per year.



Reusable packaging is one of the future-oriented green packaging solutions in the logistics industry. JD Logistics reduces the use of disposable packaging materials by using reusable delivery boxes, such as “Green Stream Box,” reusable cooler boxes, reusable transfer bags, etc. From 2017 to the end of 2021, the reusable packaging had been put into regular use for more than 200 million times, among which the “Green Stream Boxes” were used more than 5 million times, and the reusable cooler boxes were used more than 60 million times in 2021. Together, the “Green Stream Box” and the reusable cooler box reduced the consumption of 60 million disposable foam boxes, 60,000 tons of disposable ice bags, and 30,000 tons of dry ice. At the same time, 6 million reusable “plastic woven packaging bags” were put into use. The average utilization rate of circular transfer bags has reached 100%, saving 140 million times of disposable woven bags uses every year and reducing the consumption of 70 million disposable plastic woven bags. JD Logistics will also establish JD Logistics Materials Laboratory as an incubator to empower renewable material development on campus and promote the use of eco-friendly materials and technical innovation in the industry.



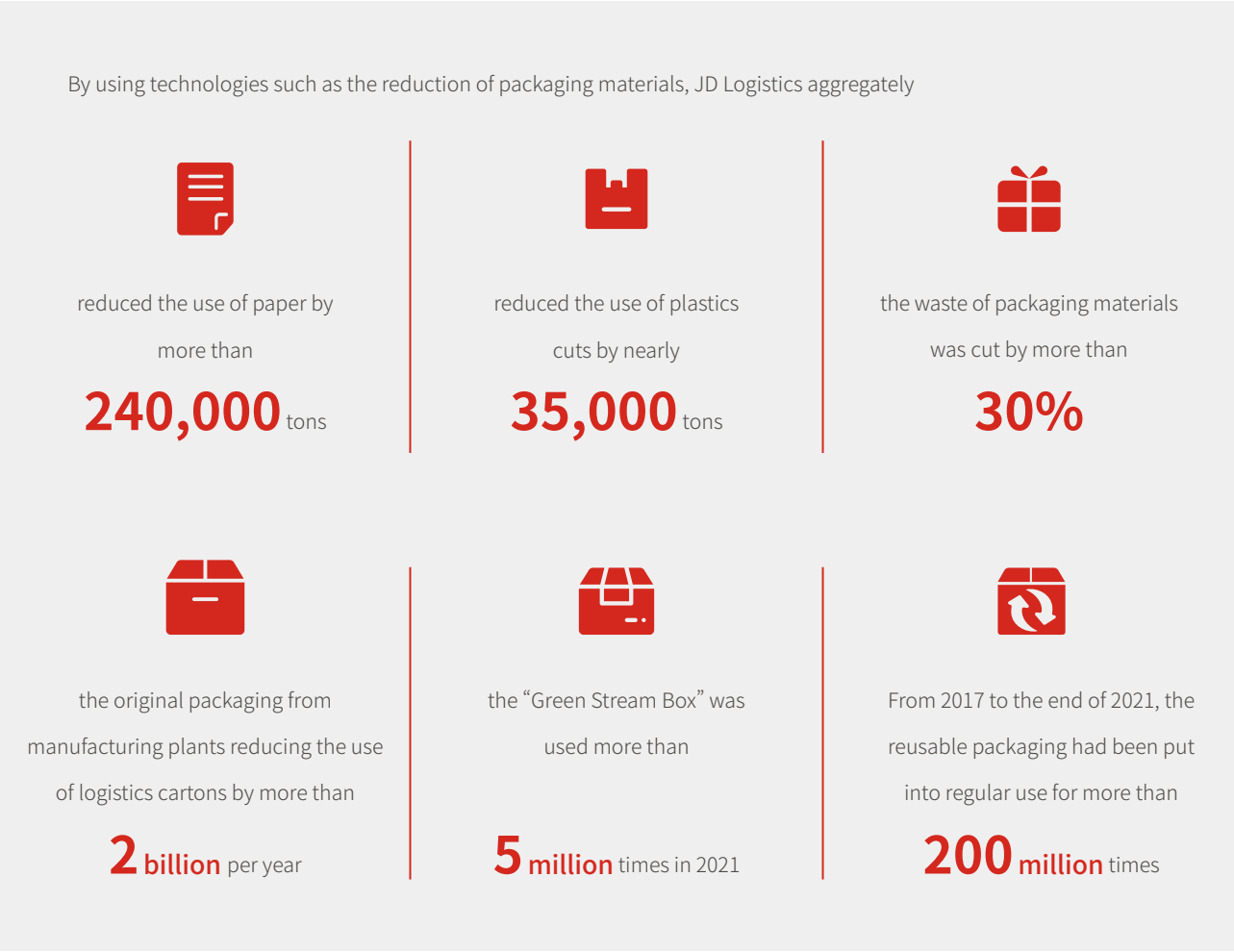
Express packaging plays an important role in emission reduction during the whole logistics process. JD Logistics constantly employs big data technology to optimize the material of cartons, among which the use ratio of 3-layer cartons exceeds 95%, reducing the use of more than 200,000 tons of pulp every year. Through tens of thousands of transportation tests, the sealing tape had been “slimmed down,” with its width and thickness decreased by 15%. At the same time, JD Logistics standardized the packing operation, including prohibiting the winding of tape with multiple layers and reducing the use of tapes by more than 500 million meters in length per year. By adopting new materials and reducing the thickness of cushioning packages, the thickness of air column bags, inflatable bags, and wrapping film was reduced by 35%, 25%, and 50% respectively, leading to the annual reduction of PE by about 20,000 tons.



JD Logistics has been exploring a new mode of green packaging empowered by technology. In 2014, a paperless operation was promoted in the warehouse through system upgrades and process optimization. For online retail orders processed for JD, we have been implemented a 100% use of electronic express sheets and the use of paper express sheets had been eliminated. In 2017, we have implemented 100% electronic signing in JD Logistics distribution terminals, and the size of the electronic express sheet was reduced by 30%, reducing the paper usage by 6,000 tons every year. In addition, “Jingwei” Intelligent Packaging Recommendation System can recommend the best packaging category and model according to the volume of goods and ensure the front-line operators can quickly and accurately select cartons and express bags. By improving the volume ratio of packaging, the packing recommendation system will reduce the waste of packaging materials.



JD Logistics continues to lead the development of the industry in the green transformation of logistics packaging and participates in drafting and modifying several postal industry packaging standards. The packaging concept of “slimming” put forward by JD Logistics was included in the *Basic Requirements for Mail Express Packaging* and the *Requirements for Restraining Over-Packaging in Express Delivery Industry*. In addition, the “original packaging” practice first initiated and piloted by JD Logistics has been incorporated into the *Opinions on Accelerating the Green Transformation of Express Packaging* in the National Green Packaging Development Plan.





Case of Cloud Box

In October 2021, JD Cloud Box Green Recycling Container Alliance was officially launched. JD Cloud Box aims to publicize standardized digital green recycling containers and promote the recycling and sharing of “Green Stream Boxes,” fresh baskets, turnover boxes, and other containers, which will help build China’s logistics container recycling system and facilitate the development of a national low-carbon recycling green supply chain. By October 2021, JD Cloud Box had established eight carrier service centers and more than 60 carrier transceiver outlets all over the country, realizing the goal of “renting anyplace, refunding anywhere.” In addition, JD Cloud Box now serves more than 180 enterprises with more than 2.2 million transports which can meet the demands of supply chain enterprises for carriers in various scenarios and truly realize the integration management process of standardization, informatization, digitalization, and intelligence.



Case of 618 Grand Promotion

In 2021, the cumulative number of orders placed in 618 Grand Promotion exceeded RMB 343.8 billion, setting a new record. During the promotion, JD Logistics continued to implement the “Green Stream Initiative,” using recycled packaging by 11.5 million times and reducing disposable waste by nearly 100,000 tons. Through establishing the green supply chain system in packaging, storage, transportation, and recycling, as well as the use of reduced packaging, recyclable packaging, new energy vehicles, photovoltaic power generation and carton/waste plastic bottle recycling, JD Logistics achieved a 5% year-on-year reduction in carbon emission compared to 2020 during the Grand Promotion.

Reducing Waste

The disposal and discharge of waste are highly relevant to the safety of the natural environment and people’s livelihood. Regarding the disposal of scrapped goods, JD Logistics entrusted third-party companies with the qualification of waste disposal services to centrally dispose of the goods under the scrapping and destruction standards. In addition, the green procurement policy was issued, which requires suppliers to adhere to the environmentally friendly principles of low carbon and energy-saving in the processing and transportation to reduce the discharge of wastes in the upstream and downstream of the supply chain.

Recycling of Water Resources

JD Logistics puts a high value on the conservation, recycling, and reuse of water resources. After being returned to JD Logistics’ reverse warehouses, bottles of water and mineral water that are not consumable owing to broken packaging or other reasons are transformed into clean water in the parks and the water qualified for sale will be sold internally.

Building a Green Supply Chain Ecosystem

Empowering Cities and Regions



Powering Haikou to a Zero-Plastic City

JD Logistics is committed to empowering urban and regional development with a green supply chain. In the pilot project of “Reduction and Recycling of Plastic Packaging in Express Industry” in cooperation with Haikou, Hainan province, where more than 10,000 circular packaging boxes were distributed, and for the first time, the circular delivery bags were piloted to gradually reduce the use of disposable PE packaging bags.



Exploring the Recycling Packaging Standardization and Shared Recycling Mode

JD Logistics standardizes reusable packaging with 600*400 as the benchmark module, which can be shared among upstream and downstream enterprises. Collaborating with third-party cooperation organizations, JD Logistics solves the “last-mile” recycling problem of recycling packages by building the terminal sharing recycling station and community recycling network to realize the rational allocation of resources.

Promoting the Green Transformation of the Industry



Collaborating with Peers to Participate in Green Electricity Trading

JD Logistics continues to deepen cooperation with industry peers to promote the green development of the logistics industry. In September 2021, JD Logistics together with 14 logistics enterprises, launched an initiative to advocate social responsibilities of logistics enterprises. By actively responding to green electricity trading, and increasing green electricity consumption in warehousing, sorting, distribution and others, enterprises are aimed to shape a favorable atmosphere for the low-carbon transformation of society at large and contribute to the nation’s carbon peak and carbon neutrality goals.



Carbon Reduction Training among industrial partners

JD Logistics has conducted several carbon-themed fundamental knowledge-sharing trainings for supplier partners, providing them with carbon neutrality consultation and enhancing the awareness of emission reduction and capacity building among upstream and downstream business partners. In 2021, we organized training programs about carbon reduction and enabled employees to understand the significance of Science Based Targets and the value of carbon neutrality. Furthermore, we invited a total of 120 suppliers and customers to participate. At the same time, we commenced constructing the carbon emission data collection systems and data model to monitor and assist the suppliers in achieving the carbon reduction targets.

Collaborating with Ecosystem Partners for Environmental and Social Values

Collaborating with Brands

JD logistics Builds an Eco-friendly Playground with P&G Greater China

On the eve of World Environment Day in 2021, JD Logistics collaborated with P&G Greater China to celebrate the opening of the eco-friendly playground project “Do our best to reshape the new life” in Suqian School of Nanjing Foreign Language School Xianlin campus of Jiangsu province. This sports ground was made of waste materials such as waste plastic bottles collected by the green supply chain system of JD Logistics. P&G Greater China, as one of the first batch of cooperative brands of the “Green Stream Initiative,” has continuously carried out innovative cooperation with JD Logistics in the development of a green supply chain and jointly developed the first simple packaging carton, the first original packaging of shampoo customized for e-commerce platforms and the first green recycling box in China. In the future, the cooperation will continue to strengthen pilot projects in green logistics, packaging, and recycling and create an ecosystem where brands, platforms, and consumers can all benefit. Both brands will jointly promote the rapid development of green projects and promote global business sustainability.

Nestle Environmentally Friendly Warehouse

JD Logistics constantly explores the reusing of resources in warehousing. In the green warehouse built for Nestle, the recycling cardboard was used instead of wrapping film to reduce the consumption of disposable plastic products in warehousing and racking. Recycling cardboard has a longer service life and can be reused to avoid the production of white garbage.

Adopting Circular Boxes of Brand Partners in Warehousing

JD Logistics takes platform advantage and encourages brand partners to use circular boxes when packing. JD Logistics warehouses will manage circular boxes from partners in a unified way and returns them to brand factories in batches to fulfill the process of recycling. Presently, JD Logistics warehouses have adopted circular boxes from dozens of brands such as P&G, Unilever, PROYA, and DNLNXIR.

Engaging the Public

“Xiangai (Box Loving) Initiative” Public Welfare Themed Exhibition

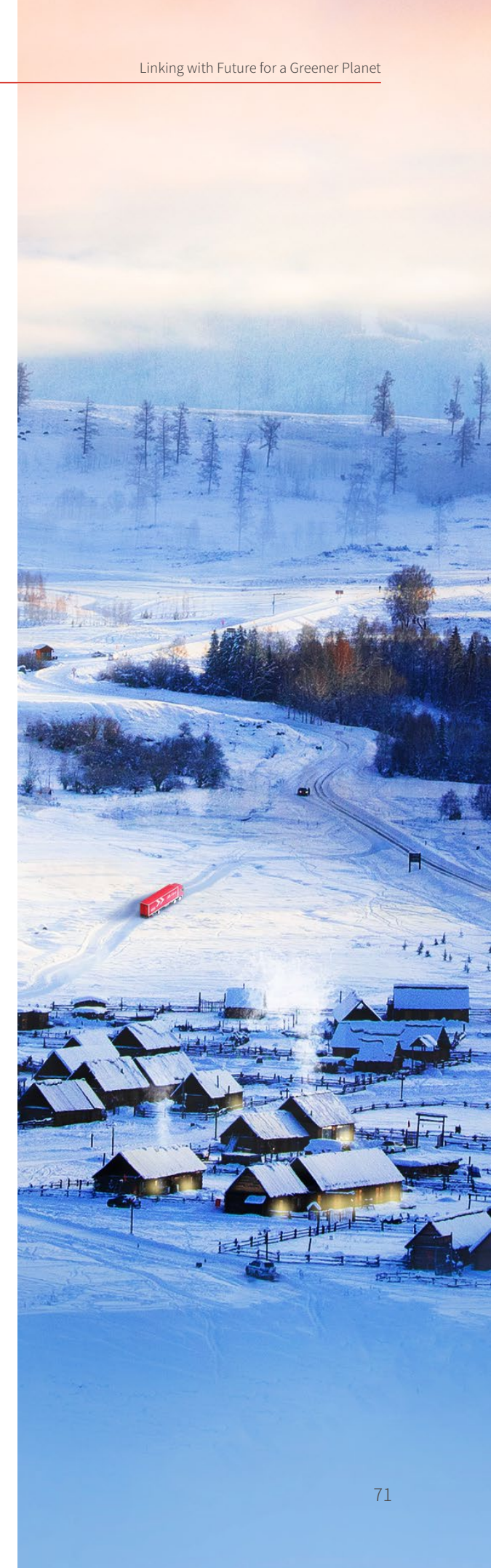
In June 2021, JD Logistics held the second Shanhai (Mountain-and-Sea) Music Festival, drawing more public attention to protect the environment by garbage classification and recycling. When it comes to green recycling, JD Logistics organized the “Xiangai Initiative,” a public welfare-themed exhibition to raise cartons’ recycling and sustainable utilization from lifestyle to art of life.

Advocating Carbon Reduction Through Interactive Marketing Game of “The Journey of a Package”

JD Logistics integrated energy conservation and environmental protection measures into online interactive games. Users can obtain “carbon reduction points” through model calculation by completing actions such as sign-in and delivery tasks. Offline activities in various cities are also carried out simultaneously, encouraging users to take more environmental protection steps such as recycling cartons and donating used clothes. From October to December 2021, 4 million people participated in the event and delivered the sustainability concept of “more carbon emission reduction, more happiness.”

“Carbon Reduction Pioneer — Carbon Reduction Plan”

In response to the national call for carbon reduction and to actively fulfill its corporate social responsibility, JD Logistics and JD Life launched an environmental protection activity with the theme “Carbon Reduction Pioneer — Carbon Reduction Plan” in 12 local residential communities. Under the guidance of Shijingshan District Urban Management Committee, the activity is promoted in a variety of ways, including advertising by courier when delivering, community bulletin boards, and courier cabinets, and the public is encouraged to participate by recycling waste cartons for exchanging environmental protection bags and taking an environmental protection quiz to win prizes. The activity instilled in the community the concepts of waste separation, recycling, and other carbon reduction lifestyles and environmental protection knowledge, encouraging residents to actively practice carbon reduction and further engaging everyone to protect the green planet together.



Special Topic: Building a Green, Intelligent, Efficient, and Reliable Integrated Supply Chain to Ensure the Success of the Winter Sports Events

As early as December 2019, JD.com has become a Diamond-level e-commerce partner, and logistics services provider for the “Experience Beijing” — a series of winter sports events. Since 2020, JD Logistics had provided logistics and supply chain services, including warehousing, transportation, and distribution during the “Experience Beijing.” JD Logistics assisted 14 competition venues in successfully hosting 34 international competitions. With more than 30,000 items transported and arranged in place, we facilitated all-scenario pilot test such as warehousing, transportation, in-hall logistics, Master Delivery Schedule (MDS), and contactless intelligent distribution in venues. In 2022, as the logistics services provider of the winter sports events, JD Logistics fully implemented the concept of sustainable development, strictly fulfilled the requirements on the security of epidemic prevention and ensured the success of this event through high-tech and intelligent measures.

During the “Experience Beijing” — a series of winter sports events



Demonstrating the Power of China’s Integrated Supply Chain to the World

JD Logistics gave full play to its excellent supply chain capabilities to provide intelligent and high-level logistics services for the winter sports events. As the first Chinese logistics services provider with full involvement in such international sports events, JD Logistics was responsible for vital logistics services such as becoming the logistic services provider for the organizing committee, supporting baggage transportation, and operating athletes’ food warehouses. In addition to providing logistics vehicles and conventional logistics services, JD Logistics provided logistics planning, warehousing management, material sorting, and handling services for the main distribution center, and various competition and non-competition venues for the sports events. JD Logistics took full advantage of its scientific and technological innovation achievements and integrated supply chain capabilities to respond to the professional logistics needs of the whole event, which revealed the robust capabilities of Chinese logistics enterprises in serving large-scale international events.

Securing High-tech Winter Sports Events with Intelligent Innovation

Through advanced technologies such as 5G, big data, artificial intelligence, and a series of advanced automation equipment, JD Logistics has improved the overall operational efficiency of the supply chain, ensuring a well-organized safety and epidemic prevention work for international sports events and showing the integrated supply chain competencies of Chinese logistics enterprises to the world.

Providing MDS Services for Sports Events

The MDS is regarded as one of the most critical logistics management tools for the event, which provides an information management system that schedules the sequence for logistics vehicles when entering the venue during the competitions. The MDS has significant implications for realizing the orderly entry of all kinds of freight vehicles and preventing congestion around or at the entrance. The MDS, along with the vehicle license, person license, and security inspection seal, are co-functioned as the “four keys” for freight vehicles’ entrance. In principle, freight vehicles without the MDS in place cannot enter the venues.

Entrusted by the Organizing Committee, JD Logistics deployed the MDS system and provided relevant services. On top of which for the first time in such sports events, JD Logistics achieved technological breakthroughs such as paperless verification of MDS information, real-time transmission of vehicle positioning information, and dual authentication on mobile phones and web pages. These disruptive technologies enabled hundreds of stakeholders, including country delegations, freight companies, and suppliers in various areas, to participate or experience a more convenience and efficient delivery of the event-related supplies. In addition, MDS system also made a unique contribution to a “carbon neutral” sports event with its outstanding green performance.

To ensure a smooth using experience of the MDS system, JD Logistics carried out centralized training, themed lectures, and field visits and assisted in writing and distributing the MDS User Manual for both Chinese and English versions. Therefore, the event participants worldwide can enjoy the timely and tangible support from our efficient logistics services.



Technology-backed Epidemic Prevention with Intelligent Logistics Equipment

To promote scientific and technological-backed epidemic prevention, JD Logistics has taken many measures to solve the problem of contactless “last-mile” distribution at the event’s venues. JD Logistics successfully put into use 14 outdoor and three indoor intelligent distribution devices in several venues. In addition, we served the internal supply delivering and baggage handling in venues based on intelligent route planning and autonomous mobile intelligent driving technology during the events. To further implement contactless distribution, JD Logistics successfully put into use 23 sets of double-sided intelligent distribution cabinets to avoid direct contact between the depositor and the picker to the greatest extent. JD Logistics also introduced intelligent warehouse management facilities in the main distribution center of the event and implemented automatic management and sorting for high-risk materials. By deploying different innovative measures such as unmanned sorting and production area with AGV robots to prevent the exposure of warehouse personnel from high-risk materials. Furthermore, through intelligent warehouse management to achieve the minimum contact with the population of imported materials, which has effectively inhibited the risk of epidemic.

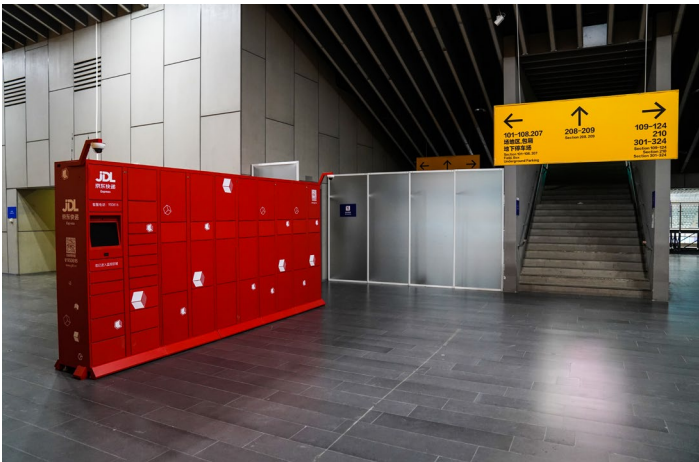


JD Logistics successfully put into use

14 outdoor intelligent distribution devices

3 indoor intelligent distribution devices

23 sets of double-sided intelligent distribution cabinets in several venues



Bringing Quality Service to Athletes Through Refined Management

In the process of transporting athletes’ luggage, JD Logistics efficiently classified luggage through refined management. Meanwhile, through designed and modified delivery vehicles for oversized luggage and with the help of intelligent unmanned distribution equipment, we comprehensively improved the efficiency of luggage transportation for the event. As the main warehouse and logistics services provider for athletes’ food supplies, JD Logistics strictly followed the requirements of the organizing committee to ensure the safe supply of food and beverages for athletes as well as team members in a mass and standardized manner. JD Logistics conducted unified management during processes, such as procurement, acceptance, warehousing, and food safety inspection. Consequently, JD Logistics achieved the goal of ensuring the safety of food supply, whole-process information management, and effective control for epidemic prevention.

Realizing Energy Saving and Emission Reduction for the Event through Green Logistics

As the logistics services provider of the sports events, JD Logistics further utilized the green advantages and motivation of the integrated supply chain during the preparation and support of the sports events. Through centralized storage, unified allocation, and intensive distribution, JD Logistics improved the time-effectiveness and quality of service and reduced the waste of resources, thus to maximize the overall optimization of the end-to-end integrated supply chain. At the same time, JD Logistics built a green, intelligent, efficient, and safe integrated supply chain for the international sports events through intelligent warehousing, intelligent storage, intelligent dispatching, car networking, blockchain traceability, and other high-tech and intelligent approaches.

Green Reusable Packaging



JD Logistics helped the organizing committee realize a more environmentally friendly sports events by using green recycling packaging — “Green Stream Box.” During the event, the “Green Stream Boxes” were recycled and used about 1,800 times; the slimming tapes, which are more environmentally friendly, covers 100% packaging materials with a total length of over 225,000 meters. Moreover, we replaced wrapping film with wrapping tape.



Green Logistics and Transportation



Logistics transportation is an essential part of the green supply chain. JD Logistics designated more than 50 special new energy logistics vehicles for event logistics services, with all of the new energy logistics vehicles employed in the distribution services between competition cities and the internal logistics services at event venues. At the same time, all the vehicles used for the logistics service in the event met the emissions standard of National VI-b, while the hydrogen energy logistics vehicles were put into trial operations in the Zhangjiakou competition area. Relying on its digital and intelligent supply chain technology, JD Logistics tracked the location of vehicles in real-time and dynamically optimized the vehicles’ distribution routes. Our digital and intelligent supply chain technology could scientifically dispatch the logistics vehicles when they arrived and departed from the venues, which improved the operational efficiency and achieved accurate scheduling of delivery in the venues.

Green and Recycling Warehousing



JD Logistics fulfilled the logistics service for the international sports events organizing committee with a 100% paperless operation and the usage of recyclable pallets in the warehouse operations, saving more than 100,000 sheets of paper during the service for the event.

Cooperating with Upstream and Downstream Partners to Create Green Supply Chain for the Event



Serving for the preparation and hosting of the event, JD Logistics joined hands with upstream and downstream partners in the supply chain to fulfill a concept of green and sustainability, JD Logistics jointly promoted the recycling of original packaging with suppliers of furniture, white household appliances, and technical supplies. Recyclable labels were pasted on the outer packaging to remind personnel to pay attention to the reuse and recycling of packaging during unpacking, while recycling corners of packaging materials were set in storage centers and venues for the storage and use of recycled packaging, aiming to improve the recycling rate of logistics packaging. JD Logistics’ green logistics deployment and implementation has also been chosen as a typical sustainability case and included in the sustainable development report of the events. Meanwhile, JD Logistics, as the drafter, participated in the formulation of the local standards of the *Guidelines for Sustainability Evaluation of Large-scale Events*, providing support to inherit the Games’ heritage.

JD Logistics’ Courier Participates in the Torch Relay

Luan Yushuai (Torchbearer)

Luan Yushuai, a JD Logistics courier, participated in the torch relay as the torchbearer of the winter sports events. Luan Yushuai participated in the marathon for the first time in 2017 and later he won first prize among the non-professional players in the Beijing Half Marathon in 2021, becoming the “fastest delivery man.” As one of tens of thousands of delivery personnel, Luan Yushuai said that he won this honor on behalf of all logistics workers.

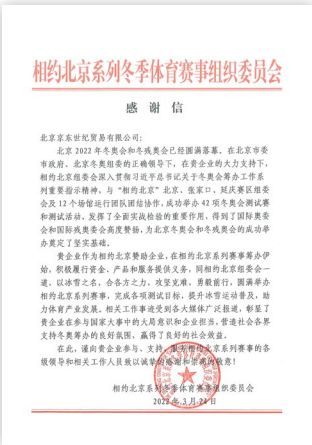
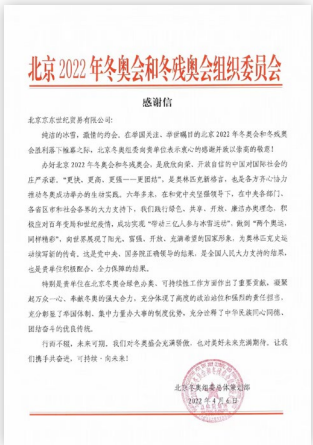
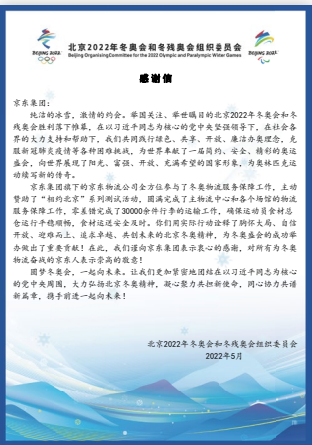


Song Xuwen (Torchbearer)

Song Xuwen, a JD Logistics courier also participated in the torch relay. Song Xuwen has worked in JD Logistics for 11 years as a courier with a delivery distance exceeding 300,000 kilometers. He has created a record of zero errors, zero complaints, and zero safety accidents in his distribution work of 300,000 packages. Song Xuwen successively won the prize of National May Day Labor Medal, the National Model Worker, and the National Excellent Communist Party Member award. The logistics team, led by Song Xuwen during the event, has been highly recognized by the organizing committee, which ensured the green, efficient, and safe operation of logistics in the events through practical actions.



JD Logistics Won Unanimous Recognition at Home and Abroad for High-Quality Logistics Services for the Grand Event



Thematic Report on Climate-related Financial Information Disclosures

The climate change crisis is threatening the security of business assets and operations, while proactively tackling climate change will bring new opportunities for sustainable business growth. Meanwhile, business activities are also one of the principal causes of global warming. Enterprises are playing an increasingly important role in global climate and environmental governance. JD Logistics is committed to driving superior efficiency and sustainability for a global supply chain through technology. Relying on its business impact alongside the supply chain, JD Logistics is taking a leading role in engaging more partners in climate actions. In 2017, JD Logistics launched the “Green Stream Initiative,” aiming to achieve low-carbon emission reduction across the integrated supply chain through various innovating supply chain activities covering packaging, warehousing, and transportation. In 2019, JD Logistics announced its participation in the “Science Based Target initiative,” becoming the first logistics enterprise in China to set the Science Based Target. In 2021, JD Logistics announced that it would increase its investment in the “Green Stream Initiative,” and the carbon efficiency of the whole supply chain will increase by 35% in the next five years. JD Logistics will further accelerate the low-carbon transformation of its supply chain enabled by technology and promote the green and sustainable development of upstream and downstream of the supply chain.

The [recommended framework](#) released by Task Force on Climate-related Financial Disclosures (TCFD) in 2021 is the world’s most influential and widely applied climate information disclosure standard. Referring to the framework suggested by TCFD, JD Logistics disclosed its climate-related governance structure, the strategic process of risks and opportunities identification, risk management, indicators and goals’ setting.

Governance

The Board’s Oversight of Climate-related Risks and Opportunities

The Board of Directors and CEO of JD Logistics jointly participate in the identification of climate-related risks and opportunities, formulate relevant management metrics and mechanisms, and supervise and guide the implementation of the work.

Management’s Role in Assessing and Managing Risks and Opportunities

The CEO of JD Logistics establishes a strategic framework based on the identification of climate-related risks and opportunities and conducts regular supervision and reporting on specific management work and target implementation processes. At the same time, JD Logistics ESG Task Force is responsible for the daily management of climate-related work by coordinating with relevant responsible persons from various departments and business lines to facilitate the identification and information disclosure of climate-related risks and opportunities.

Strategy

In Different Climate Scenarios (SSP1 and SSP3, i.e., emission scenarios under different climate policy interventions), the Forecast of Macro-environmental Situation Confronted by JD Logistics

To better understand the potential impact of climate change on JD Logistics’ business, JD Logistics conducted a climate scenario analysis for JD Logistics’ external business environment in 2025 and 2030, including ecological, economic, social, etc., based on the shared socio-economic pathway (SSP) assumption adopted by the Intergovernmental Panel on Climate Change (IPCC).

Table 1: Forecast of Macro-environmental Situation that JD Logistics May Face in Different Climate Scenarios

	SSP1 (low emission scenario with strict climate change policy intervention)	SSP3 (high emission scenario without climate change policy intervention)
Natural ecology ¹³	<ul style="list-style-type: none">• Mean temperature: 1.6°C higher in 2040 than in the pre-industrial period (a rise of 2.0°C as in 2100)• Sea level rise: 0.1m higher in 2040 than the current level (a rise of 0.4m as in 2100)• Extreme climates: the frequency and intensity increase to some extent• Precipitation: When the temperature rises by 1.5-2.0°C, many parts of the world will encounter more severe agricultural and ecological drought, while the precipitation intensity in certain localities will increase by 10.5%-14%	<ul style="list-style-type: none">• Mean temperature: 1.6°C higher in 2040 than in the pre-industrial period (a rise of 3.9°C as in 2100)• Sea level rise: 0.1m higher in 2040 than the current level (a rise of 0.6m as in 2100)• Extreme climates: the frequency and intensity increase significantly• Precipitation: When the temperature rises by 2.0-4.0°C, 50% part of the world will undergo more serious agricultural and ecological drought, while the precipitation intensity in certain localities will increase by 14.0%-30.2%
Socio-economic environment ¹⁴	<ul style="list-style-type: none">• Global climate policy: major countries and regions in the world have announced carbon neutrality paths (including China’s carbon peak and neutrality goals) and strictly implemented the planned targets.• Global business models: from fossil fuel-dependent economy to renewable energy-driven economy.• Greenhouse gas emissions in China: the carbon dioxide emission per unit of GDP will decrease by 18% in 2025 compared with that of 2020, and by more than 65% in 2030 compared with that in 2005.• Carbon price in China: in 2025 and 2030, the carbon price is expected to reach RMB 63-87 and RMB 77-139 per ton, respectively.• Energy consumption structure in China: the proportion of non-fossil fuels in primary energy consumption will reach 20% in 2025 and 25% in 2030.• New energy vehicles in China: by 2025, the sales of new energy vehicles will reach about 20% of the total sales of new cars; by 2030, the proportion of vehicles powered by new energy and clean energy will reach about 40%.• Consumption trend in China: by 2025, green consumption will be widely popularized, and the market share of green low-carbon products will be significantly increased; by 2030, green consumption will become the conscious choice of the public, and green and low-carbon products will be dominant in the market.	<ul style="list-style-type: none">• Global climate policy: some countries and regions still lack carbon neutrality goals and have no detailed short-term climate actions and goals.• Global business models: a profit-driven business model that fails to properly consider the environmental and social impacts without obvious fluctuation in the renewable energy portfolio.• Greenhouse gas emissions in China: as in 2030, greenhouse gas emissions will increase by 38% compared with the present level.• Carbon price in China: the carbon price in 2021 is RMB 49-56 per ton. In 2025 and 2030, the carbon price is expected to remain the same.• Energy consumption structure in China: the proportion of non-fossil fuels in primary energy consumption maintains as that in 2020, about 16%.• New energy vehicles in China: the proportion of new energy vehicle sales to total new vehicle sales maintains that of 2021, which is 11.25%.• Consumption trend in China: the concept of green consumption is still not dominant, and the market for green, low-carbon products is limited.

¹³ Sources: [The sixth assessment report](#) of the Intergovernmental Panel on Climate Change (IPCC) Working Group (WGI) and [CMIP6 climate model](#).
¹⁴ Sources: [Action Plan for the Nation’s Carbon Peak before 2030](#) issued by the State Council in 2021, [Guidance on Climate Disclosures](#) issued by HKEX in 2021, [national carbon market transactions as of the end of 2021](#) issued by the Ministry of Ecology and Environment, [China’s carbon market price forecast](#) issued by Refinitiv in 2021, [China’s carbon price survey](#) in 2021 issued by China Carbon Forum, the [New Energy Vehicle Industry Development Plan \(2021-2035\)](#) issued by the State Council at the end of 2020, the proportion of new energy vehicles in China as of the end of 2021 issued by People’s Daily, the [Implementation Plan for Promoting Green Consumption](#) issued by the National Development and Reform Commission and other departments in 2022, and the [Carbon Neutralization Path of China’s Energy Industry](#) issued by the International Energy Agency (IEA) in 2021.

Potential Risks and Opportunities for JD Logistics in Different Climate Scenarios

- By collecting the information provided by various departments and combining it with literature-based studies on climate, macro-environment, industrial policies, etc., we analyze the potential impacts of high emission scenarios and low emission scenarios on the warehousing, transportation, and supply chain operation of JD Logistics. We then identify the potential physical and transition risks in different climate scenarios. We define risks and opportunities in terms of influence periods¹⁵ as short-term (S), medium-term (M), and long-term (L), in accordance with whether the risks and opportunities have affected the business and their impact cycles on the business.

- Under the high emission scenario (SSP3), the potential impact of physical risks on JD Logistics business, risk identification, and impact cycle.

Physical risk classification

Heatwave, Sea Level Rise, Flood, Frequent Extreme Weather, and Biodiversity Loss.

Business impact brought by physical risks

According to the 2021-2022 global risk ranking of the World Economic Forum Global Risk Perception Survey (GRPS) in the next decade, climate-related risks such as climate action failures, extreme weather, and biodiversity loss are listed as the three most severe global risks. At the same time, the research also suggests considering the potential consequences caused by these climate-related physical risks, especially the impact on the sustainable development of enterprises. These impacts include Natural Resource Crises, Human Health Crises, Ecological Environment Damage, and Infrastructure Failure. Based on these impact dimensions, we summarize and describe the potential risks of JD Logistics.

¹⁵ As defined in this topic, the short-term is designated for less than 2 years, the medium-term for 2-5 years, and the long-term for more than 5 years.

Table 2: Potential Impact of Physical Risks on JD Logistics Business in High Emission Scenario (SSP3), Risk Identification and Impact Cycle

Strategic dimension	Impact dimension	Risk description	Physical risk classification	Impact cycle
Warehousing	Infrastructure Failure	<ul style="list-style-type: none">The frequency of extreme natural disasters such as floods, typhoons, thunderstorms, and extreme high/low-temperature weather events caused by climate change will increase, which damages the buildings and operational stability such as warehouses, logistics parks, and data centers, and increases the cost for maintaining infrastructures such as warehouses and data centers.Future sea-level rise may force the infrastructure and businesses in coastal areas to relocate to inland areas, which will increase operating costs.In the rainy season, the increase in flood frequency may endanger the steady operation of JD Logistics. According to relevant data, the frequency of flood disasters in China from 2000 to 2019 was significantly higher than that from 1980 to 1999. In 2021, Henan and Shanxi Province suffered from extreme precipitation events, which caused serious disasters¹⁶ and had an impact on warehousing and operation sites.	<ul style="list-style-type: none">HeatwaveFloodSea Level RiseFrequent Occurrence of Extreme Weather	<div><div>S</div><div>M</div><div>L</div></div>
Transportation	Infrastructure Failure	<p>The increase in the frequency of extreme natural disasters such as floods, typhoons, thunderstorms, and extreme high/low temperatures caused by climate change will bring risks to the safety of logistics transportation and increase the operating cost of JD Logistics.</p> <ul style="list-style-type: none">Increased heat weather events will reduce the working efficiency of JD Logistics' employees, endanger health and safety, and increase high-temperature subsidies and medical expenses.With the increase in the frequency of drought, the consequent wildfire activity will cause heat damage. The smoke and dust will endanger public health, including the health and safety of employees in the delivery process of JD Logistics. Compared with the period 2001-2005, the annual average wildfire exposure¹⁷ in China in the period 2016-2020 increased by 24.5%¹⁸;	<ul style="list-style-type: none">Frequent Occurrence of Extreme Weather	<div><div>S</div><div>M</div></div>
		<ul style="list-style-type: none">With climate warming and decreased atmospheric density, the lift force generated by aerofoil will decrease. At the same time, the higher temperature will affect the safety of aircraft and the internal safety of pure electric vehicle batteries. The delay caused by the take-off failure of aircraft and the internal hazards of batteries will affect the effectiveness of air and road transportation of JD Logistics.The increased risk of infectious diseases¹⁹ and air pollutants caused by climate change will affect the health and safety of employees, especially front-line employees.Extreme rainstorms and floods will destroy the route planning and storage and transportation network planning of JD Logistics, and the internal parts of the transport vehicle batteries may be damaged due to heatwave or extremely cold weather, which will affect the express and freight delivery efficiency and revenue of JD Logistics.	<ul style="list-style-type: none">FloodHeatwaveBiodiversity Loss	<div><div>S</div><div>M</div><div>L</div></div>
Supply of Raw Materials	Nature Resource Crises	<p>With the increased frequency of flood, typhoons, thunderstorms, and extreme high/low-temperature weather caused by climate change, the yield and cycle of material supply in packaging, transportation, and other activities have been impacted, which has affected the suppliers of JD logistics, increased the pressure of freight orders, and may eventually affect the revenue of JD Logistics.</p>	<ul style="list-style-type: none">HeatwaveFrequent Occurrence of Extreme WeatherFlood	<div><div>S</div><div>M</div><div>L</div></div>

¹⁶ Source: [2021 Lancet Countdown Annual Report on Population Health and Climate Change, China Edition](#) released by the Lancet Countdown Asia Center.

¹⁷ The average number of days people are exposed to wildfires per year.

¹⁸ Source: [2021 Lancet Countdown Annual Report on Population Health and Climate Change, China Edition](#) released by the Lancet Countdown Asia Center.

¹⁹ Source: ["Will coronavirus exist for a long time?"](#) released by UNEP in 2020

- Under the low emission scenario (SSP1), the potential impact of transition risks on JD Logistics business, risk identification, and impact cycle.

With respect to the risk of business transition incurred by JD Logistics’ response to climate change, the tightening of macro policies in the low emission scenario and the trend of holistic social transformation may bring JD Logistics more policy restrictions, which will eventually affect its operation and revenue.

Based on the sources of transition risk incurred by climate change, the risks can be defined as: Policy and Legal, Technology, Reputation, and Market.

Table 3: Climate-related Transition Risks and Strategic Dimensions, Risk Description, Classification and Impact Cycle of JD Logistics under the Low Emission Scenario (SSP1)

Strategic dimension	Risk description		Classification	Impact cycle
Low-carbon development trend of the society	Many countries and regions may implement stricter climate-related policies (such as implementing carbon price mechanisms and shifting to renewable energy); for instance, the Communist Party of China Central Committee and the State Council jointly released “Working Guidance For Carbon Dioxide Peaking And Carbon Neutrality In Full And Faithful Implementation Of The New Development Philosophy” and “Action Plan for the Nation’s Carbon Peak Before 2030” have clearly pointed out the safeguard schemes, such as scientific and technological support, energy security, financial and monetary pricing policies, etc., for implementing the carbon peak and neutrality goals in key domains, industries and regions ²⁰ , as well as the transition trend of regionalization and industrialization.		<ul style="list-style-type: none">Policy and Legal	<div><div>S</div><div>M</div><div>L</div></div>
Supply chain management	Laws and regulations related to green supply chain are increasingly strict	<p>China is intensively promulgating policies and regulations related to green transportation, plastic pollution control, and green industrial park development during the 14th Five-Year Plan period. If we fail to strengthen compliance management and promote the transformation in time, the JD Logistics business will face increasing regulatory pressure.</p> <ul style="list-style-type: none">Transportation: “The 14th Five-Year Plan for Green Transportation” clearly puts forward the green transition strategy of logistics transportation and specifies more quantitative targets in reducing pollution and carbon emission, energy consumption structure of logistics vehicles and transportation structure, which has become the mandatory task that JD Logistics must complete.Packaging: “The 14th Five-Year Plan of Action for Plastic Pollution Control” and related packaging policies of the postal service and logistic industry put forward clear requirements and quantitative goals for the full chain governance of plastic packaging, especially the reduction, standardization, circulation and easy recycling of e-commerce and delivery packages, and specify a clear timetable for packaging transformation and optimized management in JD Logistics.Industrial parks: “The Implementation Plan for Special Action of Green Development of National High-tech Zones” points out that it is necessary to promote the green energy transition by synergizing the efforts of industrial parks and urban areas and maximizing the use of clean energy and recycling initiatives in industrial parks, thus, to facilitate the development of a low-carbon city and a low-carbon economy.	<ul style="list-style-type: none">Policy and LegalTechnology	<div><div>S</div><div>M</div></div>

²⁰ Source: [China’s Policies and Actions on Climate Change](#) issued by the State Council in 2021.

Supply chain management	Pressure from clients	With the tightening of the national dual control policy of intensity and the total amount of energy consumption, some enterprises are required for low-carbon transformation. Various domestic and multinational enterprises have put forward specific carbon-neutrality targets one after another. JD Logistics, as an international logistics services provider, is influenced by both domestic and foreign enterprise clients, who are more willing to adopt low-carbon logistics services to achieve their carbon-neutral targets. Suppose JD Logistics fails to effectively respond to client demands and continuously bring innovative, low-carbon logistics and all-chain transformation solutions. In that case, JD Logistics may face the risk of losing clients and market share reduction.	<ul style="list-style-type: none">Policy and LegalTechnology	<div><div>S</div><div>M</div></div>
	Pressure from the transition cost	The measures taken to cope with climate change, such as the “Green Stream Initiative,” including the use of new energy, research and development, and purchase of carbon reduction technologies and low-carbon infrastructure, will increase the Company’s operating costs in the short term.		
Social and cultural transformation	Public attitudes and consumer preferences have shifted, with more attention paid to the low-carbon attributes of commodities. The younger generation attaches great importance to the social value delivered by corporate brands. Meanwhile, consumers will prefer logistics and packaging services with more low-carbon attributes under the nation’s carbon peak and neutrality goals. They will be more favorable to logistics companies with green packaging and low-carbon transportation practices. At the same time, China is also gradually improving the policy environment of green consumption. At the beginning of 2022, the National Development and Reform Commission, collaborating with major ministries and commissions, issued an “Implementation plan on promoting green consumption.” It defined the overall goal, key transformation areas, and safeguard mechanism of promoting green consumption and specifically mentioned the key values and influences of green logistics and packaging for green consumption. If JD Logistics fails to promote the green logistics and packaging service continuously, it may lose consumers’ preference and social recognition and thus face the risk of client loss.		<ul style="list-style-type: none">Policy and LegalMarketReputation	<div><div>S</div><div>M</div><div>L</div></div>
Technological progress and application	Driven by policies, the superposition effect of the “dual revolution” of information technology and energy technology will be further revealed. The emission reduction effect of new infrastructure on the intelligent upgrading and transformation of industries and the synergy of green elements will be fully exerted. JD Logistics shall develop its industry insight and enlarge the investment in research and development of energy-saving and emission reduction technology solutions to tackle the needs of various industries in some key areas of new infrastructures, such as data center efficiency, artificial intelligence, industrial internet, etc. Failing in doing so, JD Logistics will lose its first-mover advantage in the trend of green transformation of the society, which may further affect the future revenue. It is also necessary to evaluate the corresponding risks in the research, development, and application of technologies.		<ul style="list-style-type: none">Policy and LegalTechnologyReputation	<div><div>M</div><div>L</div></div>
Climate investment and financing	Research shows that there is still a huge funding gap to accomplish the green transformation. Policies encourage investment flowing to green enterprises and establish a complete green credit, supervision, and rating management system. As of the end of 2021, the central bank has successively launched tools supporting carbon emission reduction and refinancing for clean and efficient coal utilization to provide preferential interest rate support for eligible projects. At the same time, ESG investment, which takes enterprise environmental risks, especially climate risks, as an important factor of consideration, is developing rapidly. Suppose JD Logistics has potential financing needs in the process of promoting the comprehensive green transformation of the integrated supply chain and fails to timely and quantitatively assess the climate risk and evaluate the systematic impact of low-carbon transformation on JD Logistics. It may lose some potential investment and financing opportunities.		<ul style="list-style-type: none">Policy and Legal	<div><div>M</div><div>L</div></div>

Transition Opportunities in Response to Climate Change

JD Logistics insists that green development is the main driving force for high-quality corporate development. We aim to seize the opportunity of a new round of scientific and technological revolution and industrial transformation to a low-carbon economy and provide more adaptable solutions to global climate risks through our scientific and technological innovation.

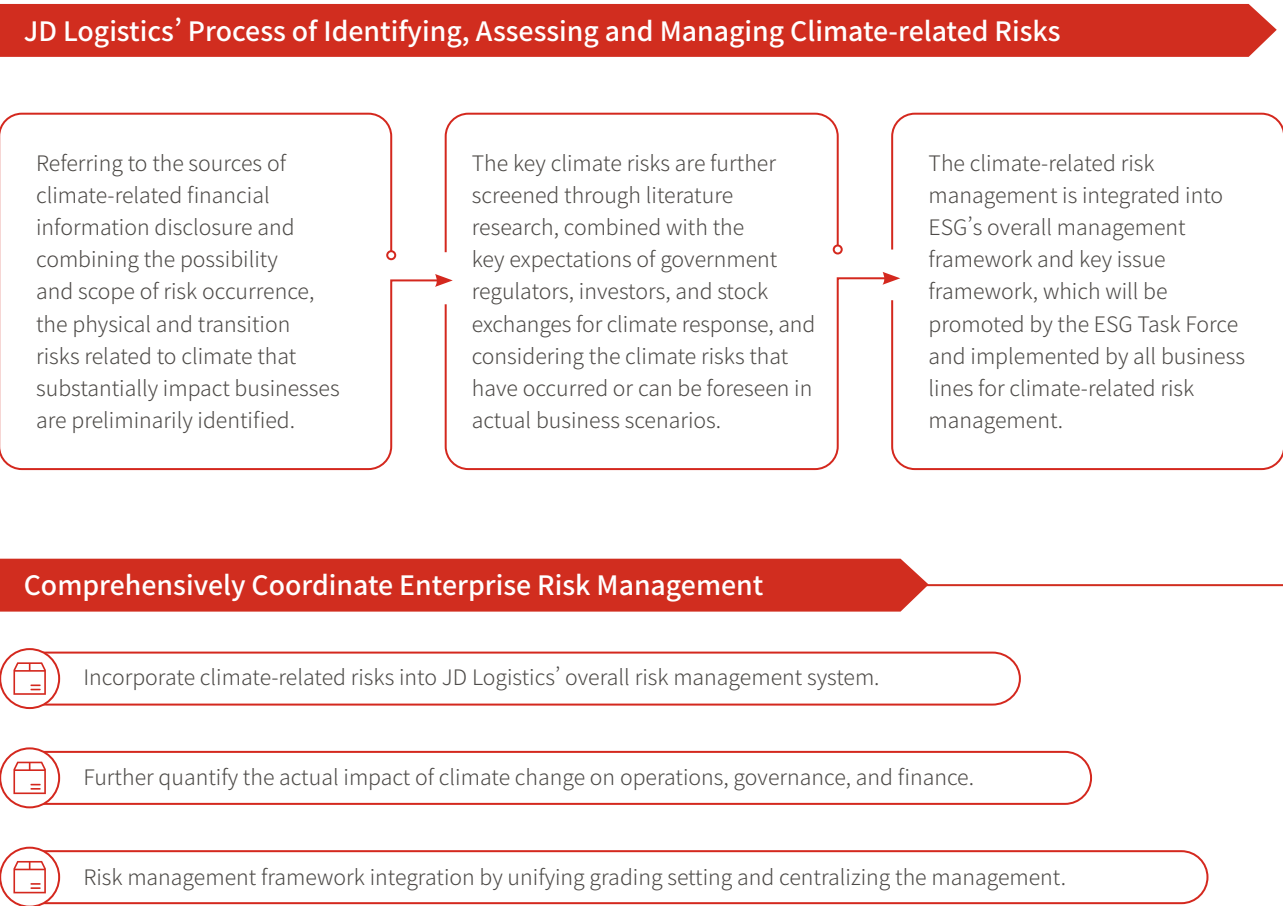
Table 4: Strategic Direction, Transition Accomplishment, Opportunity Classification, and Impact Cycle Under the Background of Low-carbon Economic Transformation of JD Logistics

Strategic direction	Opportunity and strategy	Transition accomplishment	Classification	Impact cycle
Warehousing	Develop photovoltaic logistics parks	JD Logistics has successfully applied a roof distributed photovoltaic power generation system to the Shanghai Asia No.1 smart mega warehouse, ready to explore more low-carbon innovation solutions in warehousing scenarios. Since 2020, to promote renewable and clean energy vigorously, JD Logistics and new energy enterprise partners have jointly promoted the construction of photovoltaic power generation plants in smart logistics parks nationwide.	• Energy source	M L
	Digitally intelligent upgraded warehousing facilities	Based on digital and intelligent social supply chain, JD Logistics is working with many partners to reduce China's socialized logistics cost to less than 10% within ten years, comparable to developed countries in Europe and America. In the future, JD Logistics' unmanned warehouse algorithm will significantly contribute to the realization of the goal, further lead the digital and intelligent upgrading of global supply chain infrastructure and improve the logistics efficiency.	• Resource efficiency	M L
	Build infrastructure with climate resilience	The business operation relies on technical infrastructure and platform. When building new projects, the possible impact of extreme weather events on public facilities and infrastructure networks is taken into full consideration to manage the expansion of logistics infrastructure successfully. By the end of 2021, JD Logistics Warehouse had covered almost all regions in China, and JD Logistics had operated 43 Asia No.1 smart mega warehouses in 33 cities. By strengthening infrastructure construction and rolling out the successful and effective management and expansion, while we expand the business scope and scale, the resilience of JD logistics operation to climate change is also enhanced, so that the possible business losses caused by extreme weather events can be mitigated.	• Resilience	S M
Transportation and distribution	Continuously upgrade energy combination	JD Logistics has developed two transition ways of greening transportation capacity and the optimization of route algorithm. As of April 2021, JD Logistics has deployed new energy logistics vehicles in more than 50 cities in seven regions of the country and made extensive use of clean energy charging infrastructure to reduce carbon dioxide emissions by at least 400,000 tons per year. In 2021, all JD Logistics self-operated intra-city delivery vehicles in Beijing were replaced by new energy vehicles. At the same time, JD Logistics was the first logistics enterprise in China to use hydrogen energy vehicles, which had been in normalized operation in Beijing, Shanghai, Guangzhou, Foshan, Zhangjiakou, and other cities by the end of 2021. By improving the transportation energy structure, JD Logistics adopts more clean energy. JD Logistics can also generate revenue through measures such as trading on carbon emissions as an active response to national policies to save energy and reduce emissions. By 2030, JD Logistics will replace and upgrade 100% of its transportation and delivery vehicles with new energy logistics vehicles.	• Energy source	S M

Transportation and distribution	Optimize big data path	JD Logistics optimizes route planning and storage and transportation network planning in real-time to reduce the number of vehicles in transit, improve the full load rate of returning vehicles, and optimize logistics and transportation efficiency. For example, through big data optimization in Beijing and its surrounding areas, vehicle scheduling is reduced by about 30% on average. By optimizing energy, resource allocation, and carbon emission management, JD Logistics improves logistics and transportation efficiency, reduces energy consumption, maximizes resource utilization, and eventually effectively reduces the energy expenditure and responds to the national "carbon peak and neutrality" policy.	• Resource efficiency	S M
	Continue to develop autonomous delivery vehicles	JD Logistics commenced researching and developing the first generation of autonomous delivery vehicles in 2016. By 2021, JD Logistics not only released the fifth generation of autonomous delivery vehicles but also realized the functions of completely no blind spots, remote control, remote monitoring, and so on, effectively improving the intelligent autonomous driving. JD Logistics will achieve relatively well-developed results in 3-5 years, reduce personnel input and alleviate casualties caused by extreme weather.	• Products/services	M
	Guarantee resource mobilization ability	In response to extreme and urgent events, JD Logistics can efficiently mobilize special resources based on its diversified transportation capacity. For example, in early 2021, JD Logistics fully supported Hebei Province in fighting the epidemic. It provided special channels for the supply of daily necessities and anti-epidemic materials by making full use of its own business strength, such as infrastructure capacity. The strong infrastructure of JD Logistics provides a guarantee for specially allocating and mobilizing resources to deal with possible disasters and incidents brought by extreme weather so that people can enjoy more stable service and better quality of life. Meanwhile, the brand influence of JD Logistics will be strengthened, a favorable competitive environment can be shaped, and the income will also be increased.	• Resource efficiency • Products/services	S
Client/user	Manage the packaging process through digital intelligence	Through the intelligent management of the packaging process, the efficiency of package delivery can be improved so that consumers can enjoy more prompt and better delivery services. Therefore, consumption can be stimulated, the Company's income will also be increased, and it can better cope with the surge in order demand caused by extreme weather.	• Products/services	S M
	Provide energy-saving and carbon-reducing services for enterprises through digital intelligence	JD Logistics' efficient collaborative logistics network with warehousing at its core and the capabilities of operation automation, digital management, and intelligent decision-making driven by data and algorithms can not only provide a comprehensive solution for supply chain strategy-planning-scheme-implementation in the digital world but also provide integrated tangible support from solution development to landing operation in the physical world. Through digitalization and automation, JD Logistics provides an efficient and low-carbon operation scheme, giving full play to the information-based operation mode, improving the core planning based on data and algorithms, and ensuring that the public can enjoy stable and efficient services.	• Products/services	S M
Climate response value sharing	Drive the whole chain to save energy and reduce carbon	Through all-chain energy saving and carbon reduction measures such as green packaging and recycling, transportation by new energy vehicles, distributed photovoltaic power generation, and application of intelligent devices, JD Logistics achieved a 5% reduction in carbon emissions compared to 2020 during the 618 Grand Promotion in 2021. Through the introduction of green products and services, JD Logistics promotes the concept of green environmental protection to consumers and guides the green lifestyle and green consumption. In response to national policies, more green consumer groups are attracted, driving the total upgrading of the supply chain and the creation of revenue.	• Products/services • Market	S M

Climate response value sharing	Continue to empower clients	<p>The integrated supply chain with long-term technical investment by JD Logistics helps SMEs efficiently allocate business resources, optimize inventory management, reduce operating costs, and solve their various logistics problems, including raw materials entering the factory, production, distribution, and after-sales. JD Logistics promotes the value sharing of climate actions by continuously strengthening cooperation with clients. For example, in the eco-friendly warehouse built for Nestle Group, JD Logistics uses the recycling of cardboard straps instead of wrapping film to reduce the consumption of disposable plastic products in warehousing and racking. The recycled cardboard has a long service life and can be reused, so it produces little white garbage during use. In 2021, JD Logistics reduced the consumption of plastic wrapping film by thousands of tons by using the recycling cardboard straps, realizing environmentally friendly storage.</p>	<ul style="list-style-type: none">• Resource efficiency• Products/ services	L
	Enrich the transportation ecosystem	<p>Since JD Logistics officially declared its independence in 2017, it has cooperated with more than 200 industry-leading enterprises such as China COSCO Shipping Corporation, China Railway Express, Harbin China Railway Express, Yamato, Air China Cargo, China Eastern Airlines, China Southern Airlines, Hainan Airlines. Qilu Transportation, etc., constantly enriching and improving a symbiotic logistics ecosystem in addressing climate change issues together and improving the adaptability of the supply chain to extreme weather by building a global intelligent supply chain infrastructure integrating land, sea, and air.</p>	<ul style="list-style-type: none">• Resilience	M L

Risk Management



Metrics and Targets

Based on the evaluation of climate risks and opportunities and combining JD Logistics’ overall development strategy and resource endowment, we establish the overall corporate carbon emission reduction strategy. We will continue to exert our technological capabilities and industry influence to reduce our operation emissions, facilitate a low-carbon value chain and promote sustainable consumption. We will be dedicated to improving our climate resilience and sustainable competitiveness while supporting the fulfillment of the nation’s carbon peak and neutrality goals as scheduled.

Table 5: JD Logistics’ Metrics and Targets on Issues Related to Climate Change

Primary metrics	Secondary metrics	Metrics description	Target setting
Establish a climate strategy	Establish climate strategy at JD Logistics	Integrate climate-related risk assessment into the overall corporate strategy development	Preliminarily establish strategic framework in 2022
	Identify the value proposition and impetus for JD Logistics on climate actions	<ul style="list-style-type: none">• Strengthen climate adaptability and resilience• Strengthen competitiveness<ul style="list-style-type: none">◦ Reduce cost◦ Attract the new type of talents◦ Promote product and business innovation◦ Increase income• Strengthen social recognition<ul style="list-style-type: none">◦ Participate in climate governance◦ Enhance reputation• Expand the social influence<ul style="list-style-type: none">◦ Lead the supply chain to achieve comprehensive carbon reduction	Establish and clarify the value proposition and impetus of climate actions by 2023
	Quantify the impact of climate action on business value	Evaluate the Company’s financial performance attributed to climate action based on the value proposition and impetus model	Establish a value evaluation mechanism and quantify the financial impact of climate action by the end of 2023
Risk rating and tracking	Identify climate-related substantial risks	Based on the preliminary identification and sorted climate-related risks in TCFD report, more key departments should participate in risk assessment and grading	Establish a substantial climate-related risk management system in JD Logistics to rate various risks by the end of 2023
	Quantify the financial impact of climate risk	Make quantitative assessment for the financial impact of high-rating risks	
	Annual climate risk auditing	Annual review and update on risk rating and financial impact	After 2024, we will conduct an annual review of the actual business exposure to various risks and decide whether to update the rating or not according to the review results

Targets	Allocate emission reduction targets in line with Science Based Target		Identify key emission reduction areas and allocate emission reduction targets to key business departments and key supply chain partners	From 2022 onwards, JD Logistics will track the key business scenarios and partners' emission reduction processes
	Implement and follow up on the targets		Conduct the annual disclosure to publicize the implementation progress of the Science Based Target	The annual emission reduction report will be released from 2022, with a report template not limited to the ESG and TCFD report, etc
Strengthen climate governance	Establish a climate governance framework		<ul style="list-style-type: none">Based on the existing ESG governance structure, strengthening the focus and management of climate-related issuesManagement structure: the Board of Directors will coordinate the supervision and management, and the ESG Task Force will coordinate and promote the implementation of the climate targets	Starting from 2022, relying on the ESG governance structure, the management of climate-related issues will be clarified
	Establish a climate governance mechanism		<ul style="list-style-type: none">Set emission reduction indicators for each key business line by aligning with business goalsClarify the roles of various business linesEstablish a climate-related performance evaluation systemStrengthen the recruitment and training of climate-related talents	<ul style="list-style-type: none">Complete the construction of the climate-related management metrics by the end of 2023Starting from 2024, key performance indicators will be established relying on the indicator systemStarting from 2022, we will make continuous efforts in relevant talents' hiring and training
Promote carbon emission reduction in all business scenarios	Low-carbon operation	Low-carbon office	<ul style="list-style-type: none">Strengthen the intelligent operation and maintenance (O&M) management of energy use in officeImprove the use of energy-saving facilitiesEncourage remote workEncourage employees' green transportation	By 2030, we will continue to promote the zero-carbon office by saving energy, improving energy efficiency, and increasing the proportion of renewable energy
		Low-carbon logistics park	<ul style="list-style-type: none">maximize the use of renewable power, such as distributed photovoltaic and efficient energy storageEfficient operation: automatic operation + full electrification of park energy consumptionOnline O&M system of the solution to carbon neutrality goals in smart logistics parks	By 2030, JD Logistics will continue to promote zero carbon in operating sites, including the purchasing and use of green power in logistics parks and operating sites
		Low-carbon data center	<ul style="list-style-type: none">Increase the proportion of natural cold sourcesIncrease the use of clean energy, including energy recovery and large-scale distributed photovoltaic power generation systemImprove energy and cold storage capacityImprove architectural layout and design for low energy consumptionStrengthen O&M management platformStrengthen climate resilience and effective resistance against extreme weather risks	<ul style="list-style-type: none">Infrastructure energy consumption continues to decreaseThe total amount of carbon emissions continues to decreaseClimate resilience continues to improve

Promote carbon emission reduction in all business scenarios	Low-carbon supply chain	Low-carbon transportation	<ul style="list-style-type: none">Continue to expand the coverage of new energy vehiclesOptimize route planning and storage and transportation network planningOptimize transportation structure and energy efficiency	By 2030, 100% of logistics vehicles will be replaced by new energy logistics vehicles
		Low-carbon packaging	<ul style="list-style-type: none">Promote recycling packagingIncrease the proportion of recycled packaging in total packagingIncrease the proportion of recyclable or degradable materials in total packagingApply digital intelligence technologyPromote upstream and downstream collaborationPromote reusable packaging sharing and recycling public system	<ul style="list-style-type: none">Packaging materials will be 100% environment-friendly and renewable/ substitutable by 2030Motivate more than 80% of upstream brands to develop environment-friendly packaging by 2030
		Suppliers' collaborative effort in carbon emission reduction	<ul style="list-style-type: none">Increase the proportion of brand merchants in cooperation with JD logisticsLead the suppliers to participate in the setting up and implementation of carbon reduction targets	<ul style="list-style-type: none">By 2025, to promote 50% of suppliers of JD Logistics to participate in the SBTiActively encourage upstream and downstream suppliers to use new energy vehicles
	Participation of the whole value chain in carbon emission reduction actions	Promote low-carbon consumption	<ul style="list-style-type: none">Participate in the formulation of national standards for low-carbon packaging productStrengthen low-carbon consumption and lifestyle campaigns	Continuing to drive a comprehensive green transition of the value chain through value chain impact, supply chain infrastructure and logistics technology
		Promote the construction of an industrial low-carbon supply chain	Based on digital and intelligent supply chain infrastructure and digital technology capabilities, we provide intelligent solutions for the low-carbon transformation of real economy enterprises	
Information disclosure	Conduct annual climate-related information disclosure		<ul style="list-style-type: none">Conduct annual review and disclosure of climate-related risks and opportunitiesConduct disclosure and reporting of the process on our climate targets accomplishment	Starting from 2022, JD Logistics will continue to publish TCFD reports

About the Report

Key Performance

Note: The 2021 tables for JD Logistics’ key performance in environment, society, and suppliers are prepared with reference to the *Environmental, Social, and Governance Reporting Guide* issued by Hong Kong Stock Exchange and GRI standards issued by GSSB. JD Logistics’ greenhouse gas accounting boundary is defined with reference to *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* developed by WRI and WBCSD. Unless otherwise specified, the key performance indicators cover the period from January 1st to December 31st, 2021.

Table 1: 2021 Environmental Key Performance

Category		Indicator ²¹	Data	Unit
Emissions of Air Pollutants	Nitrogen oxide		1,630,817.01	Kilogram
	Sulphur oxide		1,265.60	Kilogram
	Particulate matte		128,690.16	Kilogram
Greenhouse Gas (GHG) Emissions ²²	Direct (Scope 1) GHG emissions		236,728.77	Ton
	Energy indirect (Scope 2) GHG emissions		205,743.35	Ton
	Other Indirect (Scope 3) GHG emissions		1,898,530.42	Ton
Waste Produced	Total non-hazardous waste ²³		3,487.85	Ton
Use of Resources	Town gas consumption		118,615,531.59	Megajoule
	Diesel fuel consumption		76,793,899.87	Liter
	Gasoline consumption		1,823,837.71	Liter
	Charcoal consumption		1,038,549	Kilogram
	Liquefied petroleum gas consumption		1,633,650	Kilogram
	Electricity use		337,228,904.26	Kilowatt-hour
	Water consumption		4,198,769.19	Ton
	Total packaging material used for finished products ²⁴		222,022.851	Ton
	Packaging materials used per product ²⁵		52	g/piece

²¹ For the calculation method and logic of 2021 environmental key performance indicators, reference is made to the *Reporting Guidance on Environmental KPIs* issued by Hong Kong Stock Exchange.

²² “Direct (Scope 1) and indirect (Scope 2) GHG emission” statistics is provided by the relevant business departments and administrative departments. Due to the data availability, “other indirect GHG emissions (Scope 3)” statistics in the table include outsourced express packaging supplies, employee commuting and travel, outsourced leased transportation, outsourced leased logistics transit points and electric power consumed for cloud warehouses. Among them, the statistics scope of outsourced express packaging supplies only includes the carbon emissions of major logistics packaging consumables.

Defining the GHG Accounting Boundary of JD Logistics

JD Logistics discloses greenhouse gas emissions in strict accordance with the environmental requirements of HKEX (Table 2). We disclose the greenhouse gas emissions generated by the internal logistics operations (Scope 1 and Scope 2). At the same time, as a digitalized logistics enterprise, JD Logistics is also aware of the vast carbon emission reduction potential in its complex supply chain. Therefore, to better promote the low-carbon transition of the JD Logistics supply chain, we systematically disclosed the Scope 3 emissions for the first time, that is, other indirect emissions generated in the value chain outside the internal operation of JD Logistics. We will continue to improve our GHG accounting system, include more Scope 3 categories, and fully disclose the emissions from logistics upstream and downstream enterprises.

Table 2: GHG Accounting Boundary of JD Logistics

Definition		Business Activity
Scope 1	• Operation facilities owned or rented by JD Logistics, including but not limited to all kinds of fossil fuel emissions consumed by business activities such as heating, cooling, power supply, etc.	• Generator in the park, municipal heating, dining room, central heating in Xinjiang, and central heating in park canteen.
	• GHG emissions from fuel combustion used in land, air, and water transportation.	• Express logistics vehicles, self-owned and administrative vehicles, etc.
	• GHG emissions from the operation of equipment and systems.	• JD Logistics cold chain refrigerant, office refrigerant, office air conditioning, etc.
	• Carbon sinks (absorption of greenhouse gases) generated by newly planted trees.	• Newly planted trees.
Scope 2	• Carbon emissions from electricity purchased for JD Logistics’ operations.	• Electricity consumption in JD Logistics’ workplaces, warehouses, logistics, new energy charging facilities, and parks.
Scope 3	• Greenhouse gases emitted from the production of outsourced express packaging products.	• Waybill, express envelopes, plastic film packaging bags, plastic fillings, express packing boxes and transparent tapes used in packaging throughout the supply chain.
	• Greenhouse gas emitted from shuttle buses, commuters and travel vehicles for JD Logistics’ employees.	• JD Logistics staff shuttle buses, commuters, fire engines, and business travels.
	• Greenhouse gas emissions from assigned outsourcing and renting, distribution and transportation.	• External rental vehicle transportation in the supply chain and express delivery activities.
	• Greenhouse gas emissions from data centers of the outsourced / rented logistics sites, etc.	• Cloud warehouse electricity consumption of supply chain and administrative activities and external rented logistics stations.

²³ The data for “total non-hazardous waste” is provided by the supply chain and administrative departments. Among them, the waste collection scope of administrative departments includes headquarters workplaces, workplaces of seven regional headquarters in China and workplaces of some provinces and sub-business districts.

²⁴ “Total packaging material used for finished products” mainly includes main logistics packaging consumables such as waybill, express envelope, plastic film packaging bags and other secondary packaging consumables.

²⁵ The calculation formula for “packaging materials used per product” is total packing weight/number of packages.

Table 3: 2021 Social Key Performance

Category	Indicator	Quantity	Unit
Employment	Total number of full-time employees ²⁶	310,448	Person
	Total number of part-time employees	15,133	Person
	Percentage of male employees	81	%
	Percentage of female employees	19	%
	Percentage of employees aged under 30	40	%
	Percentage of employees aged 30-45	56	%
	Percentage of employees aged above 45	4	%
	Total employee turnover rate	8	%
	Male employee turnover rate	7	%
	Female employee turnover rate	10	%
	Total number of management staff	9,657	Person
	Percentage of female senior management staff ²⁷	17	%
Health and Safety	Lost days due to work injury	53,227	Day
	Number of employees in Environment, Health and Safety (EHS) training	Number of online trainees: 551,209 Number of offline trainees: 343,750	Person
	Total hours of EHS training	Online training duration: 86,396 Offline training duration: 171,875	Hour
	Frequency of Safety Drills	1,573	Number of times
	Percentage of employees covered by Safety Drills	99.2	%
Employee rights and interests	Percentage of employees covered by collective bargaining agreement	100	%

Development and Training	Percentage of employees trained	79.2	%
	Percentage of trained male employees in total male employees	82.3	%
	Percentage of trained female employees in total female employees	69.8	%
	Percentage of trained management staff in total management staff	98.1	%
	Percentage of trained general employees (excluding management staff) in total general employees	89.4	%
	Percentage of front-line couriers trained	82.3	%
	Total training time for all employees	4,030,782.3	Hour
	Total training time for all male employees	2,754,345.5	Hour
	Total training time for all female employees	1,276,436.9	Hour
	Average training hours per male employee	10.7	Hour
	Average training hours per female employee	18.2	Hour
	Average training hours per manager	19.1	Hour
	Average training hours per front-line courier	5	Hour
	Total training hours of employee rights policy or procedure	1,700,998	Hour
	Percentage of employees trained in employee rights policy or procedure	79.8	%
	Total training hours for women’s vocational empowerment and leadership improvement	2,682,343	Hour
	Percentage of employees trained in women’s professional empowerment and leadership improvement	82.3	%
	Total training hours of thematic training on “Workplace Environment for Promoting Gender Equality”	1,112,191	Hour
	Percentage of employees who received thematic training on “Workplace Environment for Promoting Gender Equality”	72.4	%

²⁶ The “total number of full-time employees” does not include the number of full-time employees of the acquired enterprise Kuayue-Express, so the statistical data is different from JD Logistics’ Annual Results Announcement for the Year Ended December 31, 2021.

²⁷ The “Percentage of female senior management staff” is calculated as: the number of female senior managers in JD Logistics/the total number of senior managers in JD Logistics.

Product responsibility	Response rate of complaints	100	%
	Response speed to complaints	Within 30	Second
	Complaint resolution rate (average customer settlement rate)	100	%
Anti - corruption	Number of public lawsuits against company or employee for corruption	0	Case
	Filed and investigated corruption cases	40	Case
	Number of incidents in which employees were fired or punished due to corruption	180	Case
	Total number of employees who have received online integrity compliance trainings and exams ²⁸	253,329	Person
	Percentage of employees who have received online integrity compliance trainings and exams	99.7	%
Intellectual property	Number of newly applied trademarks	783	Case
	Number of newly applied patents	1,408	Case
	Number of newly applied software copyrights	87	Case
	Cumulative number of applied patents	5,479	Case
	Cumulative number of applied trademarks	3,521	Case
	Cumulative number of applied software copyright	181	Case

Table 4: 2021 Supplier Management Key Performance








Category	Indicator	Quantity	Unit
Supply Chain Management	Total number of suppliers ²⁹	4,903	Number of suppliers
	Suppliers punished for violating regulations ³⁰	241	Number of suppliers
	Percentage of JD Logistics’ procurement budget on local suppliers in total budget	64.3	%

²⁸ The data of “total number of employees who have received online integrity compliance trainings and exams” comes from the data of JD Learning, an online learning platform sponsored by JD Logistics Culture Growth Department.

²⁹ The data for the “total number of suppliers” comes from JD Logistics Procurement Department and Express & Freight Department.

³⁰ The number of “suppliers punished for violating regulations” is determined according to the reference document JD Logistics Carrier Blacklist Management Specification V1.0: JD Logistics suppliers will be listed on the blacklist of transportation carriers if they are involved in major tax-related violation cases, or listed as “serious illegal and untrustworthy enterprises” by the relevant authorities of the state, or involved in bidding collusion with other bidding carriers, or violate bidding laws and regulations, or seriously disturb the production and living order of our company or the public, and are punished accordingly.

United Nations Sustainable Development Goals (SDGs) Response

SDGs	Our Actions
	In response to the national vision of rural revitalization, JD Logistics continues to implement JD’s “Benfu Plan” of rural revitalization and support the digital revitalization of rural areas. Relying on solid infrastructure and innovative digital technology capabilities, JD Logistics promotes logistics infrastructure construction in the countryside. Moreover, it constantly upgrades the “within 24-hour delivery service in thousands of counties and towns” and implements the strategies of “selling agricultural products to urban areas” and “bringing delivery services to rural areas” to promote inclusiveness of logistics services and realize the win-win situation of rural revitalization. In addition, JD Logistics actively participates in the employment and education program launched by the Ministry of Education in cooperation between industry and university, deepens the integration of industry and education, promotes school-enterprise cooperation, supports the training of talents in colleges and universities, and promotes high-quality employment.
	Relying on the integrated supply chain infrastructure, JD Logistics actively participates in disaster relief and epidemic prevention assistance. We fully support vaccine transportation during the COVID-19 epidemic emergencies and the on-going supplies’ transportation in the context of normalized epidemic management and prevention, provide timely material transportation support in response to extreme weather, and actively respond to the public health and safety crisis. In addition, we provide a well-functioning welfare guarantee system to ensure the physical and mental health of our employees.
	We provide employees with equal, safe, and decent work and support them to obtain fair incomes, better workplaces, sound welfare, and personal development prospects. By establishing a complete system and management mechanism, JD Logistics strictly guarantees the health and safety of front-line employees and reduces hidden dangers in occupational health and safety. At the same time, relying on the digitally intelligent supply chain infrastructure, JD Logistics enables SMEs to embrace development opportunities in digitalization. We help them gain momentum for growth, provide more employment opportunities for the vulnerable groups, and promote the development of the real economy.
	Based on the underlying technologies such as 5G, artificial intelligence, big data, cloud computing, and the Internet of Things, JD Logistics has established six efficient and collaborative logistics networks, with integrated supply chain logistics services as the core competence, providing customers with technology-driven supply chain solutions and logistics services, helping all walks of life reduce costs and increase efficiency, realizing low-carbon transformation in an efficient mode. In addition, JD Logistics holds special trainings on carbon neutrality for cooperative suppliers and customers and is committed to giving full play to the Company’s strength to promote the carbon neutrality process.
	JD Logistics uses big data, artificial intelligence, cloud computing, and other technologies to empower urban and regional development with a green supply chain, establish the socialized recycling system and community recycling network, and promote the recycling allocation of resources. JD Logistics gives full play to its own integrated supply chain capabilities, implements the “Tibet Project,” builds a logistics system that conforms to the characteristics of Tibet, and improves the construction of logistics infrastructure. Besides, JD Logistics attaches significant importance to conserving, recycling, and reusing water resources. JD Logistics will dispose of the drinking water commodities in reverse warehouses by internal sales or use as cleaning water in logistics parks.
	As the first logistics enterprise in China to set the Science Based Targets, JD Logistics is committed to implementing the “Green Stream Initiative,” a strategic project to build a green, low-carbon, and environmentally friendly logistics supply chain. Therefore, a lower-carbon and environmentally friendly business model in packaging, warehousing, transportation, resource recycling, and ecological cooperation of an integrated supply chain can be realized to promote sustainable and responsible consumption and deepen the practice of environmental protection. Through our self-operated warehousing system, we launched the “Boxes as Pet Homes” project to promote a deep combination of low-carbon environmental protection and civilized pet keeping.
	JD Logistics pays full attention to the influence of its operation on stakeholders, constantly improving its communication mechanism, maintaining on-going and diversified communication with stakeholders, and continuously improving the capacity of sustainable development through dialogue and cooperation. JD Logistics continues to strengthen cooperation with industry partners and brands to work together for a better ecological environment and create more value for society.

ESG-Related Certifications and Recognition

2021	
• One of the first batch of national supply chain innovation and application demonstration enterprises	• Approved by the “2030 Megaproject” — New Generation Artificial Intelligence
• Pilot enterprise for building China’s strength in transportation	• Won the first prize of the “Beijing Science and Technology Progress Award”
• The first batch of state-level food emergency support enterprises	• Won the “Best Practice Award for Data Governance”
• National enterprise for integration of industry and education	• The intelligent autonomous delivery vehicle and indoor distribution robot won “2021 German Red Dot Design Award”
• The first domestic logistics enterprise with DCMM Level 4 Certification	• JD Logistics Unmanned Delivery Vehicle won the Silver Award for the 22 nd China Patent Award for Design in 2021
• Top 50 companies using industrial block chain in China	• Intelligent unmanned warehouse “goods to person” order selection total solution won the first prize in the “Annual Science and Technology Progress”
• Beijing Express Mail Service Green Demonstration Distribution Center	• “Jinghui” integrated supply chain platform won the first prize of the “Annual Science and Technology Progress Award”
• JD Logistics’ front-line employees won the National “Two Excellent and One First” Award, the National Outstanding Communist Party Member, the National May 1 st Labor Medal, and many other awards	• “5G Fully-Connected Intelligent Logistics Application” won the second prize of the “Science and Technology Progress Award”
• Role model group and individuals in the express delivery industry to fight against COVID-19	• “RFID-based intelligent operation system for bulk storage” won the second prize of the “Science and Technology Progress Award”
• Best practice of green and low-carbon operation selected in the Corporate Net Zero Pathway report released by UN Global Compact	• Won the “Logistics Technical Ingenuity Award”
	• Selected as the excellent practice case of enterprise data management capability of China Federation of Electronics and Information Industry in 2021

2022	
• JD Logistics’ Asia No.1 Xi’an smart mega warehouse has obtained the carbon neutrality certification issued by the Beijing Green Exchange and Centre Testing International (CTI)	

HKEX ESG Content Index

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Statement from the Board	Statement from the Board
ESG governance system	ESG Governance Structure
Corporate social responsibility strategy	ESG Strategic Framework
Materiality assessment and stakeholder engagement	Materiality Assessment and Stakeholder Engagement
Environment	
General disclosure of emissions	Table 1: 2021 Environmental Key Performance
Types of emissions and respective emissions data	Table 1: 2021 Environmental Key Performance
Direct (Scope 1) and “energy indirect” (Scope 2) GHG emissions	Table 1: 2021 Environmental Key Performance
Total hazardous waste produced	N/A ³¹
Total non-hazardous waste produced	Table 1: 2021 Environmental Key Performance
Description of emission target(s) set, and steps taken to achieve them	Thematic Report on Climate-related Financial Information Disclosures
General disclosure of resources used	Table 1: 2021 Environmental Key Performance
Direct and/or indirect energy consumption by type (e.g., electricity, gas or oil) in total	Table 1: 2021 Environmental Key Performance
Performance water consumption in total	Table 1: 2021 Environmental Key Performance
Total packaging material used for finished products (in tons) and, if applicable, with reference to per unit produced	Table 1: 2021 Environmental Key Performance
Employment and Training	
General disclosure of employment	Human Resources and Talents Development
Total workforce by gender, employment type, age group, and geographical region	Table 3: 2021 Social Key Performance ³²
Employee turnover rate by gender, age group, and geographical region	Table 3: 2021 Social Key Performance ³³
Disclosure of health and safety	Table 3: 2021 Social Key Performance
Number and rate of work-related fatalities that occurred in each of the past three years (including the reporting year)	N/A ³⁴
Description of occupational health and safety measures adopted, and how they are implemented and monitored	Employee Health and Safety
General disclosure of development and training	Zero Tolerance for Corruption
The percentage of employees trained	Table 3: 2021 Social Key Performance
The average training hours completed per employee by gender and employee category	Table 3: 2021 Social Key Performance

³¹ “Total hazardous waste produced” cannot be disclosed temporarily because of incomplete data.

³² “Total workforce by gender, employment type, age group, and geographical region” can only be disclosed as the total number of employees by gender, employment type, and age group because of incomplete data.

³³ “Employee turnover rate by gender, age group, and geographical region” can only be disclosed as the employee turnover rate by gender because of incomplete data.

³⁴ “Number and rate of work-related fatalities that occurred in each of the past three years (including the reporting year)” cannot be disclosed temporarily because of incomplete data.

General disclosure of labor standards	Employment and Labor Standards
Description of measures to review employment practices to avoid child and forced labor	Employment and Labor Standards
Supplier Management	
General disclosure of supply chain management	Supplier management
Number of suppliers by geographical region	Table 4: 2021 Supplier Management Key Performance ³⁵
Description of practices relating to engaging suppliers, and how they are implemented and monitored	Supplier admittance and compliance management
Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored	Environmental and social screening and auditing system
Description of practices to promote green consumption and advocate green products	618 Grand Promotion
Product Responsibility	
General disclosure of product responsibility	Strict Procurement Process
Percentage of products to be recycled for safety and health reasons in total products	N/A ³⁶
Description of practices to respond to complaints and problems	Upgraded and Intelligent Customer Service to Reshape the Service Model
Description of practices to protect intellectual property	Intellectual Property Protection
Description of quality assurance process	Strict Procurement Process
Description of consumer data protection and privacy policies, and how they are implemented and monitored	Information Security Compliance
Anti - Corruption	
General disclosure of anti-corruption	Zero Tolerance for Corruption
Filed and investigated corruption cases in the reporting period	Table 3: 2021 Social Key Performance
Description of preventive measures and whistle blowing procedures, and how they are implemented and monitored	Anti-corruption Compliance Policy
Description of anti-corruption training provided to staff	Training Against Corruption
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General disclosure of community investment	Linking with Wellbeing for Common Prosperity
Focus areas of contribution	Linking with Wellbeing for Common Prosperity
Resources contributed (e.g., Money or time) to the focus area	Linking with Wellbeing for Common Prosperity


³⁵ “Number of suppliers by geographical region” can only be disclosed as total number of suppliers because of incomplete data.
³⁶ “Percentage of products to be recycled for safety and health reasons in total products” is not applicable to JD Logistics’ business and cannot be disclosed.

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202	Market Presence	Employee Training and Development Linking with Wellbeing for Common Prosperity
203	Indirect Economic Impacts	Linking with Demands for a High-quality Service Linking with Industry for a Quality Improving and High Efficiency Growth Linking with Wellbeing for a Common Prosperity
204	Procurement Practices	Green Procurement Management Environmental and Social Screening and Auditing System Supplier Bidding Thematic Report on Climate-related Financial Information Disclosures
205	Anti-corruption	Zero Tolerance for Corruption
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406	Non-discrimination	Employment and Labor Standards
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408	Child Labor	Employment and Labor Standards
409	Forced or Compulsory Labor	Employment and Labor Standards
410	Security Practices	Integrated Supply Chain Helps Efficient Public Governance Employee Remuneration and Welfare
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External Verification Statement



ASSURANCE STATEMENT

SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. SHANGHAI BRANCH'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE 2021 JD LOGISTICS, INC.'S ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION
SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. SHANGHAI BRANCH (hereafter as "SGS") was commissioned by JD Logistics, Inc. (hereafter as "JD Logistics") to conduct independent assurance of the 2021 Environmental, Social and Governance Report (hereafter as "ESG Report") of JD Logistics. Based on the SGS Sustainability Report Assurance methodology, SGS performed the remote assurance of the management methodology and data related to the HKEX requirements contained within this report at JD Logistics, 10th Floor Building B, No. 18 Kechuang 11 Street, Yizhuang Economic and Technological Development Zone, Daxing District, Beijing, People's Republic of China.; Data and information of other sites were not assured in this assurance scope.

The information in the 2021 JD Logistics ESG Report and its presentation are the responsibility of the board and related functions. SGS has not been involved in the preparation of any of the material included in the 2021 JD Logistics ESG Report

Our responsibility is to express an opinion on the text, data, graphs, and statements within the scope of verification with the intention to inform all JD Logistics' stakeholders.

The SGS protocols are based upon internationally recognized guidance, including the reporting principles contained within the HKEX listing rules appendix 27 "Environmental, Social and Governance Reporting Guide" and the guidance on levels of assurance contained within the AA1000 series of standards and guidance for Assurance Providers.

This report has been assured at a moderate level of scrutiny using our protocols for:

- evaluation of content veracity;
- evaluation of the report conformity against the HKEX listing rules appendix 27 "Environmental, Social and Governance Reporting Guide".

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, documentation and record review and validation with external bodies and/or stakeholders where relevant.

Financial data drawn directly from independently audited financial accounts has not been checked back to its source as part of this assurance process.

STATEMENT OF INDEPENDENCE AND COMPETENCE
The SGS Group of companies is the world leader in inspection, testing and verification, operating more than 2,600 affiliates in more than 140 countries. SGS affirm our independence from JD Logistics being free from bias and conflicts of interest with the organization, its subsidiaries, and stakeholders.

The assurance team was assembled based on their knowledge, experience, and qualifications for this assignment, and comprised auditors registered with CSR Lead Assuror, CCAA Registered ISO 9001, ISO 14001 Auditor, and ISO 45001 Auditor.

VERIFICATION/ ASSURANCE OPINION

On the basis of the methodology described and the verification work performed, we are satisfied that the information and data contained within the 2021 JD Logistics ESG Report verified are reliable and provides a fair and balanced representation of JD Logistics' sustainability activities in 2021.

We believe that JD Logistics has chosen an appropriate reporting guide, and information contained within the 2021 JD Logistics ESG Report can be used by its stakeholders.

CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

In our opinion, the 2021 JD Logistics ESG Report was presented in accordance with the reporting rules and the KPIs disclosures of the HKEX listing rules appendix 27 "Environmental, Social and Governance Reporting Guide".

Reporting Rules

Materiality

JD Logistics established the methodology for ESG issues materiality research and analysis with documentation, via third-party survey and internal analysis to report the ESG materiality issues of concerned by stakeholders, which could meet the materiality principle requirement.

Quantitative

JD Logistics planned the methodology for management approach and performed the statistics and analysis for KPIs, some KPIs, referred to the criterions and international general regulations, and reported the disclosures' impact and purpose.

Balance

JD Logistics presented the balance reporting rule in the ESG report and reported environmental, social and governance issues truthfully.

Consistency

JD Logistics planned the disclosure methodologies with consistency for report content and data statistics at all levels in the company, in addition, remarks and interpretations were marked in the ESG report to help stakeholders make a clear comparison.

Limitations of assurance

Due to the impact of the epidemic during audit duration, the assurance team did not verify the original data and information in the organization with traceability and no further comments for actual case study in the ESG report.

The assurance process only involved interviews with the heads of relevant departments and certain employees and consultation with relevant documents didn't involve the external stakeholders.

As the financial information in the 2021 financial report has passed the independent assurance, this report assurance does not contain traceability and assurance of such financial information.

Signed:



For and on behalf of SGS-CSTC

David XIN Director

Knowledge Department

16/F Century Yuhui Mansion, No. 73, Fucheng Road, Beijing, China

April 14, 2022

