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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. However, in case of conflicts 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 Hong Kong Stock Exchange (HKEX), the *ESG Reporting Guide* from the Nasdaq Stock Market, 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 *Guidelines on Climate Information 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, work reports and public information, annual reports, and media releases. Unless specified, the monetary amounts shown in this report are all presented in RMB. For ease of presentation, “JD,” “the Group,” “the company,” and “we” all refer to “JD.com.”

Reporting Scope

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

Contact Us

We value your feedback and opinions, and appreciate you emailing us at ir@jd.com, or mailing a letter to JD.com at Floor 20, Building A, No. 18 Kechuang 11 Street, Beijing Economic-Technological Development Area, Beijing, 100176, the People's Republic of China.

For more information, please visit our official website at www.jd.com.

Overview

About JD.com

JD.com officially set foot in the field of e-commerce in 2004. In May 2014, JD.com was listed on the NASDAQ Stock Exchange in the United States. In doing so, JD.com became the first comprehensive e-commerce platform in China to go public in the United States. In June 2020, JD.com took a secondary listing on the Hong Kong Stock Exchange, aiming to raise funds to invest in key technological innovations applied in supply chain infrastructure, enhance user experience further, and improve operational efficiency.

JD.com is positioned as “a technology and services enterprise with supply chain at its core.” Its businesses cover retail, technologies, logistics, health, insurance, property development, international business, and other areas.

JD.com is a new type of real economy enterprise with both the genes and advantages of traditional enterprises and digital technology capabilities. As such, JD has facilitated the development of various real economy businesses and boosted high-quality development of the real economy with solid and innovative development experience to promote sustainable growth.

JD.com adheres to the values of Customer First, Integrity, Collaboration, Gratitude, Dedication and Ownership, fulfilling its strategic mission of being “Powered by Technology for a More Productive and Sustainable World” and striving to become the most trusted company in the world.



Message from Chairman of Board of Directors

Leading the Sustainable Future as a New Type of Real Economy Enterprise

In 2021 the COVID-19 pandemic continued. As a result, the global economy faced various downward pressures during a difficult and slow process toward recovery. We have witnessed epidemic's impact on the world economy, society, and environment, and deeply felt the pressure brought by many uncertainties. Amid these changes and challenges, we must hold ourselves accountable for promoting sustainability and undertaking corporate social responsibility.

In JD.com's vessel, there flows a sense of mission and responsibility. Starting from a three-foot counter in Zhongguancun Electronics Market 19 years ago, we have always relied on genuine licensed goods, never deviated from the concept of "achieving success the right way," and have never forgotten our responsibility to all stakeholders. In 2021, based on the corporate mission, "Powered by Technology for a More Productive and Sustainable World," we reflected further on the scope of our goals. As an enterprise with both the genes and attributes of a real economy enterprise and possessing digital technologies and capabilities, we commit to leading a sustainable future in the role of a new type real economy enterprise.



Empowering Real Economy Businesses with Digitally Intelligent Supply Chain Solutions

In the past year, under continual COVID-19 outbreaks, many small and medium-sized enterprises have been under pressure. In contrast, real economy enterprises need to reduce costs and increase efficiency as they pursue high-quality development. Yet, despite all these complex challenges, we are working together with our partners to overcome difficulties.

To support businesses in areas impacted by the pandemic, we have voluntarily issued relief policies to help businesses reduce costs and increase efficiency. More importantly, during the epidemic outbreak, by relying on the intelligent supply chain and logistics, we have made our contributions to ensuring the supply of daily necessities to protect people's livelihood. As a result, we have played a part in stabilizing commodity prices and enabling the normal operation of businesses, thus creating shared value for society as a whole.

In the past few years, we have firmly invested in supply chain infrastructure construction and digital intelligent technology research and development, a path that has at times been bitter and challenging but will also deliver the highest value. We are glad to see that our persistence has enabled partners to achieve high-quality development. We continue to improve our intelligent supply chain technology and promote inventory turnover optimization. As a result, we have reduced the inventory turnover days to 30.3 days as of 2021 and accelerated the efficiency of the whole industry chain. We've long been investing in integrated supply chain logistics services, providing quick-response supply chain capability empowered by high technology and a flexibly configured logistics service portfolio that many enterprises urgently need. Our intelligent manufacturing platform helps partners efficiently research and develop new products, significantly shorten the time of

product pre-market research, and accelerate the cycle of new products going on the market, which helps manufacturers save costs greatly.

Our first "smart mobile warehouse" was proved successful in the project of Hanzhong-Bazhong-Nanchong high-speed railway construction, a pilot solution for engineering supplies' real-time prediction, transportation, and warehouse management in remote areas. We serve nearly 70% of China's specialized and innovative "Little Giant" enterprises, helping more small and medium-sized enterprises to overcome the "digital divide" and achieve accelerated growth.

We continue to increase investment in rural supply chain infrastructure and technology services, opening the whole industrial chain in rural areas, and promoting rural revitalization through comprehensive solutions. For example, we have established the highest altitude smart warehouses nationwide and cooperated with Wugong County in Shaanxi province to build the first intelligent supply chain center, benefiting rural development with high-efficiency logistics.

In addition, by enlarging the investment in "new infrastructure abroad" and combining global routes exploration and local warehouse construction, we have set up a stable and efficient new infrastructure for businesses going abroad. Thus, reaching more than 220 countries and regions worldwide, creating an expressway for Chinese brands and services to "go global."

Driving Green Transformation Throughout the Supply Chain

According to the Global Risk Report 2022, the world's top five most threatening risks in the next decade are all environmental risks. In 2021, we already felt the destructiveness of extreme weather to the supply chain. We hope to exert the influence of our value chain, and fully address the global climate challenge.

We continue to accelerate our low-carbon operations. In 2021, all office buildings built by JD.com acquired three-star design mark certifications for green buildings. Using technologies such as liquid cooling, the new green data center operated by JD Cloud achieved annual operation with a Power Usage Effectiveness (PUE) lower than 1.1. We lead the whole value chain to exert a low-carbon impact by facilitating the full deployment of new energy vehicles, promoting circular packaging, and building "zero-carbon" logistics parks. As announced in the new five-year "Green Stream Initiative," we have promised to invest another RMB 1 billion in constructing a low-carbon integrated supply chain. We promote green consumption, and by expanding the categories of low-carbon

goods, we will encourage more businesses and consumers to join in low-carbon consumption actions.

We are closely following the trend of green investment, and we have seen that more and more investors are concerned about climate risks. This year is our first time incorporating the topic of climate-related financial information disclosure into this ESG report. We have comprehensively analyzed the business risks and opportunities faced by JD.com in different climate scenarios and formulated a risk management system and strategy for 2030. We hope that through systematic transformation, we will obtain new development opportunities while building climate competitiveness in the next decade.

We are honored to see our efforts widely recognized. We have been ranked on the FORTUNE 2022 World's Most Admired Companies list at No.6 in the Internet Services and Retailing Category and first among Chinese enterprises for our social responsibility performance. Additionally, we rank third among Chinese enterprises in Forbes' 2021 Best Employers in the World.

These honors give us the momentum to go further. In the past year, we have had a lot of internal discussions and thoughts on ESG. We are making ESG a top-down consistent guiding direction and evaluation mechanism through continuous institutional improvement.

When faced with the uncertainty of the future, we retain a sense of awe — but we will always think and act as though we are experiencing day one. We will continue to strengthen the supply chain infrastructure construction and contribute our professional insights and innovative solutions to a better and more sustainable future — and time will prove our original aspirations and beliefs.

Richard Qiangdong Liu
Chairman of Board of Directors, JD.com



Highlights of Responsibility Performance in Key Areas

◀ Leading the Sustainable Future as a New Type Real Economy Enterprise

- In 2021, JD's anti-corruption training covered **98.8%** of the total employees. The participation rate of online anti-corruption training courses among new employees was as high as **100%**.
- JD.com made more than **60** internal regulations, covering key areas such as security management, privacy protection and data security, which apply to all businesses and suppliers.

◀ Promoting Good Consumption

- In 2021, JD.com intercepted over **16 million** illegal advertisements.
- By the end of 2021, JD Logistics operated over **1,300** warehouses, which covered an aggregate gross floor area of over **24 million** square meters, including **43** "Asia No.1" smart mega logistics parks in **33** cities nationwide. On the basis of nearly **10 million** SKUs¹ of self-operated commodities, JD.com has always been a global leader in operational efficiency.
- In 2021, more than **3,000** senior managers of JD Retail listened to users' feedback on site. They helped solve **167** pain points and optimized more than **200** items relating to users' experiences.



¹ SKU: Stock Keeping Unit

◀ Boosting High-quality Development

- JD.com runs more than **70** data centers, **70** city clouds and nearly **100** edge data centers worldwide.
- JD Cloud has provided digital solutions for more than **1,500** large-scale enterprises and **1.5 million** small and medium-sized enterprises (SMEs), facilitating digital transformation and upgrading traditional industry.
- JD.com has provided C2M solutions to more than **1,200** manufacturers.
- In 2021, JD.com continued implementing the "Mantianxing Project" in **28** provinces, municipalities and autonomous regions to serve SMEs. As of now, JD.com has served more than **27,000** provincial-level SMEs, accounting for almost **70%** of all provincial-level SMEs.
- JD Industry launched a series of new-generation infrastructure for industrial supply chain management, such as enterprise distribution centers, Jinggong Cabinet, and smart mobile warehouses. It has deployed over **200** facilities nationwide to help solve the pain points faced by industrial enterprises.

◀ Cultivating Talents

- By the end of 2021, the number of employees in JD.com's listed and non-listed companies has exceeded **420,000**, including more than **300,000** front-line employees, of whom **80%** are from rural areas. In the past three years, nearly **40,000** jobs have been provided to fresh graduates; at present, more than **500** employees have doctorate degrees, and the number of R&D professionals has exceeded **18,000**.
- In 2021, JD's full-time employees received **54.44** hours of training on average.
- In 2021, the satisfaction survey conducted among employees in the Beijing headquarters and various workplaces showed that the employee satisfaction rate was as high as **4.36/5**.
- In 2021, the listed and non-listed companies under JD.com organized more than **20,809** training sessions, and added another **10,262** training courses, with total course sign-ins of **160 million** internal person-times and **16,000** daily active users.
- A total of **10,368** female employees benefited from women-empowerment activities. There are **851** female lecturers registered at JD.com, accounting for **49%** of all lecturers.

◀ Safeguarding the Natural Environment

- In 2021, JD.com issued more than **2.8 billion** electronic invoices, thus saving about **16,000** tons of paper, equivalent to the felling of over **310,000** fewer adult trees and reducing carbon emissions by **15,000** tons.
- In 2021, using technologies such as liquid cooling, the new green data center operated by JD Cloud achieved annual operation with a Power Usage Effectiveness (PUE) lower than **1.1**, the energy saving of **30%** in infrastructure, and a **10%** reduction in total carbon emissions.
- By the end of 2021, circular packaging boxes had been put into regular use over **200 million** times. Through the “Green Stream Initiative,” JD Logistics had driven the whole industry to reduce the amount of disposable packaging by nearly **10 billion** pieces. So far, more than **200,000** businesses and **hundreds of millions** of consumers have been involved in the campaign for packaging reduction.
- JD Logistics launched new energy vehicles in more than **50** cities nationwide. So far, the number of new energy logistics vehicles has reached **20,000**. This alone can reduce carbon dioxide emissions by about **400,000** tons per year, equivalent to the annual carbon dioxide absorption of **20 million** trees.



◀ Promoting Inclusive Development of the Society

- By the end of 2021, JD.com’s rural revitalization “Benfu Plan” had driven rural areas to realize an output value of RMB **320 billion**.
- In 2021, JD Foundation donated more than RMB **120 million**. During the “Children’s Book Donation” campaign, **67,608** children’s books were donated to **119** project sites in **17** provinces, municipalities and autonomous regions, through JD.com’s public welfare platform. Furthermore, “Fun Festival,” the gamification public welfare activity co-organized by JD.com and its partnering brands, donated a variety of products worth RMB **967,000** to SOS Children’s Village in China.
- JD Health launched the “Rare Diseases Care Program” and established the “JD Health Rare Diseases Care Fund” together with the Beijing Illness Challenge Foundation (ICF). This program helps rare disease populations alleviate three major barriers namely, the difficulty in accessing high-quality diagnosis and treatment, necessary medicines and financial support. In 2021, more than **24,000** patients with rare diseases purchased relevant medicines and obtained corresponding medication services from JD Health, and the Fund has aided **69** patients with rare diseases.
- On February 18, 2022, JD.com donated anti-pandemic relief materials worth RMB **100 million** to medical workers in Hong Kong, of which the first batch of **6,000** packs of supplies arrived on February 23, 2022.

Statement from the Board

JD.com’s Board of Directors promises to strictly abide by the requirements of the environmental, social and governance (ESG) reporting guidelines of the stock exchanges where JD.com is listed, and continuously improve the ESG governance system.

The year 2021 witnessed JD.com’s continued efforts in strengthening the Board’s participation and supervision in the company’s ESG management, further integration of ESG into the company’s major decision-making and daily management processes, and the Board’s strategic support for the company’s business development and risk management. Through benchmarking analysis and stakeholder surveys, JD.com continuously identifies the key ESG issues most relevant to shared value creation for stakeholders, industries, and JD itself. To ensure the effectiveness of the company’s

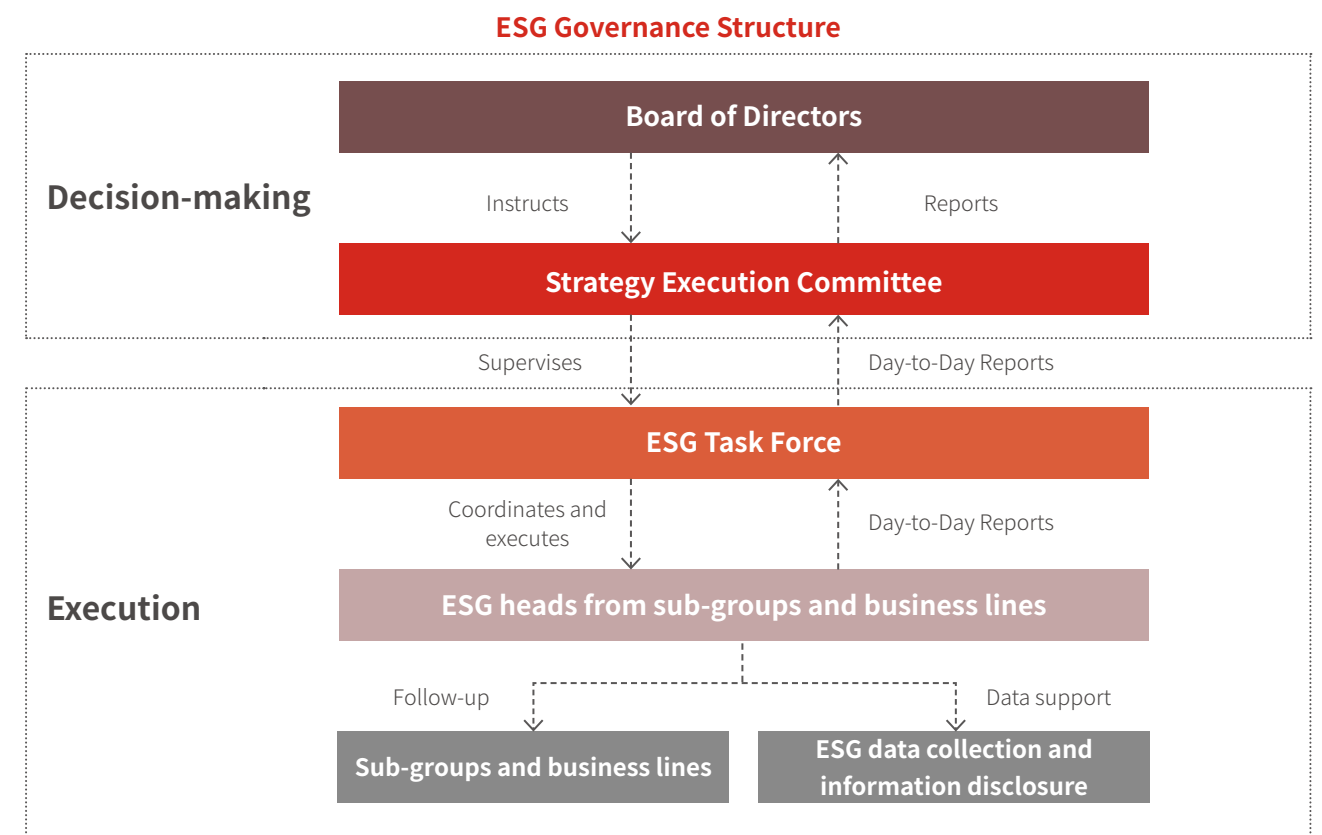
ESG strategy, the Board of Directors contributes to the identification of material ESG issues, assesses the effects of these identified issues, and takes them as essential references for risk and opportunity evaluation. Meanwhile, the Board of Directors follows the company’s ESG governance structure. By collaborating with the Strategic Executive Committee (SEC), the Board supervises the fulfilment of ESG goals and targets, regularly reviews the progress of ESG work, and facilitates ESG governance to become a standard practice in the company.

As a technology and services enterprise with the supply chain at its core, JD.com will give full play to the value creation of a new real economy enterprise in the future; continuously fulfilling our mission to be “Powered by Technology for a More Productive and Sustainable World,” and commit to being the most trusted global corporate citizen.

ESG Governance Structure

JD.com has established an ESG governance system applying ESG principles, which lays a solid foundation for ESG planning, regular evaluation, and management of related risks. The ESG governance system can help JD.com manage environmental, societal, governance, and non-financial risks more effectively, maintain active engagement with multiple stakeholders

such as regulatory authorities, investors, and the public, and further strengthen corporate governance. By implementing and continuously improving the ESG strategy and governance system, JD.com will achieve the steady operation and sustainable growth and contribute to a more productive and sustainable world by leveraging its business strengths.





Strategy Execution Committee (SEC)

The SEC is responsible for making decisions on the strategic goals, directions, and key scope of work in the core areas of the Group’s sustainable development, in addition to clarifying the internal organizational structure of ESG management and supervising and guiding the overall implementation of work. The SEC reports ESG-related work to the Board of Directors to ensure that ESG key topics are integrated into the company’s overall strategy and contribute to sustainable growth. For instance, the SEC will establish a governance system and strategic framework based on the identification of climate-related risks and opportunities and conduct regular supervision and information disclosure on the progress of risk management and other related work.

ESG Task Force

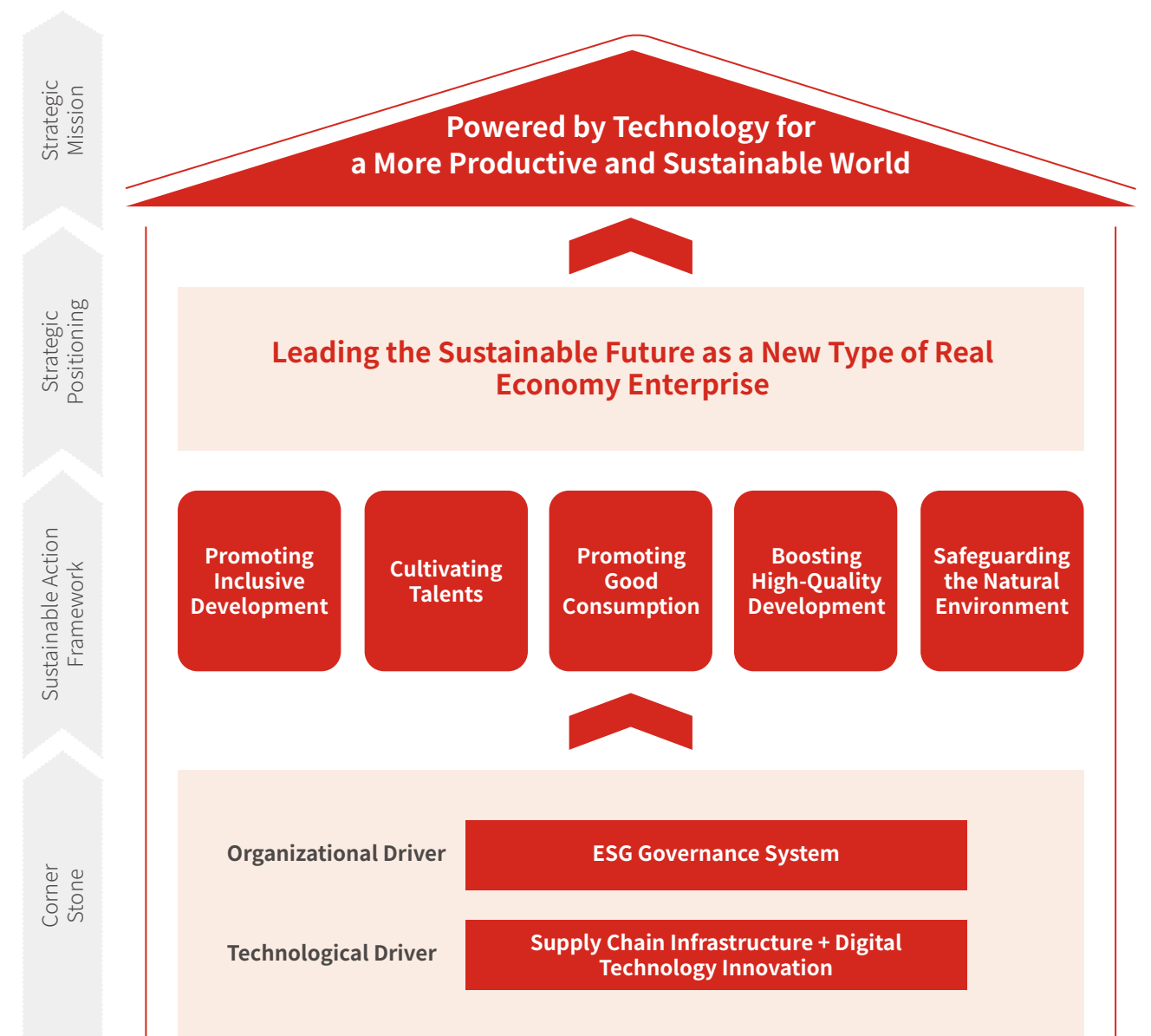
The ESG task force continuously incorporates ESG related risk management into the company’s daily code of conduct and is responsible for coordinating ESG heads of various sub-groups and business lines to implement and promote ESG work.

- Strengthens the sustainable development consensus and strategic synergy among sub-groups and business lines; drives forward the implementation of ESG management regulations and sustainable development culture.
- Sets up a climate action task force to coordinate the identification and management of climate-related risks and opportunities.

Sustainable Development Strategic Framework

JD.com has always adhered to the mission of “Powered by Technology for a More Productive and Sustainable World.” On this basis, in 2021, JD.com brought up a brand-new sustainability strategic position, “Leading the Sustainable Future as a New Type of Real Economy Enterprise.” On the basis of the ESG governance system as the organizational driver and supply chain infrastructure and digital technology innovation

as the technological driver, JD.com has been performing according to the sustainable development framework. JD has been actively fulfilling its social responsibilities, and enabling a more productive and sustainable future by promoting inclusive development, cultivating talents, promoting good consumption, boosting high-quality economic development, and safeguarding the natural environment.

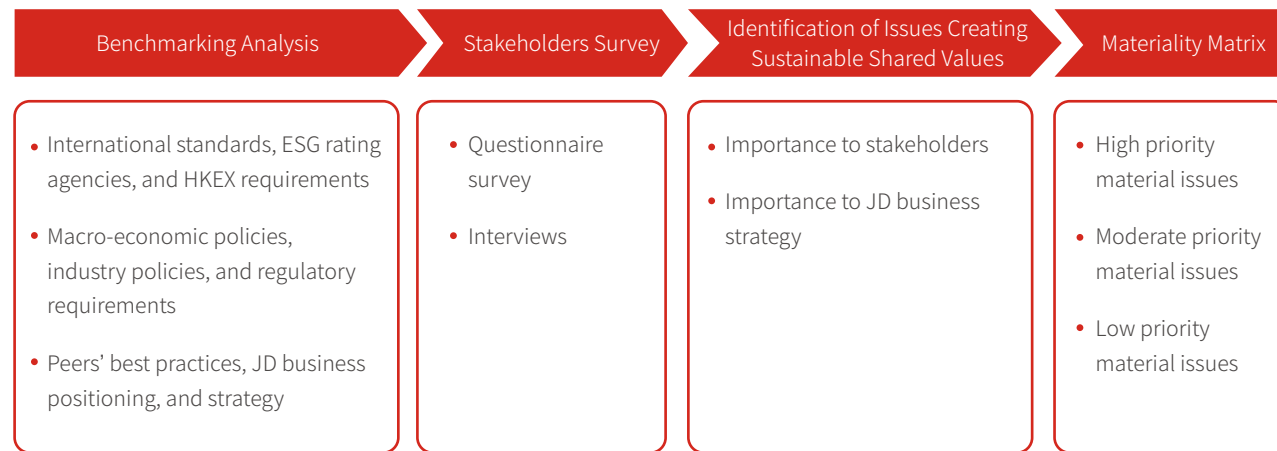


Materiality Assessment and Stakeholder Engagement

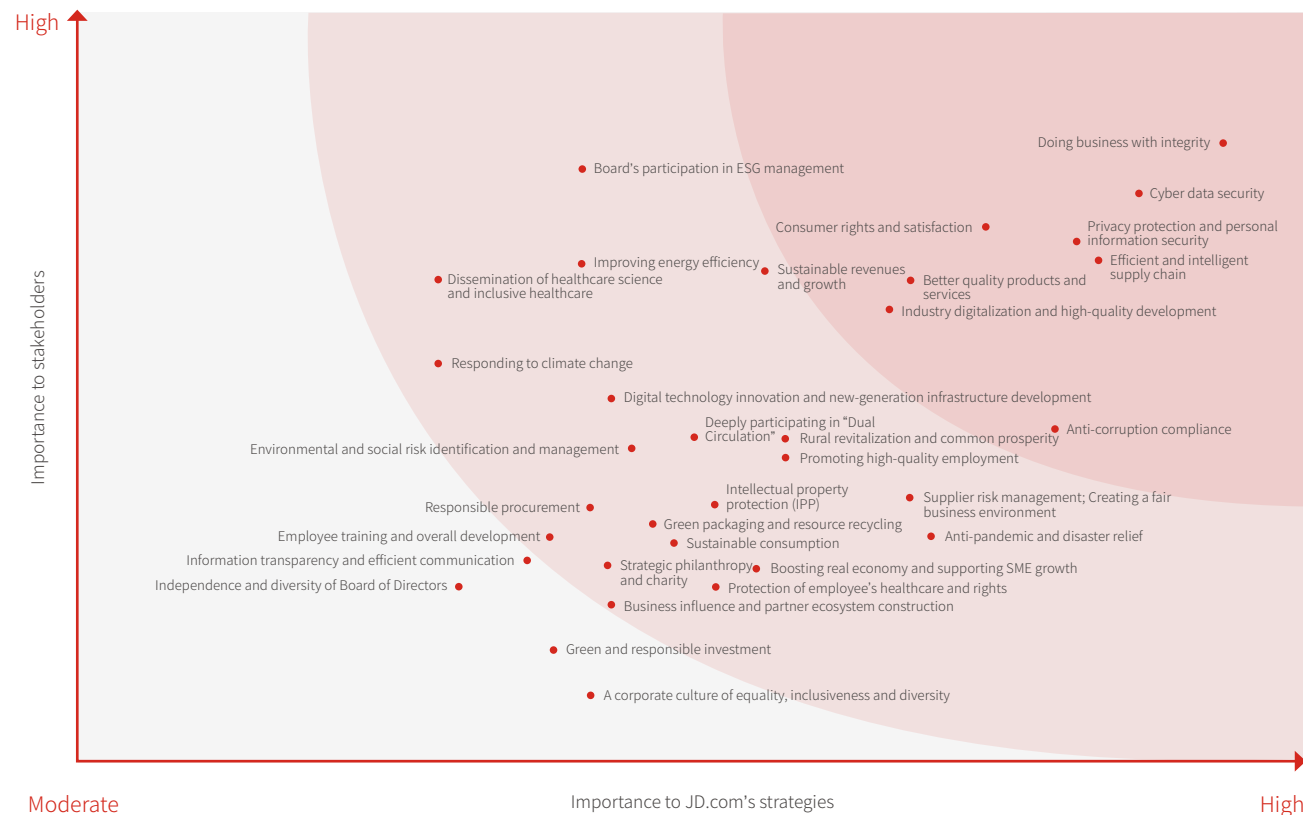
Identification and Analysis of Material Issues

Through benchmarking analysis and stakeholders' surveys, JD selected 35 strategic issues conducive creating sustainable shared values and formed a materiality matrix. Among them, the high and moderate priority material issues are regarded as the key disclosure topics in this report. The data availability determines the scope and boundary of the report.

Materiality Assessment Flow



Materiality Matrix



Stakeholder Engagement

Responding to the expectations of multiple stakeholders and continuously striving for sustainable values co-creation through ongoing dialogue and cooperation are the cornerstones for JD.com to achieve long-term development and growth. JD.com fully considers the comprehensive impact of its own operation on stakeholders. By maintaining regular and diversified communication with stakeholders such as consumers, employees, shareholders and investors, government regulatory agencies, business partners alongside the value chain, the communities, and the environment, and promptly responding to their concerns and expectations, JD.com has continuously improved its ESG governance level. At the same time, maintaining good relationships and continuous communication with stakeholders provides a key reference for JD.com to identify important sustainability opportunities, enhance related work, and strengthen the quality of information disclosure.

Stakeholders	Material Issues ²	Communication
Consumers	<ul style="list-style-type: none"> Cyber data security Doing business with integrity management Privacy protection and personal information security 	<ul style="list-style-type: none"> Consumer rights and satisfaction Better quality products and services
Employees	<ul style="list-style-type: none"> Doing business with integrity management Cyber data security Efficient and intelligent supply chain Privacy protection and 	<ul style="list-style-type: none"> personal information security Anti-corruption compliance Protection of employee's healthcare and rights Employee training and overall development
Shareholders and Investors	<ul style="list-style-type: none"> Cyber data security Responding to climate change Promoting high-quality employment Anti-corruption compliance 	<ul style="list-style-type: none"> Privacy protection and personal information security Sustainable revenue and growth Board's participation in ESG management
Government Regulatory Agencies	<ul style="list-style-type: none"> Industry digitalization and high-quality development Integrity management Cyber data security Efficient and intelligent supply chain 	<ul style="list-style-type: none"> Digital technology innovation and new infrastructure development Promoting high-quality employment Rural revitalization and common prosperity
Partners on the Value Chain	<ul style="list-style-type: none"> Consumer rights and satisfaction Sustainable revenue and growth Better quality products and services Business influence and partner ecosystem construction 	<ul style="list-style-type: none"> Creating a fair business environment Green packaging and resource recycling Responsible procurement
Communities and Environment	<ul style="list-style-type: none"> Environmental and social risk identification and management Responding to climate change Green packaging and resource recycling 	<ul style="list-style-type: none"> Sustainable consumption Rural revitalization and common prosperity

² The material issues as the key topics are based on the analysis results of the ESG material issues of JD.com and the comprehensive identification of the daily communication with JD.com's stakeholders.

Part I

Leading the Sustainable Future as a New
Type of Real Economy Enterprise



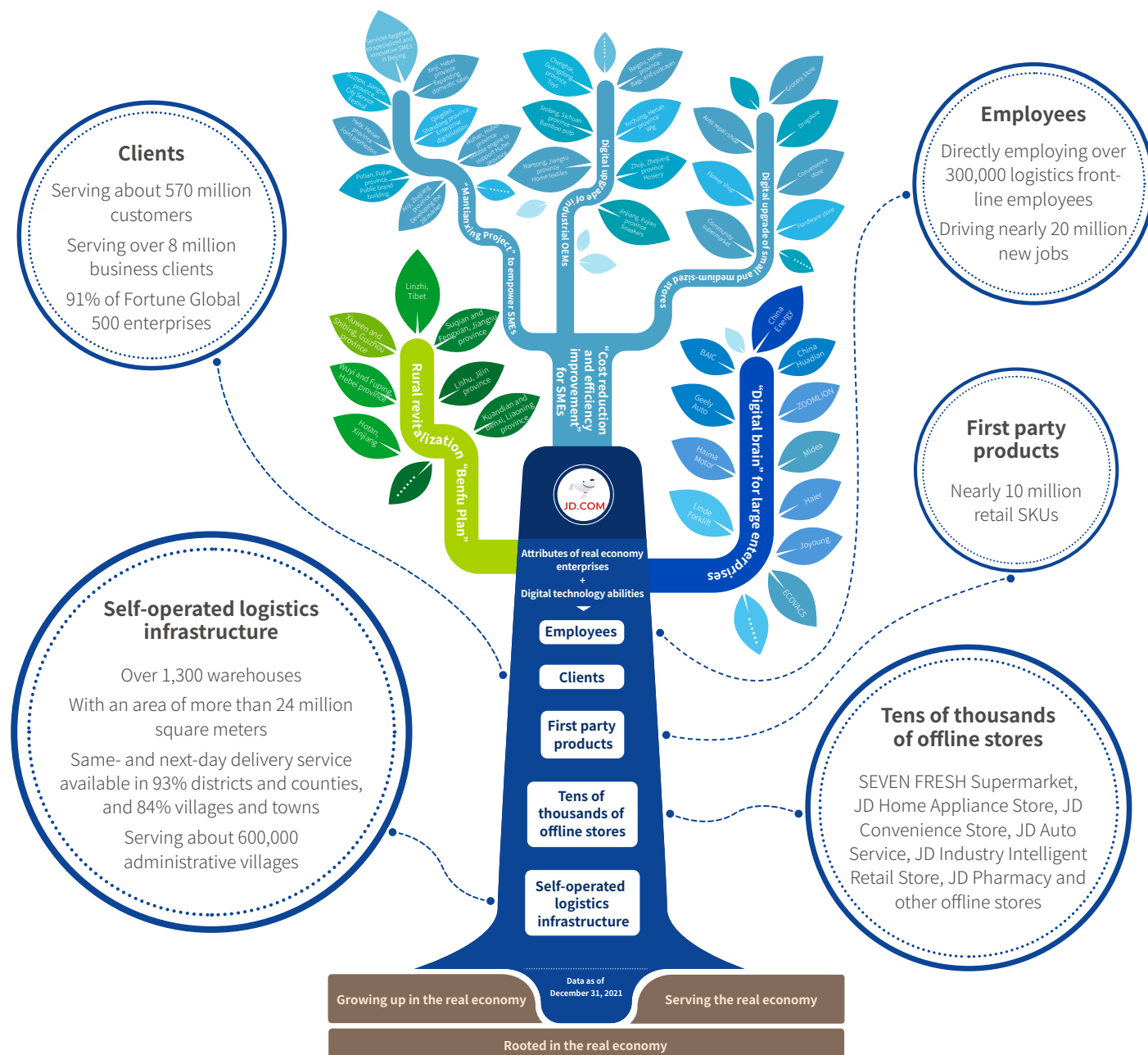
Unleash the Great Growth Potential with JD's Identity as a Real Economy Enterprise

A real economy-based enterprise possesses the genes and advantages of traditional enterprises, as well as innovative digital technologies and rich industry insights. It continuously promotes the upgrade of the quality and efficiency of the real economy by building and opening its digital intelligent technology capabilities. Rooted and developed in the real economy, JD.com continues to open its digital technology capabilities and digital intelligent supply chain infrastructure to fully serve the development of the real economy, unleash

the vitality of SMEs, support rural revitalization, promote sustainable and high-quality industrial development, and ultimately lead a sustainable future. By continuously strengthening ESG governance and managing social and environmental risks more systematically, JD.com will strengthen its positioning as a supply chain-based enterprise, constantly unleashing the great growth potential of a real economy-based enterprise and realize more steady growth and high-quality development.

JD.com: New Type Real Economy Enterprise Panorama

Continuously unleashing the great growth potential of a real economy enterprise for high-quality growth



Compliance Governance to Achieve More Sustainable and Steady Development and Growth

Compliance management is the core initiative for JD.com to practice the philosophy of achieving success the right way. It is also an important foundation for JD.com to improve the level of risk management continuously. Our compliance management benefits from effective protection with three "defensive lines." It relies on five key actions: laws and regulations compliance,

anti-corruption and integrity compliance, information security compliance, auditing compliance and transaction risk control. It ensures effective compliance management through multiple mechanisms such as comprehensive publicity, joint accountability, and rewards.

Compliance Management System

One Principle: Achieving Success the Right Way

Guided by the concept of "achieving success the right way" and adhering to the principle of "compliance represents development," the Group complies with laws and regulations, builds a culture of integrity and anti-corruption, enables effective compliance management driven by technology and data, and establishes a forward-looking, flexible, and efficient compliance system.

Three Defensive Lines: All-Round Guarantee

- | | | |
|---|--|---|
| <p>The first defensive line</p> | <p>Applicable to all employees</p> | <ul style="list-style-type: none"> Every employee is familiar with and firmly implements JD.com's compliance system and adheres to the bottom line of compliance by resisting undesirable temptations. |
| <p>The second defensive line</p> | <p>Applicable to risk management teams including legal, finance, information security and risk control</p> | <ul style="list-style-type: none"> The professional teams shall publicize and implement a good compliance culture, apply smart technology to all essential nodes of risk and compliance management, reduce corporate risks, and ensure long-term and stable development. |
| <p>The third defensive line</p> | <p>Applied to independent supervisory and audit team</p> | <ul style="list-style-type: none"> By following the compliance system and upholding to the principle of fairness, justice and independence, the supervision and audit team oversees the compliance practices of each organizational unit, investigates and combats corruption, and ensures operational compliance. |

Five Perspectives

- Laws and regulations compliance**

JD.com regards legal compliance as the basic requirement to achieve its business objectives, and strictly abides by relevant national laws, regulations, and rules.
- Anti-corruption and integrity compliance**

JD.com has always adhered to the “zero tolerance” attitude towards corruption and is determined to create an incorruptible and integrity business environment.
- Information security compliance**

JD.com attaches great importance to information security, ensures that employees have full access to the basic knowledge and principles of information security; establishes a sound responding process and disposal mechanism for system security, external attacks and violations; safeguards the confidentiality of information and data of the enterprise, employees and customers, making sure the information and data could only be obtained and used when necessary.
- Auditing compliance**

JD.com strictly complies with all legal requirements for a listed company. The management makes a written statement on the effectiveness of internal control of financial reporting in the annual report.
- Transaction risk control**

All business units in JD.com shall always maintain a keen awareness of transaction risk management, regulate business activities, improve the business transaction system, and connect to JD’s risk control system to ensure accurate identification and intelligent confrontation of business transaction risk behaviors.

Compliance Enforcement Mechanism



³ Based on the “ABC principle,” JD.com 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.

Laws and Regulations Compliance

JD.com is supervised by the public security organs at both national and local level, the Ministry of Industry and Information Technology of the People’s Republic of China (PRC), the Cyberspace Administration of China, the State Administration for Market Regulation of the PRC, China Consumers’ Association, the State Post Bureau of the PRC and so on. The Group has been rigorously complying with a series of Chinese laws and regulations, including *Criminal Law of the PRC*, *Civil Code of the PRC*, *E-commerce Law*, *Cybersecurity Law*, *the Provisions on Ecological Governance of Network Information Content*, *Advertising Law*, *Product Quality Law*, *Food Safety Law*, *Law of the PRC on the Protection of the Rights and Interests of Consumers*, *Postal Law*, *Interim Regulation on Express Delivery*, and more. Concurrently, in the process of developing international business, JD.com strictly adheres to local laws and regulations in the countries where it operates. Moreover, it establishes a legal compliance system abroad and gradually improves it with business expansion.



Anti-Corruption and Integrity Compliance

JD.com always upholds the “zero tolerance” attitude towards corruption. It has established and constantly improved the anti-corruption system to ensure it can effectively prevent, monitor, and respond to corruption. Key measures are taken to build the anti-corruption system, including the construction of a comprehensive anti-corruption policy system, well-established training system, publicity and education, accurate identification and assessment of corruption risks, a strict whistle-blower protection and reward system, joint anti-corruption action with industry partners, optimization of international anti-corruption system, and so on.

◀ Comprehensive Anti-Corruption Policy System

JD.com has established sound anti-corruption management regulations and systems, including 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*, *Vendor Paid Travel and Business Dinner Regulations*, *Anti-Commercial Bribery Agreement*, etc., and has always practiced the concept of “compliance represents development” and the core corporate value of “integrity.”

◀ All-Round Training, Publicity, and Education

To advocate for employees’ integrity and self-discipline and create a transparent and compliant workplace, JD.com has established a multi-level and diversified training and publicity system and conducted anti-corruption training across the Group, covering 319,093⁴ full-time employees, accounting for 98.8% of the total number of employees. New employees will have to complete the online anti-corruption training course and pass the examination before the probation’s completion. All employees are required to receive anti-corruption training and assessments every year, while director-level or above leaders should take anti-corruption special training.

The anti-corruption training

covered
319,093
full-time employees

accounted for
98.8%
of the total number of employees

⁴ The anti-corruption training data is based on the online check-in data of full-time employees except the ones who are in pre-dismission, maternity leave and long-term leave as of April 2021.



Accurate Identification and Evaluation of Corruption Risks

JD.com analyzes and categorizes business risks through case review, establishes early warning and communication mechanisms, and helps business departments take the initiative in prevention and internal control.

Strict Whistle-blower Protection and Reward System

In terms of internal anti-corruption, JD.com has set up a corruption reporting center to comprehensively collect all kinds of corruption cases in different forms, while it guarantees the reporter and the reported information are strictly confidential. The whistle-blower can contact JD's corruption reporting center by calling 400-601-3618 or emailing jiancha@jd.com.

JD.com encourages insiders to report instances of corruption with their real names actively and describe them truthfully and objectively. If a corruption was confirmed finally through investigation, the rewards will be provided to the whistle-

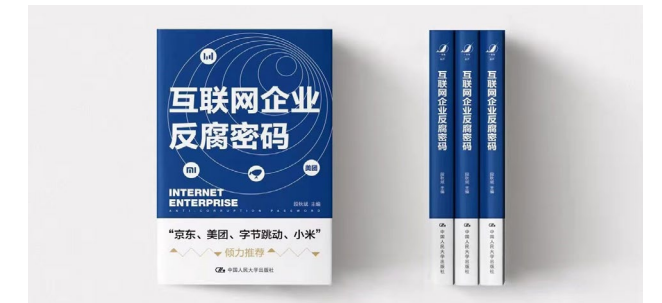
blower or the reporting unit. Especially for the whistle-blower, JD.com will offer cash rewards ranging from RMB 5,000 to RMB 10,000,000.



Join Hands with Industrial Stakeholders to Create an Integrity and Anti-Corruption Ecosystem

JD.com continues to build the Sunshine Integrity Alliance® (hereinafter referred to as "the Alliance"), and the Sunshine Integrity Member Platform has served more than 600 member enterprises. In 2021, the Alliance made great efforts to facilitate the enterprise-school-research institution cooperation model through various actions. It supported the first "Integrity and Compliance Innovation Award for Private Enterprises" event held by the Anti-Corruption and Compliance Research Institute of Internet Enterprises of East China University of Political Science and Law. During the event, 18 outstanding enterprises won awards for their innovation initiatives on integrity and compliance, demonstrating the best practices and eventually promoting the compliance culture of the industry. In addition, the Alliance published the book *Anti-corruption Code for Internet Enterprises*, which showcases innovative management practices collected from outstanding enterprises such as JD.com, Meituan.com, ByteDance and Xiaomi, to improve the level of

compliance management and promote the compliance ecosystem of the industry. In the future, JD.com will continue to adhere to the business philosophy of "integrity management, achieving success the right way," collaborate with industry and social partners with an open mind and continue working together to build an integrity ecosystem, and jointly construct a transparent business environment.



Active Construction of the International Anti-Corruption System

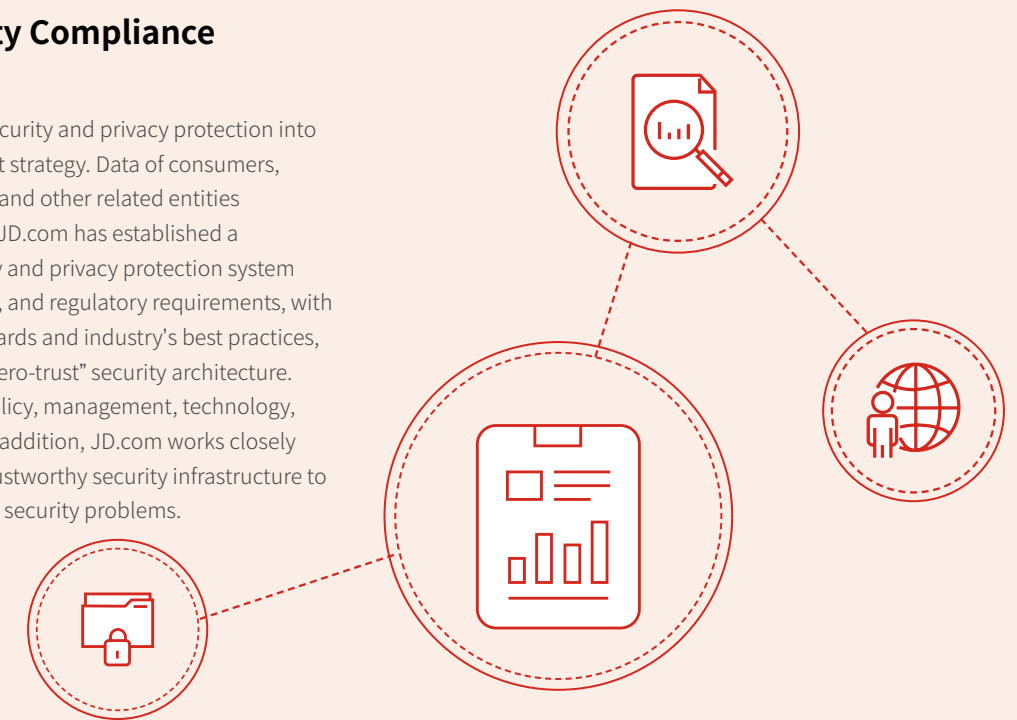
JD.com is actively promoting international business compliance to secure the company's international business strategy. In 2021, through establishing the international anti-corruption policy system, opening reporting channels and conducting anti-corruption training including *Foreign Corruption Practices Act* training and publicity, JD.com has built an anti-corruption and compliance regulation system for its international business, to ensure healthy and sustainable expansion in the international market.

In 2022, JD.com will carry out anti-corruption, integrity and

compliance management for international business across multiple dimensions, such as organizational capabilities building, key issue investigation, anti-corruption and integrity culture promotion, etc. A well-established governance structure, regulation system, and management flow will uplift organizational capabilities. An effective deterrent for corruption will be achieved by cracking down on corruption cases in critical risk areas within key countries and regions. In the meantime, employees' compliance awareness and corporate's compliance culture will be enhanced and promoted through various forms.

Information Security Compliance

JD.com incorporates internet security and privacy protection into the company's key development strategy. Data of consumers, suppliers, partners, employees, and other related entities are considered valuable assets. JD.com has established a comprehensive internet security and privacy protection system based on national laws, policies, and regulatory requirements, with reference to international standards and industry's best practices, and subject to the company's "zero-trust" security architecture. The system covers aspects of policy, management, technology, supervision and training, etc. In addition, JD.com works closely with ecological partners for a trustworthy security infrastructure to continuously tackle information security problems.



In terms of system design, JD.com refers to *ISO27001*, *ISO27701*, *GB/T 35273 Information Security Technology - Personal Information Security Specifications*, *Network Security Law*, *Personal Information Protection Law*, *Data Security Law* and other domestic laws, regulations and standards, and employs external experts and lawyers to provide professional support and guidance. Internally, JD.com has formulated more than 60 internal system requirements covering all business lines and suppliers in security management, privacy protection, and data security, and will continue to strengthen related work.

In terms of supervision and management, JD.com has established the Safety and Risk Control Committee as the company's highest information security and privacy protection management body, with the Chief Compliance Officer as its chairman. The Chief Compliance Officer and technology vice presidents from sub-groups and business lines are the representative members to jointly make decisions on the strategic planning of information security and privacy. The Committee obtains a multi-level structure that consists of a Safety and Privacy Management task force and a Safety Enforcement task force. It leads the overall supervision, coordination, and standardization of information security and privacy-related work. The Safety and Privacy Management task force is responsible for the supervision, coordination and implementation of resolutions made by the Committee, while the Safety Enforcement task force implements risk and vulnerability rectification, promotes security, privacy and risk control programs, conducts compliance rectification against regulatory requirements, and follows up daily work such as work orders related with information security.

To support and guarantee the implementation of information security compliance, JD.com has formulated relevant rules and regulation system for information security management and personal information protection and incorporated the implementation and fulfilment of the rules as important assessment criteria for management and key position employees. The information security department and legal compliance department are responsible for supervision and management of the company's data security and personal information protection, and all internal employees are required to take information security related training courses.

◀ External Recognition of Data Security and Personal Information Protection:

- ISO27001 Information Security Management
- ISO27701 Privacy Information Management System
- "Trusted Cloud" Level-3 Certification issued by Data Center Alliance
- Level-3 Certification of Security Level Protection approved and issued by the Ministry of Public Security
- Level-3 Certification of DSMM (Data Security Maturity Model) awarded to JD Technology



At the same time, JD.com has set up a data monitoring and auditing mechanism to ensure comprehensive control over data security. Internally, JD.com has formulated the *Basic Security Requirements and Guidelines for JD's Business and Data Openness*, stipulating that all businesses involved in data opening and the data security capabilities of partners are subject to the evaluation by JD.com Information Security Team. Furthermore, JD.com assesses cross-border data flow with reference to relative national laws, policies, and regulations, and conducts the security control for cross-border data flow in

strict accordance with *JD.com Security Management Standards for Cross-border Data Flow Protection*.

JD.com has built a "zero-trust" security system that adapts to all asset types of identities, applications, data, and devices. With the system's equipment, JD.com has significantly advanced its security research capabilities. In 2021, JD.com detected the "Mystique" and other high-risk vulnerabilities that affect the security of 800 million Android users worldwide, which highly demonstrates its social responsibility practice of protecting network security and privacy.



◀ Leading Practice

JD.com highly values the enhancement of the data security and privacy protection and keeps improving the system and measures with reference to *Data Security Law*, *Personal Information Protection Law*, and other related laws and regulations. JD.com's "zero-trust" security system covers data security, application security, office network security, privacy protection and other security domains, containing more than 40 information security and privacy protection regulations such as *Information Security and Privacy Management Code*, *Data Security Management Norms*, *Data Classification and Grading Management Norms* and *User's Personal Information Security Management Norms*, and has been gradually implemented, optimized and upgraded by complying with the PDCA model⁵. In addition, JD.com built a privacy evaluation mechanism for business conduction and R&D testing, making sure all activities involving users' privacy are subject to privacy impact assessment and regular audit.

⁵ PDCA: Plan, Do, Check and Act.

Audit Compliance

Internal Audit and Control System

Reporting mechanism	The Group has an audit department as the independent internal audit institution to supervise and evaluate the establishment and implementation of the internal control system of the Group and its subsidiary companies. The Group's audit department head reports to the Chief Compliance Officer (CCO) for administration-related works, and the audit committee for internal control compliance.
Reporting frequency	Audit department convenes a meeting at least once every six months to report work progress and results to the CCO and the Audit Committee.

Measures and Effectiveness

The internal audit provides independent and objective evaluation and consultation for management. This can add value and optimize the operation of the organization. By applying systematic and standardized methods, the audit evaluates and improves the effectiveness of risk management, control, and governance processes. As a result, it helps the organization boost the effectiveness of internal control, authenticity and integrity of financial information, efficiency and effectiveness of business activities, and other goals.

Transaction Risk Control

All business units in JD.com shall always maintain a keen sense of transaction risk management, standardize business activity rules, and improve the business transaction system. They will strictly control the transactions that affect user experience or violate platform policies. This is to ensure the legitimate rights and interests of both parties of a transaction and effectively prevent and control risks.

JD.com Security and Risk Control Committee has a risk control working group, composed of risk control heads from each system. It comprehensively controls the transaction risks of the whole group, maintains the frequency of monthly communication on decision-making, and further communicates and makes decisions based on industry policy interpretation, risk trend research and judgment, risk-related public opinion across sub-groups, etc.

Competition Compliance

JD.com strictly abides by the *Anti-Monopoly Law of the PRC* and *Anti-Unfair Competition Law of the PRC* and related regulations, and takes specific measures that include but are not limited to the below to maintain competition compliance:

- Continuously strengthening the governance ability of the platform and formulating a series of governance rules concerning competition compliance based on national laws and regulations.
- Setting up professional competition compliance teams and conducting daily inspections.
- Developing and applying a multi-technology system and proceeding with diversified and tiered governance.
- Carrying out special governance for competition compliance in key fields.
- Formulating competition compliance manuals and related learning materials.
- Carrying out all-round and diversified promotion and training on competition compliance.
- Cooperating with external experts and lawyers to support competition compliance.
- Conducting comprehensive compliance supervision and management for the Company's business activities under the leadership of the compliance department.

JD Social Value Proposition Demonstrated as a New Type of Real Economy Enterprise



Part II

Promoting Good Consumption

JD.com takes merchandises and services as fundamental. It relies on technology innovation, leverages its strong supply chain, digital technology, and marketing abilities to satisfy consumers' diversified needs at any time and pursuing for the ultimate experience, and continues to lead good consumption.

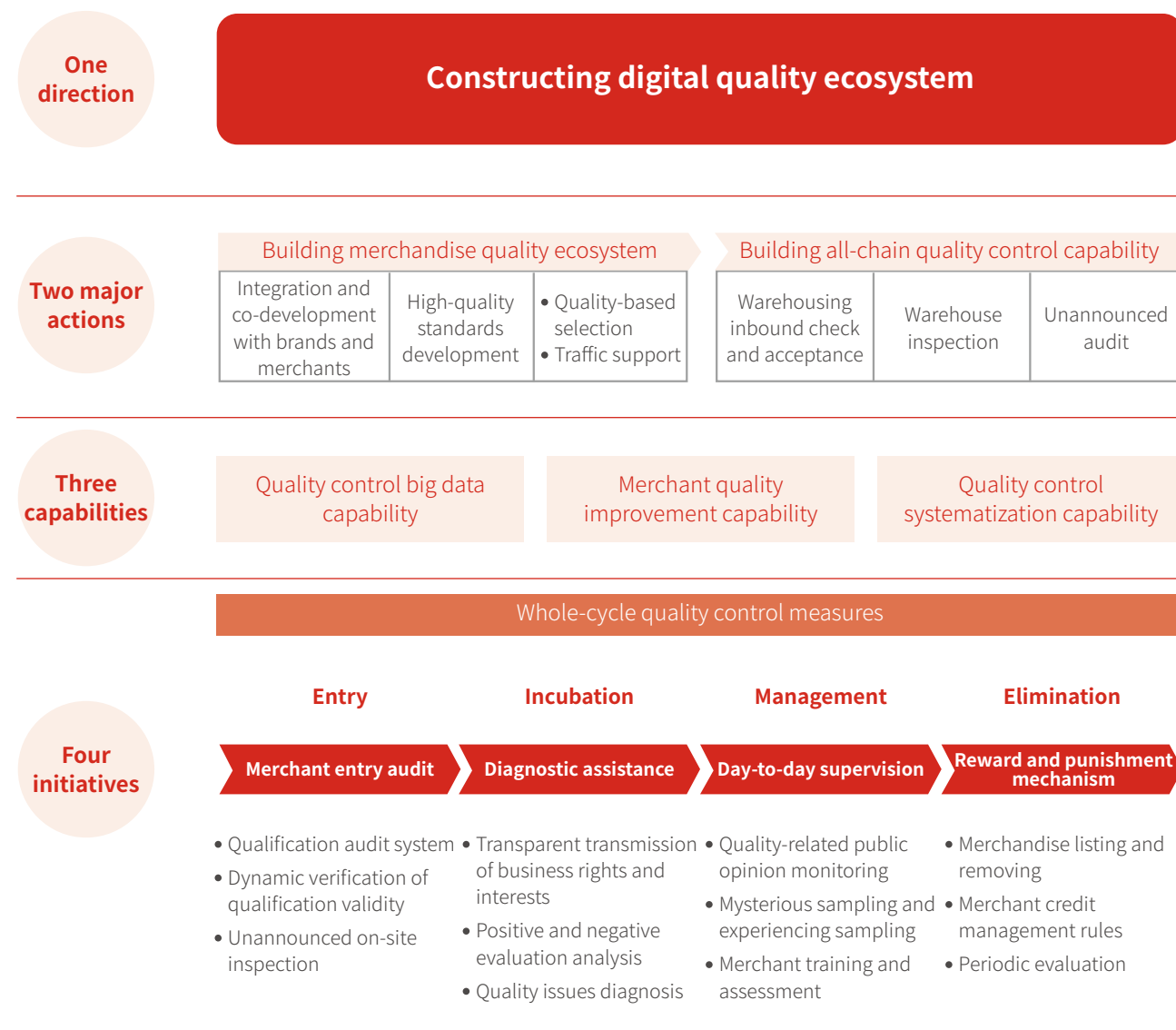


Product Responsibility and Content Management

All-Round Product Quality and Safety Guarantee

To better protect consumers' interests, JD.com initiated the "1234 Program," that is, sticking to one direction of "constructing the digital quality ecosystem," carrying out two major actions of "building the product quality ecosystem," and "building the all-chain quality control capability;" establishing three capabilities including "big data quality control," "merchant quality improvement," and "quality control systematization;" and implementing four initiatives including "merchant entry auditing," "diagnosis assistance," "daily supervision" and "reward and punishment mechanism," thus to improve the whole-cycle quality control measures covering merchant entry, incubation, management and elimination.

JD.com's Quality Ecosystem



Strictly Forbidden to Sell Unqualified Products

To assure the product quality sold on the platform and guarantee consumers' safety, JD.com has established a quality management mechanism with the measures below:

Rules Guarantee



First, establish the "Basic Qualification Standard for JD.com Marketplace Merchant Entry" and "Qualification Management Rules for JD.com Retail Business Suppliers," which refine the entry qualification standards for different categories, and establish different requirements for merchant and brand qualification for different categories.



Second, issue the "JD.com Marketplace Merchant Violation Credit Management Rules" and the "JD.com Supplier Violation Management Rules," which define the behaviors of selling counterfeits or unqualified products and set the punishment. According to the rules, related products will be removed from the platform. In addition, the merchant or supplier will receive a deduction of credits or have their stores closed.



Third, set the "General Principles of JD.com Marketplace Product Quality Inspection Sampling" and the "General Principles of JD.com Retail Business Supplier Product Quality Inspection Sampling," and formulate the quality inspection specification for sub-categories according to national and industry standards, which describe and explain the inspected items. In addition, issue the "JD.com Marketplace Product Labeling Sampling Rules" and "JD.com Retail Business Supplier Product Labeling Sampling Rules" to conduct special sampling inspections for the commercial marks on the products and the packaging.



Fourth, issue the "JD.com Marketplace Forbidden Product and Information Rules" and "JD.com Marketplace Product Shelf-Life Rules" to make institutional requirements for the products that have been explicitly eliminated or stopped selling, and have expired or deteriorated. The synergy with regulatory authorities has been built to effectively intercept and remove unqualified products by continuously updating the product list and keyword screening. Meanwhile, the inbound warehousing standard has been established to conduct sampling inspections on package labels and logos. Moreover, on-shelf time will be limited for products with expiration dates.



Fifth, issue the "JD Retail Counterfeit Accountability Rules" to reiterate the company's policy of "zero tolerance" towards counterfeits. The employees involved, their direct and indirect leaders will be brought to account.



Intellectual Property Protection

JD.com attaches great importance to intellectual property protection. As a leading supply chain-based technology and service provider in China, JD.com is constantly exploring IPR protection in the e-commerce business. JD is making efforts to ensure genuine licensed products, purifying the business environment, and safeguarding the legitimate rights and interests of IPR holders by adopting comprehensive measures covering all critical control processes including before, during, and after issues. JD.com is more focused on reinforcing front-end control.

Taking the example of merchants labeling improper or fake patents, JD has built an internal algorithm model and connected it with an external patent database to use systematic interception to prevent and control such behaviors. This is to reduce the misleading of and potential damage to consumers caused by fake patent numbers, expired patents and improper labeling, with a recognition accuracy as high as 94%.

During the Beijing 2022 Winter Olympics and Winter Paralympics, JD.com paid great attention to IPR protection for Olympic-related goods. JD.com devoted a special team to preventing and managing risks beforehand and established a green channel for complaints handling. This was in close collaboration with the Beijing Winter Olympic Organizing Committee.

Simultaneously, JD.com's intellectual property protection platform enables the comprehensive protection of users' privacy and enhancement of users' experiences, and greatly facilitates the registration and use of accounts for international rights holders.

With respect to the Group's own IPR, JD's technological innovation achievements, brands, commercial logos, soft works, domain names, and other intellectual property assets are fully protected in a timely manner through effective business collaboration and active follow-ups. A series of

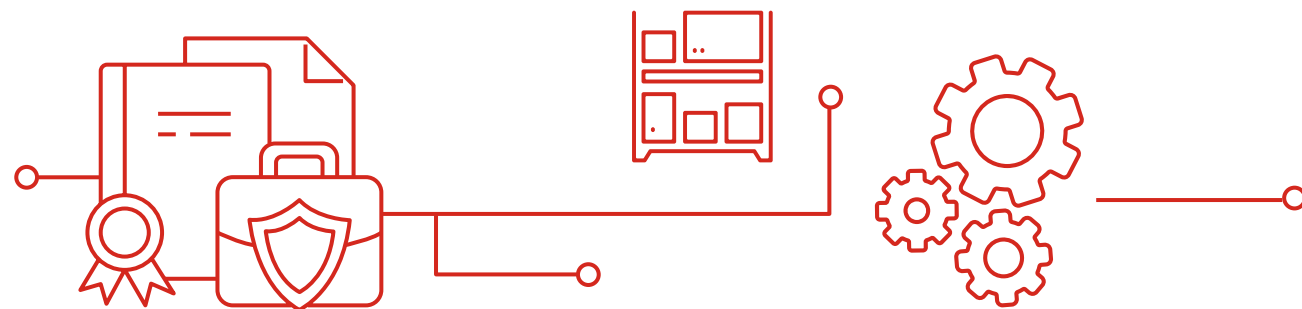
targeted internal and external management measures are taken to ensure a clear workflow, clear measures, and efficient implementation of various intellectual property management processes, and further improve the management structure and work details by implementing and certifying the enterprise intellectual property management system.

JD.com actively encourages employees to apply for patents and protect R&D innovation, and incorporates the incentives for innovation into the daily work, including incentive rules, event promotion and publicity, talent evaluation, etc. Meanwhile, the Group constantly strengthens employees' awareness of intellectual property protection through internal communication and training programs. In 2021, more than 460 internal training sessions on intellectual property were organized, covering nearly 10,000 trainees accumulatively.

Management Measures

JD.com carries out full-cycle quality control management. Before merchants enter the platform, JD.com conducts strict reviews of their qualifications, including product qualifications, brand qualifications, certification of authorization, etc., and makes an environmental investigation for production. JD.com has established multiple quality guarantees during the sales process through inbound warehousing inspections, unannounced audit, and random sampling inspection.

Regarding fresh food quality management, JD.com has set up a series of proprietary sensory standards for fresh goods. Taking hairy crab quality control standards as an example, JD.com cooperated with Suqian Agriculture and Rural Bureau to build Suqian Bawang crab brand. By deepening the cooperation with upstream, midstream, and downstream players alongside the industrial chain, JD.com has jointly established commodity standards for the hairy crab, built collaborative warehouses for cold-chain products, created well-known regional brands and enabled omnichannel sales.



In 2021, more than **460** internal training sessions on intellectual property were organized



Nearly **10,000** trainees in total participated in the training



Content Specification and Management of Marketing

JD.com highly values the safety control of advertising content, formulating the *JD.com Advertising Audit Rules* in accordance with the *Advertising Law* and other laws and regulations, allocating a professional risk control and audit team to improve the risk control ability of the platform continuously.

◀ Advertising Content Governance

JD.com has continuously improved the rules of advertising content security and gradually built the risk control path for advertising content standardization and compliance management. By continuously optimizing and perfecting the algorithm and manual auditing mechanism, setting prohibited categories and adding the interception of sensitive words, the Group can effectively screen the non-compliant advertisements and intelligently classify and control all types of advertisements. In addition, JD.com has formulated rules and penalties for violations to strengthen the management of advertisers; established an inspection mechanism and conducted high-frequency investigations on advertisements to eliminate illegal advertisements in a timely manner. As a result, in 2021, JD.com intercepted over 16 million illegal advertisements. The Group makes full efforts to ensure that advertising content is compliant and legal and keeps in line with public order, good customs, and mainstream values.

◀ Advertiser Compliance Training

JD.com has established a knowledge base of advertising content security, constructed its communication matrix, rolled out online learning channels on Jing Dian Academy and Jing Mai Platform, and conducted trainings through various forms such as live streams, videos, cartoons, and articles to help advertisers understand the *Advertising Law* and other related laws and regulations, and raised their awareness concerning advertising risks. In 2021, JD.com organized 59 training sessions on advertising rules and content security for advertisers in combination with market supervision requirements; released 87 professional learning articles on the advertising auditing standards and guidelines, which are accessible to about 190,000 advertisers. These practices have improved advertisers' risk awareness and advertising efficiency, resulting in an increase of advertisement approval rates.

◀ Advertiser Audit Service

JD.com values advertisers' experience, keeps tracking advertisers' demands and feedback on advertising audit services through regular research and surveys, and evaluates the effectiveness of advertising audit services from the perspective of advertisers' demands, to improve the quality of the services.

Consumer Rights and Service Management

JD.com always adheres to the original intention of "customer first" to provide consumers with considerate and privileged services. JD.com fully implements a "customer-oriented" strategy to form a complete and closed-loop from customer insight to problem identification, optimization and improvements in customer experience.

Continuous Commitment to the Superior Consumer Experience

JD.com is committed to bringing superior shopping experiences to users. In different consumption scenarios and on different ends, JD offers users their desired products and services at the right time and place with its powerful supply chain infrastructure, data, technology, and marketing capabilities. By the end of 2021, the number of active users on JD.com increased to 569 million. That is a net increase of 98 million when compared to the same period last year, stemming from competitively priced goods of super quality and considerate services.



The number of active users on JD.com increased to

569 million



Net increase of **98 million** in terms of active users compared to the same period last year

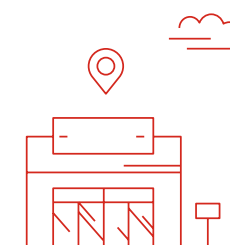
◀ Experience of Excellence

All Categories for All Multitude

In 2021, by introducing more than 370 supermarkets such as Wal-Mart and Yonghui Supermarket, JD.com covered over 34,000 offline stores and provided over 3 million SKUs in all categories. These include computer and digital products, mobile phones, home appliances, consumer goods, fashion, home furnishing products, fresh food, livelihood services, and industrial products. Thus, JD provides consumers with a wide variety of high-quality choices and intelligent services to institutional customers, including governments, enterprises, and institutions.



In 2021, by introducing more than **370** supermarkets such as Wal-Mart and Yonghui Supermarket, JD.com covered over **34,000** offline stores, provided over **3 million** SKUs in all categories



Fast Delivery

To provide consumers with privileged services from JD.com at the fastest speed, JD Logistics constantly upgrades the service efficiency. Over the past year, JD.com has invested more than RMB 35 billion in the domain of services. By the end of 2021, JD Logistics operated over 1,300 warehouses nationwide, running 43 "Asia No.1" large-scale smart warehouses in 33 cities, covering an area of 24 million square meters. On the basis of nearly 10 million SKUs of self-operated commodities, JD.com has always been a global leader in operational efficiency. Since the end of the 2020 Q3, JD.com had opened approximately 500 warehouses and 13 "Asia No.1" smart industrial parks nationwide in one year. Through the use of a variety of automation equipment, the comprehensive efficiency of the newly open "Asia No.1" has been improved by over four times,

helping JD.com realize classified and customized distribution services, including same- and next-day delivery, night delivery, flash delivery, scheduled delivery, luxury express, and the cold chain delivery with temperature control over the whole process, and customized delivery. In 2021, consumers in more than 300 cities across the country were able to experience the fastest minute-level delivery experience, and JD.com's one-hour delivery service, "Nearby," was launched on the JD app, which has covered nearly 400 cities so far. Through ten years of logistics infrastructure construction, JD.com has significantly improved the distribution efficiency in remote regions. At present, JD.com enables consumers in 93% of districts and counties, and 84% villages and towns in China to enjoy same- and next-day delivery service.



JD.com has invested more than RMB **35 billion** in the domain of services



JD Logistics operated over **1,300** warehouses nationwide



JD.com dealt with nearly **10 million** SKUs of self-operated commodities



The warehouse area managed by JD Logistics exceeded **24 million** square meters accumulatively



Since the end of the 2020 Q3, JD.com had opened approximately **500** warehouses in one year



Consumers in more than **300** cities across the country were able to experience the fastest minute-level delivery experience

Selling to the World and Sourcing from the World

Adhering to the development vision of "becoming the most trustworthy international supply chain service provider," JD Worldwide (JDW) is committed to introducing JD quality goods to the vast global market. While bringing high-quality goods to global consumers, JD Global Sales has also become a solid backup force for Chinese vogue brands to go overseas. JD.ID, JD's joint venture in Indonesia and JD Central, JD's joint venture in Thailand, also uphold the development concept of "genuine licensed goods," providing a fast, high-quality, and delightful shopping experience to local consumers in Southeast Asia. In January 2022, JD.com landed an independent retail brand in Europe for the first time - ochama, with the new model of "super warehouse stores," marking the first retailer in the Netherlands that offers online shopping covering all product categories. On the one hand, ochama has selected many

brand products covering fresh food, household appliances, beauty products, baby and maternal products, fashion, home furnishing, etc.; on the other hand, ochama brings forward its automated stocking warehouse to the store by deploying the mechanical arm, AGV automatic handling robot, and feed box conveying system. All online shopping orders were handled by robots in terms of goods storage, sorting and transferred in stores. The consumers entering the store can witness and experience the future vision of automatic shopping in person. Besides, JD Worldwide has also reached a strategic partnership with Shopify and will give full play to their respective advantages and capabilities in supply chain infrastructure and digital technology to jointly create a more convenient and reliable cross-border e-commerce channel for Chinese and overseas merchants.





◀ Smarter Shopping

JD.com applies smart technology to improve customer service experience. With the rapid development of AI technologies, JD.com has formed an intelligent customer service matrix including "Intelligent Emotional Customer Service," "Merchant Customer Service XiaoZhi," "AI Shopping Guide Assistant," "Intelligent Dispatch," "Intelligent Assist," and "Intelligent Management." JD.com integrated its best customer service and marketing practices over the years and all-chain AI innovation capabilities to create the platform-based digital intelligent HMI product, "YanXi." "YanXi" focuses on experience, efficiency and transformation from text and voice to multimodal interaction, and from conversational intelligence to emotional intelligence.

◀ Start C2M Thru to the End

To further meet the diversified needs of customers, JD.com developed a new model of C2M (Customer-to-Manufacturer) "reverse customization," which combines quality-improving and the upgrading of consumption on the consumer side with the digital transformation of manufacturers on the supply side. The model can not only accurately satisfy the diversified, personalized, and quality-centered needs of consumers and enhance the consumers' experience, but also facilitate the manufacturing enterprises' access to new technology and more open digital intelligent supply chain system to help them accelerate digital transformation.

◀ Adhere to the Motto of Customer First, "Live Up to the Love"

JD.com considers users' voices, continuously carries out the surveys among users, and fully implements a "customer-centered" experience strategy. In 2021, more than 3,000 JD Retail senior managers listened to users' feedback on site. They helped solve 167 pain points and optimized more than 200 items relating to users' experiences.



In addition, many innovative customer service management programs have been carried out under JD's private label brands over 2021, which helped realize the closed-loop integrated services from service delivery to customer needs fulfillment. Among them, the tool "Operation Analysis Compass" can analyze and study the market, brands, categories, users, products, consumption trends, etc. It provides strong data support for product managers, who can then make accurate and efficient decisions based on product lifecycle assessments from the product positioning, operation, supply chain and users' experiences, and obtain the rapid business growth. In addition, during the development of products, consumer experience programs such as "Tasting Experience Officer," "Community Questionnaire Survey," and "Offline Test of New Products" were rolled out to collect consumers' feedback. And the iterative products were continuously developed and optimized according to users' evaluations after purchase to keep refining the customer experience.

JD.com is also committed to promoting the service level of the whole industry. In 2021, JD Retail actively participated in the opinion collection and compilation of the rules for after-sales service certification initiated by the State Administration for Market Regulation. JD Retail fully cooperated with the certification institutions designated by the State Administration for Market Regulation to sort out relevant standards. JD.com itself has successfully obtained the certification, becoming the first batch of certified enterprises.

JD.com has continuously launched various services to meet the needs of different user groups. For example, focusing on the community consumption scenario, JD.com relies on millions of community-based stores, and builds multi-scenario and multi-template consumption channels for users, e.g., "in-store," "at-home," pre-selling, and self-pickup, so consumers can truly enjoy a convenient shopping experience in real-time and on-demand.



JD.com has launched several products and measures to help the seniors overcome the "digital divide" and experience the more convenient life brought by technological innovation.

- ▶ **Special service line for the seniors:** in 2021, JD.com launched a special service line for the seniors, staffed with excellent customer service agents to provide millions of consultations for the seniors throughout the year.
- ▶ **JD.com App Senior Edition:** JD.com App has launched "Senior Mode," which simplifies the information and enlarges font size, making it easy to read and use. With system updating, more and more users enjoy the easy-to-use switch with just one touch. We provide more secured, affordable, convenient, and diversified services and create a more favorable shopping experience for the seniors.
- ▶ **JD.com-ZTE collaborates to innovate the smartphone for the seniors:** JD.com and ZTE cooperate deeply to jointly develop a caring mobile phone for the seniors, the 5G "time machine" Blade V2021, which is dedicated to solving the pain points of the seniors in using smartphones, designing smartphones with more considerations, and helping seniors enjoy the more convenient life brought by technological innovation.
- ▶ **JD.com's "Care-for-the-Seniors Shopping Festival," namely "Nuanyang Action":** JD.com fully integrates retail, logistics, health, and technology service businesses. By relying on the advantages of supply chain and digital technology capabilities. JD.com works with government departments, social organizations, and partners to create a new standard covering whole-scenario and one-stop care scheme for the seniors. JD.com continuously upgrades its multi-functional commodities and strengthens service capabilities for the seniors, enabling their consumption needs covering household, healthcare, online and offline, mental health and fashionable lifestyle, etc., thus helping them overcome the digital divide, embrace fulfilled lives, and joyfully live at home without worrying about medical care and provisions.

Respond to Complaints, Enquiries and Requests



◀ **Efficient Customer Service Team**

JD.com has set up the customer service teams with 15,000 service employees in Suqian, Chengdu, and Yangzhou, which provide comprehensive customer services on request consulting, dispute settlement and complaint handling services to customers through online communication, telephone, and mail.

◀ **Complete Complaint Handling Process**

In response to complaints, JD.com ensures a timely response and efficient handling through "front-end control" and the establishment of a "green channel." In terms of the "front-end control," preliminary research and potential risks evaluations are carried out to prevent risks from occurring. When it comes to the "green channel" process, JD.com strengthens the trainings for customer service personnel while strengthening the necessary investment, to improve problem-solving efficiency. With such a mechanism in place, 100% of customer complaints were promptly tackled and settled.

Customer Privacy and Data Security

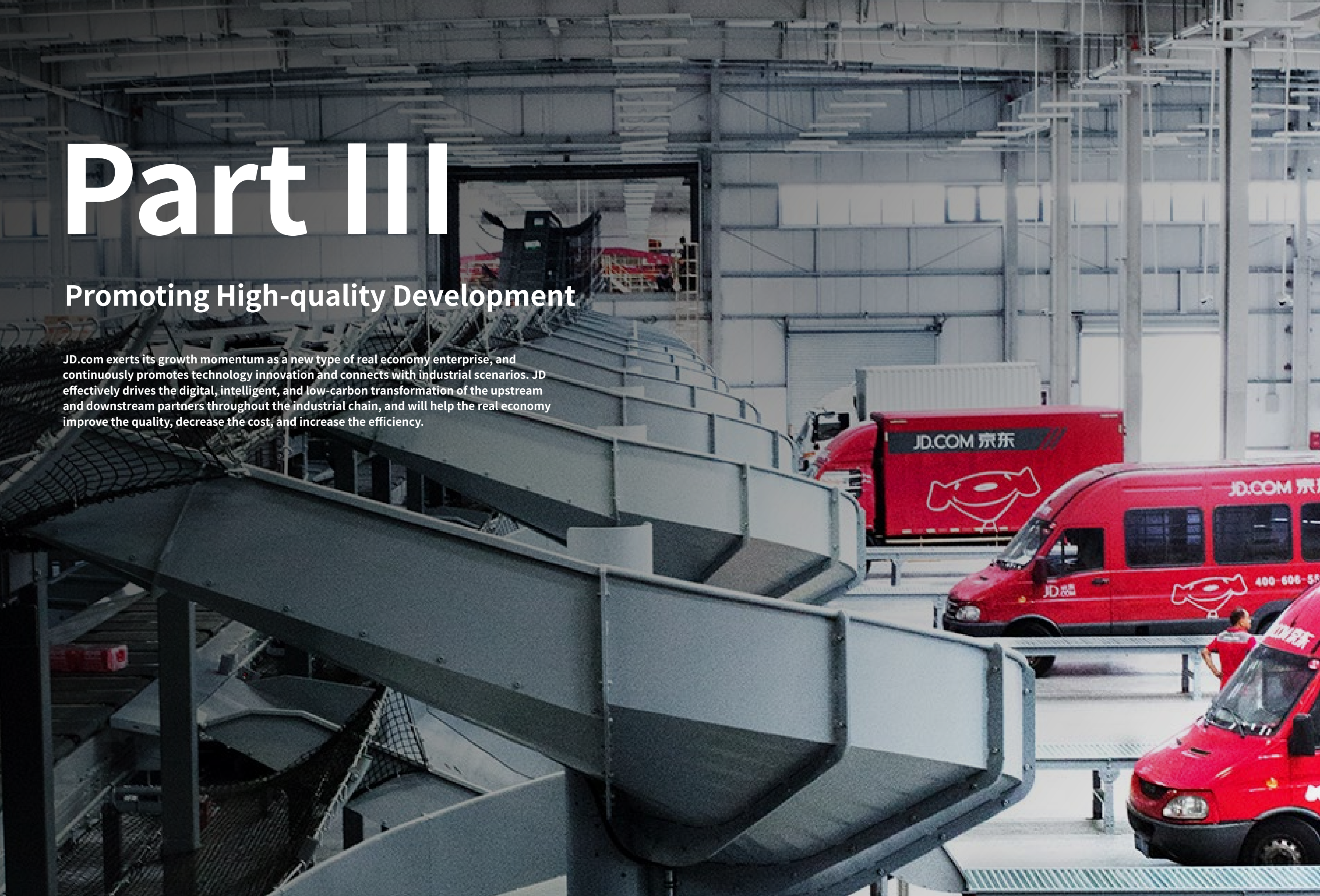
In 2021, JD.com defined and improved the overall data application mechanism and process, classified and managed data assets in terms of the level of sensitivity. The highly sensitive data were encrypted to avoid potential data security risks. In the future, JD.com will continue to carry out regular information security rectification according to the Group's rules, and further safeguard customer privacy as well as data information security.



Part III

Promoting High-quality Development

JD.com exerts its growth momentum as a new type of real economy enterprise, and continuously promotes technology innovation and connects with industrial scenarios. JD effectively drives the digital, intelligent, and low-carbon transformation of the upstream and downstream partners throughout the industrial chain, and will help the real economy improve the quality, decrease the cost, and increase the efficiency.



Supplier Management

Supplier Admittance and Compliance Management

JD.com establishes a rational and effective supplier management mechanism and manages the suppliers through its specialized procurement and expenditure department. All the supplier candidates must complete a registration for the “JD.com Supplier Collaboration Platform on Recruitment and Procurement.” Following the screening process covering initial contact, inspection, sample testing, and on-site investigation, only suppliers who meet the requirements are selected for the long list or short list of the project. We also set specific screening 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.

In accordance with suppliers’ qualifications and service delivery capacity, and incorporating with JD’s business perspective, strategic goals as well as past cooperative experiences with certain suppliers, JD manages its suppliers by categories and grades. At the same time, JD.com continues to follow up the whole process of suppliers’ contracts fulfillment, tracks and quickly solves relevant risks raised from the demand issuing departments, strictly conducts a quarterly assessment of suppliers, and implements rewards and punishments accordingly.

JD.com adheres to the concept of mutually beneficial cooperation and integrity management, which 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. JD’s Procurement and Expenditure Department resolutely resists any forms of bribery and corruption. Within one year from the date of resignation, JD.com shall cease any business dealings with personnel that have resigned from the procurement and expenditure department. We encourage our business partners to actively report instances of corruption to JD.com’s supervisory department upon discovering any act of misconduct among our employees. After investigation, if the reported cases are verified, the whistleblower will be rewarded according to the JD.com Whistleblower Protection and Reward Scheme.

JD’s Procurement and Expenditure Department requires all business partners, including suppliers, to sign the Anti-Commercial Bribery Agreement. We inform our business partners of the integrity policy by issuing holiday integrity announcements, organizing regular anti-corruption compliance information sessions, and other forms of measures. JD forbids its business partners to provide local specialties, cash-filled red envelopes, and other types of gifts to our employees. We also prohibit our business partners from entertaining or offering other kinds of illegitimate gifts to our employees. Whether our employees accept or not, the involved business partner will permanently lose the cooperation opportunity with JD.com. We will deal with the dishonest business partner according to the Anti-Commercial Bribery Agreement. We will also disclose the dishonest information on the Sunshine Integrity Alliance platform.

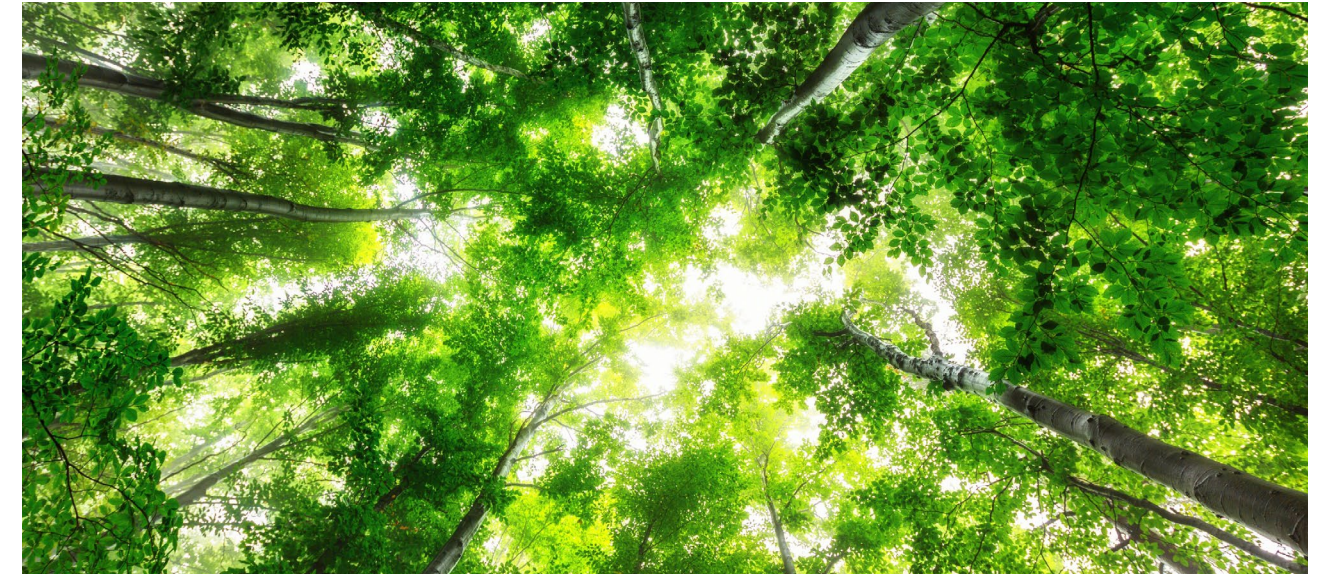
◀ Regulation Document Regarding Supplier Management

Bidding and Procurement Business Management Rules, Tripartite Performance Appraisal Procedure, Supplier Quality Exceptional Handling Procedure, Supplier Agreement Honoring Feedback and Handling Process

Identification and Management of Environmental and Social Risks of Suppliers

Throughout the process of supplier screening, review, and management, JD.com fully considers environmental, social, and governance factors and formulates specific standards and restrictions based on different types of suppliers. For example, for production-based suppliers, especially those who have a substantial environmental impact, must have the

authorized environmental impact assessment certificate and other licensing documents during the screening process. When it comes to the rights and interests of labors and employees, especially the safety related issues, suppliers need to take appropriate measures to guarantee the occupational health of their employees.



In addition, JD.com has implemented a series of measures to encourage suppliers to improve their performance in respect to environmental and social impacts:

- 1 Since 2020, JD has formulated green procurement management to ensure the effectiveness of JD Logistics procurement practices, and consistently conducts the Green Stream Initiative by incorporating the concept of environmental protection and green operation.
- 2 In the bidding and pricing process, suppliers’ contribution to environmental protection can be served as a bonus. Meanwhile, the penalties for violations of green management rules are clarified in the contract terms. Concerning the supplier performance evaluation, the corresponding environmental assessment clauses are added regarding green procurement categories. Suppliers are subject to our supervision in environmental protection, resource conservation, corporate social responsibility, and sustainability.
- 3 JD.com strictly declares that it is forbidden for our cooperating suppliers to engage in illegal employment, violate labor laws, and engage in other illicit behaviors. Based on the circumstances, the suppliers will be listed as entities with whom JD.com shall never cooperate.
- 4 JD formulated a negative list mechanism for green procurement suppliers. For suppliers shortlisted in the green procurement resource system, JD shall suspend or terminate the procurement contracts if any circumstances defined in the negative list or other environmental problems have occurred. If the Group incurred any loss because suppliers deliberately concealed their violation of environmental laws and regulations, JD has the right to protect its own interests in accordance with relevant laws and regulations.
- 5 JD organizes suppliers to participate in the SBTi training so that they can have a better understanding of carbon neutrality-related knowledge. JD also conducts carbon emission data collection and model construction to monitor the suppliers’ progress in achieving carbon emission control goals.
- 6 JD reduces its cost of disposable plastic packaging by adopting various means of leasing, purchasing, and using recyclable packing boxes, insulation cases, circular transshipment bags, etc., to continuously improve its green supply chain performance.

Supplier Empowerment and Development Policy

JD continues to support local and SME suppliers in the bidding and procurement procedures with extra support on local featured agricultural products and signature industry development. We help the signature industrial belts to equip with parcel pick-up capacity and introduce local packaging manufacturers. While promoting the logistics parcel pick-up business, JD has stimulated the rapid development of regional signature and packaging consumables industries.

Meanwhile, we actively support women's economic empowerment, women's leadership promotion, and women-owned business development along our supply chain. In respect to supplier admittance and selection, we also give extra focus on female leadership factors on the top of suppliers' capacity and business qualification.

Promoting the Development of the Real Economy

JD has always insisted on the shared value of "boosting the real economy with JD's identity as a real economy enterprise." Relying on our solid infrastructure, digital intelligent social supply chain with high efficiency and innovative technical service capabilities, we have persistently explored new growth momentums for millions of our partners, promoted the high-quality development of the real economy, and created more value for the society while accelerating our sustainable development.

Improving Public Governance Efficiency Empowered by JD's Digital Intelligent Supply Chain Infrastructure

Financial Services

JD Cloud has provided comprehensive technology solutions for 814 financial institutions by leveraging the digital intelligent financial cloud that connects the industrial supply chain. These institutions include banks, insurance companies, funds, trusts, and securities companies. The technology solutions help them establish underlying cloud intrinsic capabilities. The solutions cover data and intelligence, business innovation, business scenario expansion, industry-financed integrations, intelligent risk control, and full scenario marketing and operations capabilities that align with their strengths and future needs in digital transformation.



JD Cloud has provided comprehensive technology solutions for **814** financial institutions, including banks, insurance companies, funds, trusts, and securities companies



JD Intelligent Customer Service cooperated with Jiangnan Rural Commercial Bank to launch VTM⁶ digital bank tellers.

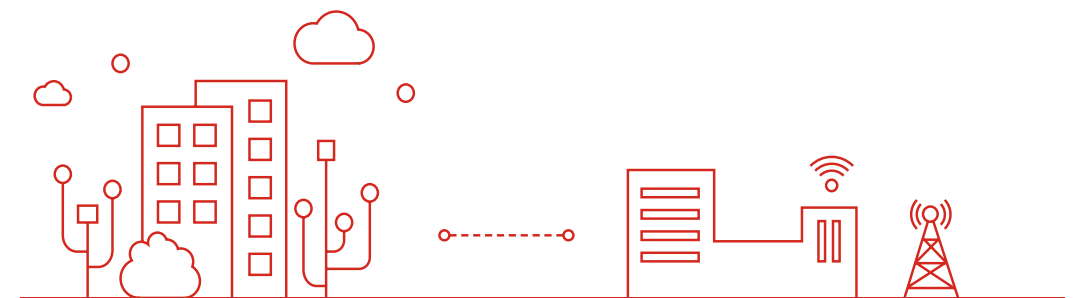
JD has created the first "digital bank teller" in China that can independently handle real bank transactions, which has achieved a breakthrough in the application of digital tellers from traditional consultation, inquiry handling, and navigation to the actual banking business. This project reshapes the user experience and service mode of bank outlets, greatly improves the capacity and efficiency of remote banking services, and reduces the operating cost.

Business challenge

In the banking industry, traditional bank branches have some pain points, such as high operating costs, long queuing in rush hours, and insufficient reception capacity of remote tellers, which restrict business expansion.

Project value

The digital teller has formed a multi-channel, full-scenario, end-to-end VTM digital teller solution by connecting with VTM and agricultural aid appliance.



⁶ VTM refers to Video teller machine.

Public Healthcare

JD empowers the public healthcare by leveraging its core competence in technology, utilizing its advantages in digital intelligence technology and supply chain infrastructure to establish a graded diagnosis and treatment system, optimizing the medical resources distribution, reducing medical expenditure, improving basic healthcare services, and providing the public with high-quality, comprehensive, and inclusive healthcare products and services, driving more people to pursue a healthy life.

We have cooperated with many public hospitals to develop smart medical projects. JD Internet Hospital of the First Affiliated Hospital of Henan University of Traditional Chinese Medicine was jointly established by JD Health and the First Affiliated Hospital of Henan University of Traditional Chinese Medicine, which provides online and offline integrated healthcare services for patients. By the end of 2021, the total number of registered patients was nearly 150,000, and the services covered 31 provinces, municipalities and autonomous regions in China. In response to storms, floods, and epidemic relief requests, we effectively help tackle the challenges in seeking medical treatment. In addition, JD Health has jointly established Internet Hospitals with Peking University Shougang Hospital, Tianjin University of Traditional Chinese Medicine First Affiliated Hospital, Cangzhou Central Hospital, Taicang First People's Hospital, and other Grade 3AAA hospitals (top tier hospital in China), and innovated online and offline integrated medical and healthcare service system.

JD Internet Hospital of the First Affiliated Hospital of Henan University of Traditional Chinese Medicine



The total number of registered patients was nearly **150,000**



The services covered **31** provinces, municipalities and autonomous regions in China



Promoting Digital Transformation of Various Industries by JD's Technological Capability

Technological Capabilities

Artificial intelligence



JD.com AI NeuHub open platform, intelligent HMI platform "YanXi" and "JD Smart Cloud" solutions which help enterprises create applications targeting various industrial scenarios.

Cloud computing



JD.com has established more than **70** data centers, **70** city clouds and nearly **100** edge data centers worldwide.

Blockchain

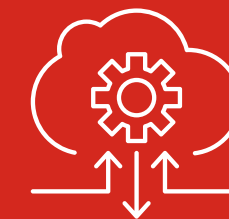


JD.com "Zhizhen Chain" Anti-counterfeiting Traceability Platform has served over **1,500** enterprises, covering over **400,000** kinds of goods from **1,900** brands, with **billion-entry** data linked to the blockchain and over **10 million** "quality traceability" inquiries from consumers.

IoT



JD.com's IoT operating system serves for many institutional clients, such as government, central State-owned enterprises, and different industries covering energy, transportation and logistics, finance, real estate, food safety, etc. By working with more than **1,000** industry partners, the system accesses more than **4,000** kinds of smart devices, connects **220 million** highly active devices and serves **26 million** families.



Empowering Industries

Based on cutting-edge technologies such as artificial intelligence, cloud computing, big data, internet of things, etc., and relying on years of experience in supply chains, JD provides

digital intelligent solutions with supply chain at its core for different industries.

Helping the high-quality development of industries with digital intelligence technology

JD Technology has now become a core platform of JD.com to provide technical services to external clients. With profound industrial know-how, excellence in risk management, user operation and enterprise service, JD technology can provide customers with diversified technology services including customized solutions and product research development

targeting different industries. Based on the digital intelligence technology capability, JD Cloud has provided digital solutions for more than 1,500 large enterprises and over 1.5 million SMEs, helping thousands of industries achieve high-quality development and realizing the digital transformation of real economy.

Empowering the sustainable industrial development with JD Logistics' integrated supply chain

JD Logistics integrates a connective, efficient and more flexible end-to-end logistics network by taking the integrated supply chain as its core competence. By leveraging our in-depth business experiences, industry insights, and the automation, digitalization, and intelligentization 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, apparel, home appliances and furniture, 3C, automotive and fresh produce, to reduce cost and create more values for all the industries.

Digital Transformation of Traditional Industries

Manufacturing Industry JD C2M optimizes and upgrades the manufacturing supply chain

JD C2M intelligent manufacturing platform is a customer-oriented infrastructure that customizes production based on customers' demands. Using our in-depth insight on consumer needs and market trends, the relevant product design, production and circulation can be reversely customized through this platform, so that manufacturers can accurately respond to consumers, realize "production by sales" and "production on-demand," greatly shorten the R&D process for new products, improve the performance of new products, reduce turnover costs and inventory risks. While helping brand owners improve their new product development capabilities, it also strengthens the overall resource efficiency of society and facilitates the transformation and upgrading of industrial development. As of the end of 2021, JD has built C2M reverse supply chain for more than 1,200 manufacturing enterprises.



As of the end of 2021,

JD has built C2M reverse supply chain for more than

1,200 manufacturing enterprises

Through JD Cloud's C2M reverse customization solution, Deyi Dairy has set up a business middle platform covering online and offline omni-channel, which can serve for customer insight collection, target customer positioning and precise marketing through data assets depositing.

Automobile Industry

- BAIC and JD.com cooperate in the digital procurement of industrial products, intelligent cockpits, and autonomous logistics vehicles, accessing the cloud, digital marketing, and other aspects to deepen BAIC's digital transformation and upgrade comprehensively. For example, BAIC Data collaborates with JD Cloud to build a hybrid industrial cloud, the BAIC Hybrid Cloud Platform (BPStack) and the Digital Marketing and User Operation Platform, which provides BAIC with various cloud products and services such as databases, internet middleware, hybrid cloud management, etc. The platforms also provide BAIC with services such as infrastructure leasing and hardware equipment hosting, significantly improving BAIC Group's IT management capability and successfully saving 50% of IT costs.
- In June 2021, BAIC's online shopping mall App built by JD Retail Cloud was launched, which sold hundreds of vehicles within half a year. This system integrates the information of thousands of BAIC offline stores nationwide. Consumers can not only see cars online, but also make an appointment to test drive and pick up cars at any offline store. They can also enjoy the whole life cycle services such as car purchase, maintenance, repair, and used car replacement.
- JD Logistics helps Volvo's after-sales spare parts supply chain to reduce cost and increase efficiency. Based on JD Logistics' fundamental supply chain network and big data technology, JD Logistics helps Volvo achieve the optimal supply chain and inventory structure, focusing on warehouse network planning, inventory management, last mile delivery and other fields, eventually we help Volvo simulate the optimal cost structure and creates an intelligent replenishment verifying mode. According to the data collected from Xi'an pilot project, the satisfaction rate toward Volvo's order delivery increased along with a significant increase in the annual inventory turnover. This project realized the accurate prediction backed by big data and visualized control of the whole process and supported multi-channel business development.



JD.com helps BAIC



successfully save **50%** of IT costs



sell **hundreds** of vehicles within half a year

 Engineering Industry

In 2021, JD Industry launched a series of new-generation infrastructures for industrial supply chain management, such as an enterprise distribution center, Jinggong Cabinet, and smart mobile warehouses. So far, JD Industry has deployed over 200 facilities nationwide to help solve the pain points faced by industrial enterprises. Through the introduction of smart mobile warehouse, JD industry promotes the integration of digital procurement and infrastructure, which helps solve the challenges owing to the remote of construction sites faced by engineering and construction industry, such as difficulties in achieving accuracy in procurement planning, onsite management of material consumption and distribution, and inventory dynamic management. Our solution greatly improves the efficiency of material supply at the construction site and ensures the whole construction to proceed as scheduled. The first “smart mobile warehouse” has been put into use in the Hanzhong-Bazhong-Nanchong High-speed Railway construction project of Sichuan Chuanjiao Road and Bridge Co., Ltd. The infrastructure has been widely used in many real enterprises such as Angang Steel, Sinochem and the Three Gorges Group, providing concrete support for industrial enterprises to enjoy the distinguished values brought by intelligent supply chain.



By the end of 2021, JD Industry has deployed over

200 facilities nationwide



The **first** “smart mobile warehouse” has been put into use



JD Cloud and Zoomlion jointly built the industry’s first “AI expert diagnosis system for pumping machinery.” Relying on our intelligent HMI platform “YanXi,” the project realizes AI-driven industrial automation and intellectualization, which greatly improves equipment fault diagnosis efficiency and ensures the continuity of industrial client’s construction projects, and helps the after-sales team save 4,200 hours of troubleshooting every year, shortens the time spending in single equipment maintenance by more than 20%, and creates indirect economic benefits of more than RMB 2.3 million for a single product line.

“AI expert diagnosis system for pumping machinery”



helps the after-sales team save

4,200 hours

of troubleshooting every year



shortens the time spending in single equipment maintenance by more than

20%

Empowering SMEs

Through a complete service portfolio and various specific measures, JD.com has helped SMEs strengthen their supply chain, enhance their innovation ability, and uplift their development momentum.

In the field of enterprise services, JD Cloud has provided digital solutions based on full-stack cloud service products for over 1.52 million SMEs, helping them achieve digital intelligent transformation. Besides, to lower the “threshold” of the digital procurement for SMEs, JD JOYBUY has established a “quick procurement, easy management and one-stop” digital procurement service platform. By digitalizing the procurement process, eight core procurement service capabilities (quick selection of products, quick bargaining, quick contract signing, quick order placing, quick payment, quick invoicing, quick reimbursement, and high-quality service) have been strengthened to help SMEs reduce cost. As a result, SMEs can enjoy the benefits brought by digital technology without extra investment.



JD Cloud has provided digital solutions based on full-stack cloud service products for over

1.52 million SMEs

Industrial Belt “C.E.O” Plan Under JD’s Private Label Brands

In addition, under JD’s private label brands, we launched the industrial belt “C.E.O” (Co-Create, Empower, Open) plan at the end of 2020, and fully promoted the transformation and upgrading of SMEs on the industrial belt, reducing costs and increasing efficiency. Relying on the digital intelligent social supply chain, JD’s private label brands expand their capabilities in product selection, brand incubation, user cultivation and channel penetration to high-quality factories. They fully empower factories to accomplish digital transformation, accelerate the digital intelligent upgrading of the manufacturing

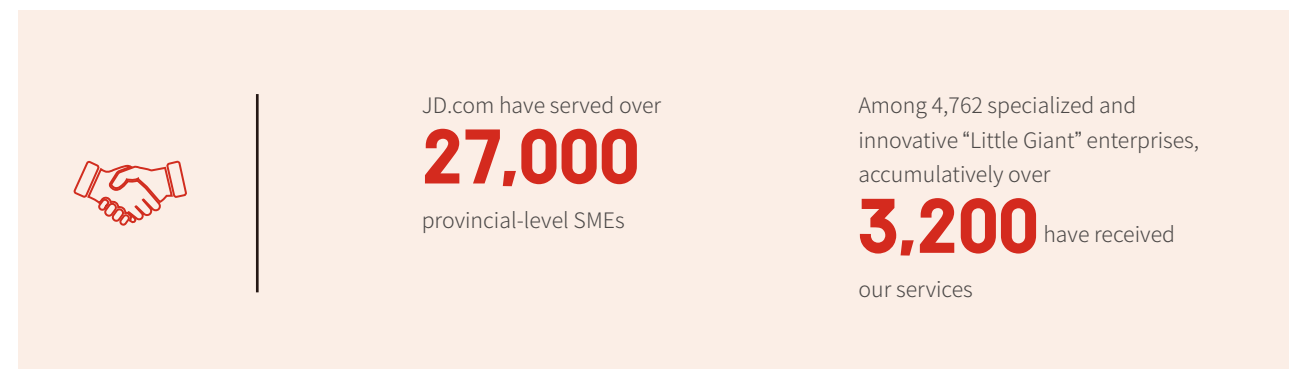
industry, and collaborate with industrial belt partners heading for intelligent manufacturing, so as to deepen the penetration of the industrial Internet alongside the industrial belt, and at the same time bring more cost-effective factory sourced goods to consumers. By December 2021, the industrial belt “C.E.O” plan under JD’s private label brands covered 70% of the national industrial belts. In 2021, it promoted 61 manufactured goods with sales exceeding RMB 10 million and helped high-quality agricultural products including over 800 tons of rice and miscellaneous grains to expand their national market.



Serving SMEs through “Mantianxing Project”

In 2020, JD collaborated with China Ministry of Industry and Information Technology (MIIT)’s SME Development Promotion Center to launch a “Mantianxing Project” targeting to SMEs. In 2021, the “Mantianxing Project” continued to implement in 28 provinces and cities to create a customized service model of “one city, one strategy” and stimulate SMEs’ growth impetus. Under this project, we invited SMEs to visit our company, sponsored several SME seminars, and improved the talent training system for SMEs. We also launched relevant plan to empower specialized and innovative SMEs to build

an industrial ecosystem. By the end of 2021, we have served over 27,000 provincial-level SMEs, accounting for nearly 70% of all nationwide qualified SMEs. Among 4,762 specialized and innovative “Little Giant” enterprises, accumulatively over 3,200 have received our services. We also created a “digital workbench” to provide SMEs with user-friendly digital application tools, lower their threshold of digitalization, help SMEs overcome the “digital gap” and achieve lower cost and higher efficiency management.



Zhida Technology

As shortlisted in the third batch of specialized and innovative “Little Giant” enterprises by the MIIT, Zhida Technology has been long devoted in product development with its strong technical capabilities. However, due to its long-term service to automakers, it lacks experience in the end user market, and there is also not an existing well-operated channel to accurately reach out customers.

Zhida Technology, by cooperating with JD.com, has successfully unlocked the “password” to explore the end user market. JD.com, with its strong supply chain capability and infrastructure nationwide, effectively assists “Little Giant” enterprises to build high-quality customer service and strengthen their supply chain. By leveraging the competence cross online and offline channels, JD successfully help Zhida Technology quickly establish a nationwide channel system with full regions and customer coverage. At the same time, JD has more than 500 million high-quality users, who are highly overlapped with the target customers of Zhida Technology and provides strong support for Zhida Technology to quickly “break the ice” in the end user market and strengthen its brand influence. Overall, JD.com assists Zhida Technology to open an incremental market and achieve a nearly 10-fold increase in turnover.

Part IV

Cultivating Talents

JD.com has always been committed to providing a safe workplace and ideal development space for every employee. Meanwhile, we strictly protect employees' rights and interests and provide various welfare and caring projects. JD.com continuously concerns about the talent development and ensures the best allocation of talents on the right position. We attracted the diversified talents and established a comprehensive professional team to lay a solid foundation for JD to achieve a long-term success.

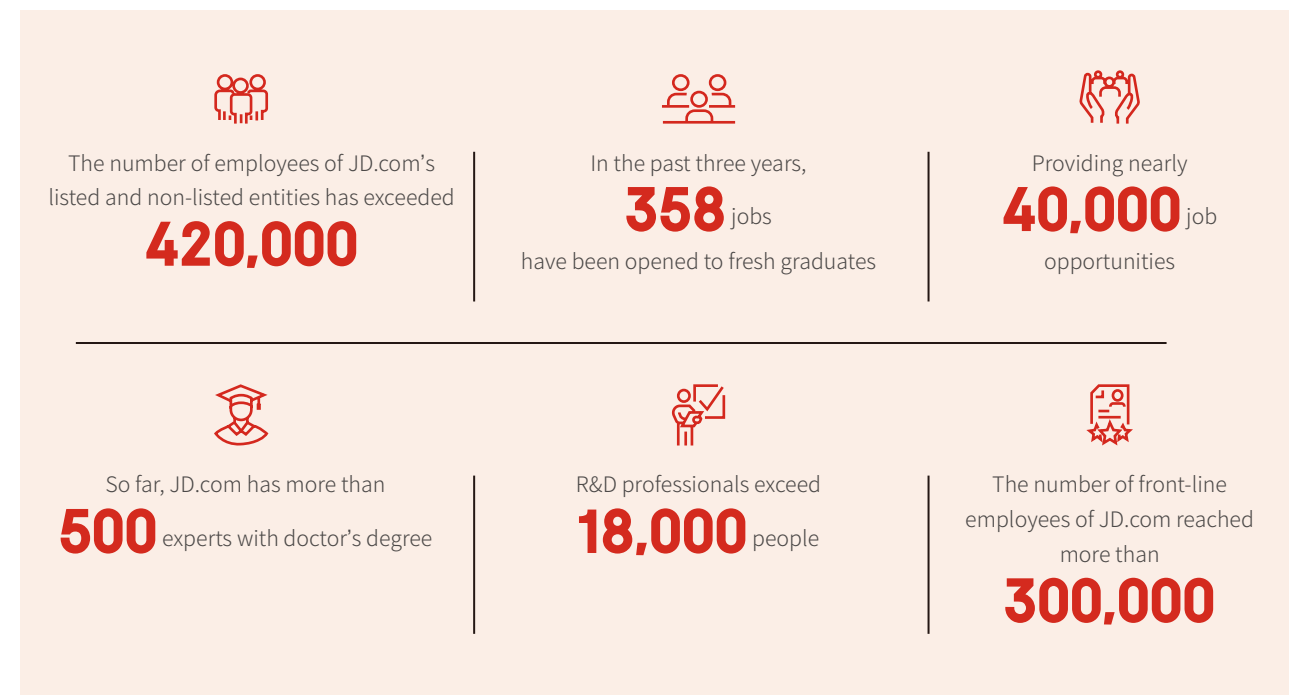


High-quality Employment

As stated in the notice on the “14th Five-Year Plan for Employment Promotion” issued by the State Council, the overall stability of the employment and the steady improvement of the employment quality are the principal goals to achieve by 2025. In 2021, JD.com continued to play the role of “employment stabilizer.” As of the end of 2021, the number of employees of JD.com’s listed and non-listed entities had exceeded 420,000⁷. JD.com has always placed a high value on talent acquisition and development. In the past three years, 358 jobs have been opened to fresh graduates, providing nearly 40,000 job opportunities, and specialized training programs have been developed to empower young talents to achieve a more fulfilled career. In addition, JD.com continues to provide a broader and more inclusive scientific research platform for professionals. So far, JD.com has built up a well-established professional team composed of over 500 experts with doctor’s degree experts and 18,000 R&D professionals. JD launched the “Doctoral Management Trainee” program in 2017. Since then,

the program has attracted many excellent doctoral students from the leading universities domestically and abroad to join JD.com. Up to date, the proportion of staff holding doctorate degrees in the JD Explore Academy has been approaching 50%, providing great momentum for JD’s technology innovation.

The State Council’s “14th Five-Year Plan for Promoting the Modernization of Agriculture and Rural Areas” regards the equal development of farmers and rural areas as a strategic priority. The number of front-line employees of JD.com reached more than 300,000, 80% of whom are from the Chinese rural areas. By giving them a solid living guarantee and stable income, JD.com drives forward the employment of rural population and promotes the rapid development of the livelihood and economy in rural areas. Moving forward, based on its identity as new real economy enterprise, JD.com will be committed to promoting the stable and high-quality employment on a larger scale.



The proportion of staff holding doctorate degrees in the JD Explore Academy has been approaching **50%**



80% of front-line employees are from the China’s rural areas

⁷ The statistical scope of “total employees of JD.com” is the total number of full-time employees and part-time employees of listed companies and non-listed companies under JD.com.

Human Resource Compliance Management

Employment and Labor Standards

JD.com 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.com 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, and guarantees the equal legal rights and interests of every employee according to law. To prohibit the use of child labor and forced labor, *JD.com Employee Handbook* strictly defined the relevant employment qualifications, and

clearly stipulated that hiring individuals under the age of 16 is prohibited.

JD.com regulates employment according to law, and establishes labor and employment management rules including labor contract management, employee recruitment, vacation, education, and training, etc. In 2021, the company revised the management rules such as *JD.com Employee Handbook* to optimize the company’s employment management mechanism further.

The Code of Business Conduct and Ethics provides clear regulations on anti-discrimination, harassment, health and safety, personal privacy, etc., and effectively protects employees’ interests and benefits.

The Customer Service Center in JD Retail set up a specialized department recruiting people with disabilities. In 2021, 186 disabled employees hired by JD served in Suqian, Yangzhou, and Chengdu.



Internal Communication Mechanism of Employees

JD.com respects the demands and opinions of every employee and is persistent in strengthening the construction of the internal communication channels and ensuring the good operation of the employee rights protection system and mechanism. By setting up various channels and approaches, including the employee service hotline 400, bigear@jd.com, the Group's trade union, and the Group's supervisory department, etc., we consistently optimize the mechanism for employee consultation and complaint handling. We've greatly promoted response efficiency resulting in a systematic improvement in the issue handling process and closed-loop management effectively tackling employees' concerns. We have set up the varying problem-solving mechanism in terms of the risk level and the impact of certain incidents. For ordinary incidents, the feedback will be provided within 48 hours; for emergency incidents, the response will be given within 1 hour, as for the feedbacks on the investigation for special or momentous events will be provided to the involved employees within 7 working days. For overseas employees, two mailboxes have been set up, jdw_radar@jd.com

and globahrssc@jd.com to collect employees' opinions, and the HR colleagues from the Group or local level will follow up to get the problems solved.

JD's first collective bargaining negotiation and workers' representative congress was held in November 2021. JD's commitment to the implementation of relevant laws and regulations regarding workers' participation and organization of trade unions, proposed in the *Trade Union Law of the PRC* and the *Labor Law of the PRC* was well demonstrated through this event. The legal procedures and regulation system regarding employees' right in collective bargaining was clarified. Meanwhile a series of collective negotiations were held on labor remuneration, safety, insurance and welfare, vocational skill training, and other key issues. As a result, a draft of the collective contract was developed. The founding of a trade union and negotiation mechanisms plays a positive and constructive role in safeguarding the rights and interests of employees and thoroughly responding to concerns from employees at all levels.

Employee Satisfaction

To continuously improve employees' experience and create a favorable workplace, JD.com regularly conducts a quarterly satisfaction survey among employees. In 2021, the survey conducted in the Beijing headquarters and regional offices showed that the employee satisfaction rate was as high as 4.36/5, demonstrating a quarter-on-quarter increase. The survey mainly focused on the satisfaction toward various services provided to employees in the workplace, including

catering (employee restaurants, coffee shops, etc.), travel (shuttle bus, free taxi service during commuting), supporting facilities (supermarkets, gymnasiums, etc.), office environment (office appliance, hardware, functional areas) and many other aspects. In addition, JD.com will make pertinent improvements on low-scoring service items, publicize the optimization result to the employees and work with the operation team to carry out random quality checks.



Human Resources Management

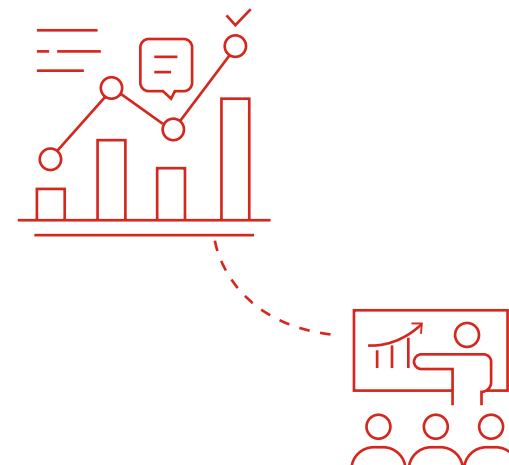
Occupational Health and Safety

JD.com has been committed to taking employees' occupational health and safety as the top priority and provides a complete welfare system to guarantee a safe and healthy workplace for every employee. Taking JD Logistics as an example, the relevant management systems and monitoring processes that have been formulated include *Quality, Environment, Occupational Health and Safety Monitoring and Measurement Control Procedure*, and *Environment, Occupational Health, and Safety Operation Control Procedure*, etc. In addition, its "Occupational Health and Safety Management System" has been certified by authoritative organizations. In addition, JD.com conducts safety drills for all employees twice a year, to strengthen employees' safety awareness, improve personal emergency handling ability and further improve the company's emergency management.

Employee Training and Talent Development

Employee Training

JD.com is convinced that talents are the company's highest-valued assets. JD.com constantly provides high-quality training to facilitate employee development and creates a career development platform to satisfy the diversified interests of employees. In 2021, JD.com's sub-groups and business lines organized 20,809 training sessions and developed 10,262 new training courses, with total sign-ins of 160 million person-times and 16,000 daily active users.



In 2021, JD.com's sub-groups and business lines organized **20,809** training sessions



Developed **10,262** new training courses



Total sign-ins reached **160 million** person-times



16,000 daily active users

Female Employee Development and Leadership Empowerment

JD.com highly values women employees' health and career development. By inviting numerous internal and external guest speakers, such as Olympic champion Deng Yaping and the champion of JD.com Hackathon Yu Bingjing, etc., to organize various themed sharing sessions on women empowerment, such as personal inspiration stories, leadership experiences, scientific research, etc. So far, about 10,368 women employees have been empowered in JD. Furthermore, JD possesses 851 female lecturers, accounting for 49% of all lecturers.



About
10,368 women
employees in total have been
empowered in JD

Talent Development System

Comprehensive Incentive System

JD.com has always adhered to the concept of employee success prior to business success. JD follows a "contributor-oriented" principle and rolls out the incentives to reward the employee contributors with the matched economic incomes and promotion opportunities, so that to fulfill employees' value and facilitate their career success while contributing to the sustainable success of the Company. In 2021, JD builds a "comprehensive incentive system" to fully enable talent development with innovative measures.

Diversified Talent Training

JD.com has launched diversified talent training solutions and carried out well-designed recruitment programs for different target groups, striving to establish an ideal career platform promoting the comprehensive development of talents. These programs include JD.com's Rising Star Program for professional talents, the leadership training program TET, the DMT program for doctoral scientists, internship recruitment for on-campus students, and the "JD RUN" summer internship camp.



Employee's Hobby Community

JD.com actively develops hobby communities for employees, and establishes 63 internal "Communication Networks" with different focuses, covering interests and hobbies, friend-making, technology sharing, etc. The "Communication Network" gets annual voluntary posts reaching more than 72,000 pieces, showing great activeness and effective interaction, creating a good internal communication channel for employees.



The "Communication Network" gets annual voluntary posts reaching more than
72,000 pieces

Big Boss

Since the Big Boss project was launched, employees enthusiasm and organizational innovation have been greatly stimulated. The construction of the Big Boss system was further developed in 2021, laying a solid foundation for supporting diversified, flexible business needs and the development of an increasingly growing organization.



The adoption of the principles that endow the front-line decision-makers with authority allows JD to be more flexible and rapidly respond the clients' needs. At the same time, JD further clarifies and refines the evaluation principle ensuring controllable profit and loss, optimizing the cost efficiency of each integral organization module.



In terms of employee performance appraisal and incentive policies, Big Boss project has made great innovations, ensured the more diverse incentives and reasonable allocation scheme, and fully implemented JD's "contributor-oriented" principle.

Employee Benefits

JD.com always adheres to the philosophy of "people-oriented, places the wellbeing of employees prior to the interests of enterprise," respects and rewards the value contributed by every employee.

Employee Compensation System

In 2021, all provinces, municipalities and autonomous regions in China successively issued the policies on the treatment of work-related injury insurance. The measures for specific groups include workers who have exceeded the statutory retirement age to participate in work-related injury insurance programs, etc. At the same time, many provinces and cities have adjusted the bottom wage criteria and the maximum and minimum limitation of wage bases required to pay the various social

insurances. JD.com actively responds to national policies. In 2021, JD.com continued to pay the five social insurance funds and one employee housing fund, and improved basic benefit treatment such as work-related injury insurance. In addition, JD.com continues to improve the salary level of employees. From July 1, 2021, to July 1, 2023, JD.com plans to take two years to gradually increase the employees' average annual revenue from a 14-month salary to a 16-month salary.

◀ Family and Life Care

Through the housing plan, grants for employees' children, extended maternity leave, and other programs and initiatives, JD.com safeguards the health and wellbeing of employees' families and ensures that employees can work happily and live healthily.

Settlement Plan



The Settlement Plan is a full-service welfare program. All employees who meet the seniority requirements can apply for an interest-free loan of up to RMB 1 million, when they buy the first house in their working city. From 2018 to 2021, JD.com had offered interest-free loans totaling RMB 750 million, and about 1,900 employees have benefited. In addition, since 2016, JD.com has provided 2,537 welfare housing units for employees.

Love Relief Fund



JD's Love Relief Fund aims to provide financial support for employees and families in need. The scope of assistance covers the employees and their families suffering from serious diseases, employees passing away or having disabilities, schooling continuity for deceased employees' children, employees whose homes got destroyed, etc. From 2018 to 2021, a total of 1,491 in-kind supplies were provided, with a total value reaching RMB 61.48 million.

Education Support



In 2021, 11 families have benefited from the Employee's Children Caring and Scholarship program. Suppose employees unexpectedly lose their working capability or pass away due to diseases or accidental events, their children can apply to receive grants to finish their studies from kindergarten to college.

Maternity-Friendly Policy



JD.com actively responds to the "Notice of the Office of the National Healthcare Security Administration on Doing a Good Job in Supporting the Maternity Insurance of the Three-Child Policy" and other related policies and launched the company's welfare policy. First, JD.com covers the cost of giving birth to the third child in the medical security policy, which effectively ensures the wellbeing of the three-child family. JD.com has also provided an additional 30-day extra-long welfare maternity leave on top of the national and local legal welfare for women's fertility since 2015. Ever since the release of the State Council's "Decision on Optimizing Birth Policy to Promote Long-term Balanced Population Development," parental leave in all related provinces in China has been extended or added. JD.com actively responds to the call for national and local policies. As such, JD.com adjusted and improved the company's vacation system as well as its leave application process. For provinces or cities where the relevant policies have yet been covered, employees can continue to extend maternity leave days in accordance with the welfare maternity leave scheme executed by JD.com. Therefore, the maternity-friendly policy of JD.com reached full coverage among employees.

JD Children's Education



Since 2017, JD cooperated with Oriental Cambridge Education Group to set up a childcare center at the headquarters. As of the end of 2021, the nursery service benefited more than 1,600 person-times. At the same time, JD collaborated with Etonkids, a high-end kindergarten brand, to build the kindergarten project together. More than 350 JDer's children had been enrolled by the end of 2021.

Employee Assistance Program (EAP)



In 2021, JD continued to implement EAP care program.



◀ Workplace Welfare



Pleasing Working Environment

JD.com established two new self-constructed workplaces in 2021. Building No.2 of the Beijing headquarters was completed in October 2021. As a part of the headquarters park, the newly constructed park covered 530,000 square meters. The Southwest Headquarters Building was completed in August 2021. The building area reached 250,000 square meters, and the design incorporated "Chinese Knot" elements. Furthermore, the exterior shape of the Southwest Headquarters Building is interlaced like the number "8." The overall design of these two buildings presents the concept of low-carbon emissions and environment-friendliness, demonstrating a strong sense of technology, provides a pleasing and beautiful workplace for all employees. We built barrier-free infrastructure in these newly self-constructed buildings, including ramps, elevators, restrooms, and parking spaces, according to the design requirements of National Barrier-free Design Code, to provide more convenience for those with disabilities.



Workplace Facilities

JD has set up the health counseling room, gyms, staff canteen and cafeteria, baby-care rooms, children's playgrounds, and other healthcare facilities. JD arranges nearly 200 shuttle buses that serve more than 30,000 employees, while cooperating with online ride-hailing companies to provide free taxi service for off-work commuting. At the same time, JD continues to expand its contract with nearby merchants and retailers so that employees can enjoy various benefits and well-being in more consumption scenarios. JD is constantly making efforts to promote JD headquarters' welfare program among all facilities across the country.



All-Staff Sports Season

JD organizes an annual Sports Season for its employees. By carrying out challenging competitions, JD attracts employees with different hobbies and from different age groups to participate in cross-team recreational activities such as football, badminton, and e-sports. In 2021, a total of 13,000 employees participated in the Sports Season, contributing to the creation of a happy workplace of JD as well as a corporate value of teamwork and taking the challenge.



Employee Caring Program

During the traditional Chinese festivals, JD distributes customized welfare gifts to express holiday care to employees. In 2021, more than 800,000 welfare gift boxes for festivals were distributed, covering all JD employees.

Part V

Safeguarding the Natural Environment

Since the inauguration of the 14th Five-Year Plan period, China has actively promoted green development. The nation's carbon peak and neutrality goals, as well as the more specific "1+N policy system," give clear instructions toward a holistically green, low-carbon transformation of society. Contributing to the fulfilment of national dual carbon targets represents not only the responsibility of JD.com, but also an opportunity for JD to achieve stable and continuous success in the future. In 2021, JD.com exerted its supply chain capacity and the influence of industrial chain, actively responded to environmental challenges, and continuously enhanced JD's environmental protection strategy. Relying on our business capability, we are committed to safeguarding nature, advancing green development with our more sustainable corporate operations, continuously developing a green supply chain, and further promoting green consumption among consumers.



JD.com's Green and Low Carbon Target Support China's Goal of Carbon Neutrality by 2060

JD.com's Environmental Protection Strategy



Green Operation

Green Office

◀ Office Space

We are committed to building a green office space by continuously promoting energy conservation and resource recycling through our office practices.

Due to the intelligent operation and maintenance system deployed in the power distribution room in JD.com's office building, the building's energy consumption and energy safety can be monitored online in real-time. Targeted energy-saving schemes can then be developed by integrating the system's analysis results. In 2021, all the traditional lighting lamps in public areas of Building No. 1 have been transformed into LED lamps, with a total of about 14,000 LED downlights replaced. The lights in public areas can be turned on and off automatically by the central control system. The grid lights in the office area are being gradually replaced with LED panel lights, and the power consumption of a single lamp is reduced from 84W to 40W. After the replacement, the lighting power consumption in the office area of Building No. 1 was reduced by 5,000-9,000kWh per day on average⁸. Meanwhile the average illuminance in the office area increased from about 300Lux to about 450Lux, which can not only reduce the energy consumption, but also improve the employees' experiences in the workplace. Besides, more than 2,300 LED lamps in the basement of the headquarters have also been replaced with dimmable intelligent lamps, which can automatically adjust the area illumination and empower the low-carbon workplace with intelligent technology. Furthermore, the cooling of air conditioners in summer strictly maintains a 26-degree Celsius standard, which is uniformly dispatched by the central control system, and all panel setting temperatures are centrally controlled accordingly to reduce energy consumption in the workplace.

JD.com gradually optimizes the existing network structure to create a completely wireless office environment. We have plugged

in 5,520 wireless routers, and the office areas deployed with wireless infrastructure exceed 500,000 square meters. This reduces the cost of the Premises Distribution System (PDS) and switches. IDC computing storage resources are also constantly optimized. In 2021, JD's information technology department optimized 179 servers to save about 470,000 kWh of electricity per year and consequently reduce about 286.7 tons of carbon emissions.

In 2021, all JD.com's regional headquarter parks deployed the rainwater storage tanks with a volume reaching 2,700 cubic meters to facilitate rainwater collection. This deliberate design helps save the water resources and effectively alleviate the municipal drainage pressure, demonstrating the innovative water management concept in line with "Sponge City" practice. JD.com headquarter buildings have also been equipped with a sewage treatment station, which can achieve up-to-standard discharge of wastewater, and at the same time, facilitates the reuse of the partial reclaimed water after sewage treatment. It is estimated that more than 3,000 tons of water can be saved every month. With the application of inductive sensor faucets and water-saving toilets, the water consumption of restrooms will be further reduced. Our micro-spraying technology for large-area irrigation achieves a significant water reduction in afforestation irrigation.

We organize publicity campaigns daily for water-saving and electricity-saving in the whole workplace to strengthen employees' awareness of saving resources. In October 2021, JD.com headquarters Building No.2 was partially put into use and obtained the three-star design certification for green buildings. In the future, the experience of the headquarters' green operations will be gradually applied to all JD's self-built workplaces, creating a greener and energy-saving workplace for all.



◀ Paperless Office

We have rolled out paperless office initiatives in many business scenarios, such as electronic contracts, electronic file archiving, electronic invoicing, etc., which not only greatly reduces tree felling and carbon emissions, but also improves information management efficiency, and facilitates employees' daily work at a lower operational cost.

JD's personnel documents are all signed electronically, such as employees' entry and exit process, renewal of labor contract, loan agreement for housing plan, tenancy agreement for welfare housing, etc. As of the end of 2021, employees of JD.com had signed more than 1.839 million documents online. Signing an electronic labor contract is not only beneficial to environmental protection, but also can improve the efficiency of personnel management as well as employee's services within the company.

JD.com has been appointed as a pilot unit of electronic archives management by the National Archives Administration of China. Since January 2020, when it passed the acceptance of the government expert task force, electronic archiving has reduced the use of paper vouchers printing by nearly 5 million sheets each year, which is equivalent to saving 5,600 adult trees felling and reducing carbon emissions by 26 tons.

As one of the first batch of pilot companies, JD.com has fully implemented the practice of electronic invoicing. According to statistics, in 2021, more than 2.8 billion electronic invoices were issued by JD.com, thus saving about 16,000 tons of paper, equivalent to less felling of over 310,000 adult trees and reducing carbon emissions by 15,000 tons.



In 2021, more than
2.8 billion
electronic invoices
were issued in JD.com



Saving about
16,000 tons
of paper

⁸ During 2021, about 14,000 LED downlights were applied in Building 1 of JD.com Headquarters, where 5,000 lighting hours were counted according to the criterion of serving the staff for 8 working hours. The remaining 9,000 lamps were counted according to the actual lighting hours, including the lighting hours generated by overtime working staffs, and the actual light-out time of the Group were considered as the statistical benchmark.

◀ Remote Work and Green Travel

Since the outbreak of the COVID-19 pandemic, we have provided a remote working system for employees, which can save time and tangible costs occurring in employees' commuting and business travel. In 2021, employees logged in for work remotely through the VPN and SDP 9,213,820 times. 1,626,711 online meetings were held through the Joymeeting App, with 29,418,076 participants and 327,984 hours of meeting time, including 323,598 visitors from outside.

At the same time, we promoted green travel and commuting among employees. We launched a strategic move with Didi and CaoCao online car-hailing platforms, aiming to reduce the carbon footprint of employees' travel by carpooling. In 2021, JD employees' carpooling resulted in 209,000 orders (2-3 people to share a carpooling order), accounting for 90% of the total taxi-hailing orders, which greatly improved the employees' efficiency and utilization rate of vehicle resources, while helping save the energy, reduce the emissions and effectively alleviate the traffic congestion. Among them, the mileage of applied electric vehicles reached 3.233 million kilometers, reducing carbon emissions by about 258.7 tons. Besides, JD provides green commuting services for employees. There are about 200 shuttle buses in JD headquarters, including 80 new energy buses with an annual traveled mileage of 1.273 million kilometers, which reduces carbon emissions by about 742.2 tons.



Green and Low-Carbon Data Center

Adhering to advancements in technology and pioneering in green initiatives, JD.com has created energy-saving, emission-reduced and environment-friendly low-carbon data centers by innovating hardware technology, optimizing software capabilities, using clean energy, and reducing energy consumption intensity.

◀ New Generation Green Data Center

From planning, designing, construction, to O&M (operation and maintenance), JD Cloud's new generation green data centers implement the low-carbon and energy-saving strategy in the whole product and operation life cycle. We use natural cooling sources, deploy clean energy and revamp used equipment. We also promote energy and cold storage, optimize the architectural layout, adapt designs in favor of low energy consumption and eventually achieve a system-wide synergy effect maximizing energy-saving and emission-reduction. With the principal supplies preformed in factories, produced at local level, and generated from recycled materials, JD Cloud completes the rapid and low-carbon delivery of the data centers. In addition, based on the "IoT + AI" O&M platform, JD Cloud empowers efficiency optimization of data centers, waste recycling and the dynamic and controllable O&M management for equipment, helps reduce the employee's workload on O&M, implements the SOP of O&M, and continuously improves O&M quality and efficiency.

While maintaining rapid growth, JD Cloud has applied green energy to cloud computing to construct a clean, low-carbon, safe, and efficient energy system by further promoting carbon reduction in infrastructure, using recycled energy,

and deploying a large-scale distributed photovoltaic power generation system. With the help of "Jinggang," a software-hardware integrated virtualized architecture, the server performance gets improved by 30%, and large-scale application of cold plate liquid cooling and heat recovery technologies achieves a 10% reduction of carbon emissions in total. Taking JD Cloud North China Data Center located in Langfang, Hebei province, as an example, this system can reduce the center's heating costs by more than RMB 1 million while reducing carbon emissions by over 2,000 tons every year.

At the same time, intelligent algorithms and tools such as machine learning are introduced into the O&M to make the system more intelligent, to strengthen the overall computing performance. By deploying the inspection robots, the O&M system achieves 24-hour unattended inspection, from automatic inspection, fault location to automatic troubleshooting.

Using technologies such as liquid cooling, the new green data center operated by JD Cloud achieved annual operation with a Power Usage Effectiveness (PUE) lower than 1.1, 30% energy saving in infrastructure and 10% reduction in total carbon emissions.

◀ Cooperate with Huawei to Help Green and Intelligent New Infrastructure

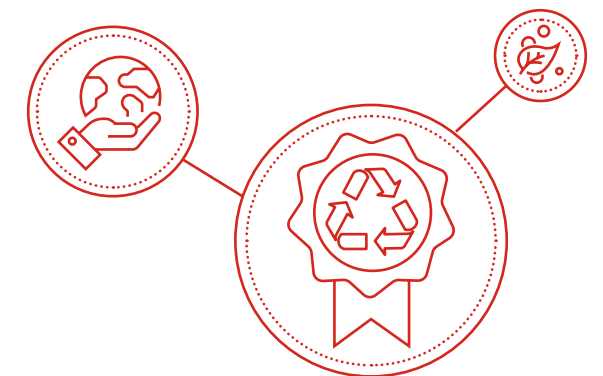
To improve the energy efficiency of a data center, JD Cloud establishes cooperation with Huawei. Relying on the experience in data center technology innovation, construction and operation from both perspectives, a set of innovative solutions has been co-developed and successfully launched, including intelligent indirect evaporative cooling system EHU (Environment Handling Unit) and medium voltage direct supply integrated power supply system SST, which strengthens the recycling of cold energy resources and improve the power supply efficiency.

Intelligent indirect evaporative cooling system EHU applying AI comprehensive energy efficiency optimization technology, can

automatically switch the cooling mode according to the weather, and directly use the natural cold air of the data center to cool down the computer room. East China Data Center located in Suqian, Jiangsu province, for instance, the outdoor natural cold sources can be fully collected and utilized for nearly five months throughout the year, which helps significantly reduce the operating cost. Medium voltage direct supply integrated power supply system SST can achieve high-intensity and high-efficiency power supply. Compared with the traditional power supply and distribution solution, its footprint gets reduced by 45%, while its power supply efficiency reaches as high as 95.3%, and the direct-current (DC) efficiency achieves as high as 97%.

◀ Industrial Recognition of Green Operation and Carbon Reduction

At the beginning of 2021, JD Cloud East China Data Center was successfully shortlisted as the "2020 National Green Data Center" honored by the Ministry of Industry and Information Technology, the National Development and Reform Commission and the Ministry of Commerce. At the 2021 CIFTIS (The China International Fair for Trade in Services), JD Cloud East China Data Center won the "Green Development Service Demonstration Case," demonstrating its outstanding practice in energy saving and emission reduction. In November 2021, JD Cloud won the first prize for the "Data Center Science and Technology Achievement Award," which is known as the "Nobel Prize" of the IDC industry, by virtue of the industry-leading technology of liquid cooling and heat recovery system for rack cabinets in data centers.



Low-Carbon Supply Chain

Based on green and high-efficiency supply chain best practices, the “Green Stream Initiative” presents an important corporate sustainability strategy of JD.com, which carries out various low-carbon and energy-saving practices in packaging, warehousing, transportation, and recycling. With the continuous implementation of the “Green Stream Initiative,” the Group is committed to shaping a symbiotic ecology to empower the sustainable development of global business society. Relying on

its findings in exploring “all-chain carbon reduction measures,” JD.com has been officially selected as one of the “Best Practices for Enterprises to Achieve Sustainable Development Goals 2021 (carbon peak and carbon neutrality goals)” awarded by Global Compact China Network, which represents the efforts and contributions made by JD.com in responding to global compact principles and promoting global sustainable development.

Green Packaging

Regarding packaging design and use, JD.com always adheres to the principle of being green and sustainable and practices the concept of green packaging from the aspects of packaging material optimization, use of circular packaging, and the reduction of packaging. By the end of 2021, JD Logistics has driven the whole industry to reduce the consumption of disposable packaging by nearly 10 billion pieces.



JD Logistics has driven the whole industry to reduce the consumption of disposable packaging by nearly **10 billion** pieces



◀ Packaging Material Optimization

JD.com advocates the use of renewable green materials, develops delivery bags applying degradable materials to replace petroleum-based plastic bags, and is committed to promoting 100% renewable and replaceable packaging materials. It is estimated that by 2030, more than 80% of JD’s upstream brands will be motivated to develop environment-friendly packaging.

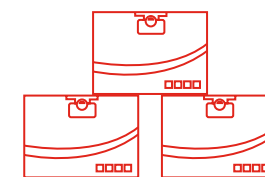
◀ Circular Packaging

JD Logistics uses reusable circular delivery boxes, foldable thermal insulation boxes, and circular transshipment bags instead of disposable plastic packaging. By the end of 2021, circular packaging such as the “Green Stream Boxes” have been used 200 million times. In August 2021, JD Logistics carried out a pilot project of circular packaging in 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 reduce the use of disposable PE packaging bags gradually. JD Logistics will strengthen the collaboration with the upstream and downstream partners to promote the use of circular packaging across the whole supply chain.

◀ Packaging Material Reduction

As important ways to reduce the amount of delivery packaging from the source, the modes of direct procurement from the place of origin, direct delivery of primary packaging, and direct shipment of the aggregate orders are adopted. JD Logistics encourages upstream brands and enterprises to implement primary packaging by providing them with preferential policies for warehouse entry. Direct delivery of primary packaging has been adopted by thousands of SKUs from brands such as P&G and Unilever, which has demonstrated the great value in saving the packaging materials.

The “Green Stream Initiative” boosts packaging reduction by engaging the brand partners and empowering the systematic green transformation of the industry. So far it has helped save 10 billion delivery cartons annually and motivates more than 200,000 merchants and hundreds of millions of consumers to act. During the Singles Day Grand Promotion in 2021, each parcel delivered to consumers reduced paper packaging materials by 210 grams. Each parcel reduced disposable plastics by 11 grams and 25 centimeters of adhesive tape on average thanks to the implementation of the Green Stream Initiative.



It is estimated that by 2030, more than **80%** of JD’s upstream brands will be motivated to develop environment-friendly packaging



Circular packaging such as the “Green Stream Box” has been used for **200 million** times

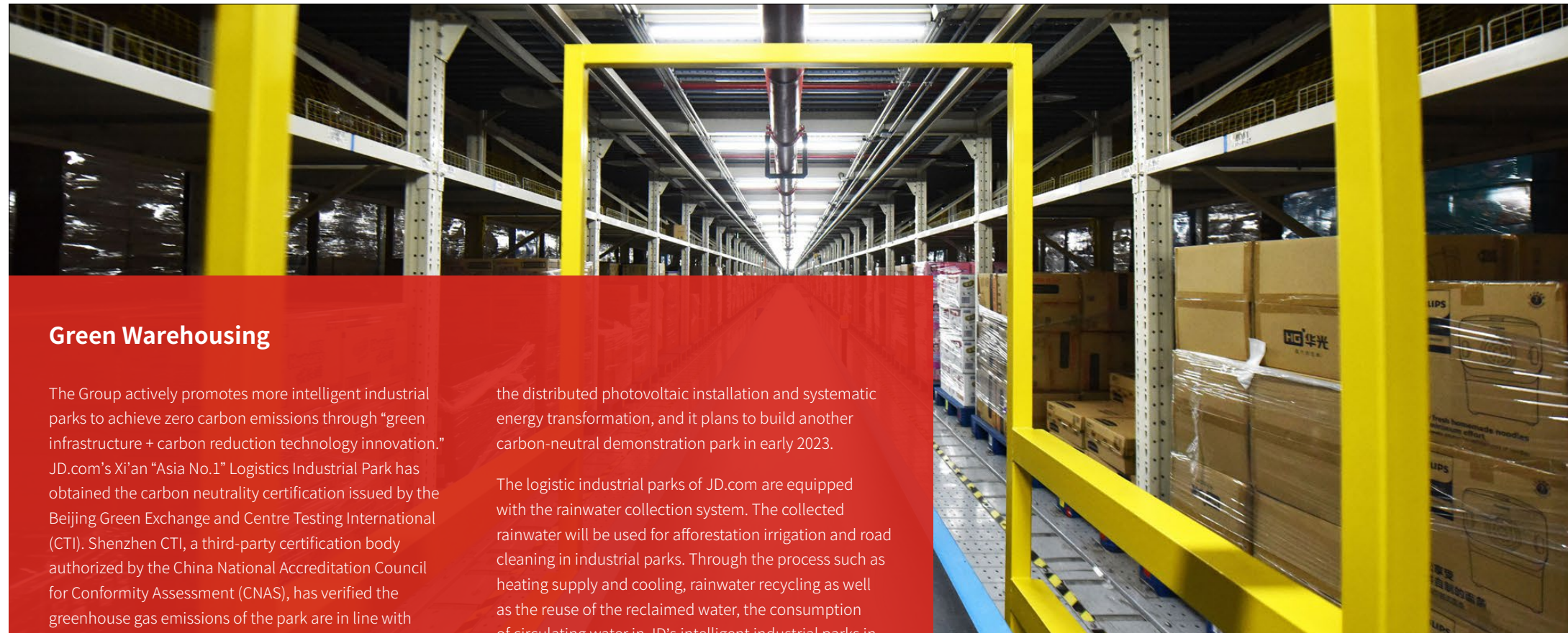


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During the Singles Day Grand Promotion in 2021, each parcel delivered to consumers reduced paper packaging materials by **210** grams.

Each parcel reduced disposable plastics by **11** grams and **25** centimeters of adhesive tape on average



Green Warehousing

The Group actively promotes more intelligent industrial parks to achieve zero carbon emissions through "green infrastructure + carbon reduction technology innovation." JD.com's Xi'an "Asia No.1" Logistics Industrial Park has obtained the carbon neutrality certification issued by the Beijing Green Exchange and Centre Testing International (CTI). Shenzhen CTI, a third-party certification body authorized by the China National Accreditation Council for Conformity Assessment (CNAS), has verified the greenhouse gas emissions of the park are in line with the international standard ISO14064. According to the verification results, the park has realized the application of a distributed photovoltaic power generation system and an energy storage system on the warehouse roofs and independently neutralized part of greenhouse gas emissions. With the support and guidance of the Beijing Green Exchange, the remaining emissions were offset by purchasing Chinese Certified Emission Reduction (CCER). Hence Xi'an "Asia No.1" Logistics Industrial Park has realized carbon neutrality in 2021, becoming the first "zero-carbon" logistics park in China.

Since 2018, JD.com had fully started the construction of a roof photovoltaic power generation capacity ecosystem, and comprehensively promoted the deployment and application of clean energy based on photovoltaic power generation in JD.com's smart industrial parks. By the end of 2021, JD.com had completed the installation of photovoltaic power generation systems in the first batch of 12 smart industrial parks. We expect to build a total photovoltaic power generation capacity of 1,000 MW in three years, which can provide adequate green energy for 85% of JD.com's smart industrial parks. In addition to Xi'an "Asia No.1," Suqian "Asia No.1" Smart Industrial Park, located in Jiangsu province, is also actively promoting

the distributed photovoltaic installation and systematic energy transformation, and it plans to build another carbon-neutral demonstration park in early 2023.

The logistic industrial parks of JD.com are equipped with the rainwater collection system. The collected rainwater will be used for afforestation irrigation and road cleaning in industrial parks. Through the process such as heating supply and cooling, rainwater recycling as well as the reuse of the reclaimed water, the consumption of circulating water in JD's intelligent industrial parks in China amounted to about 22,750 tons annually.

Regarding resource recycling, the management personnel of JD logistic industrial parks assign the roles and responsibilities of collection and recycling of different wastes to various divisions. The property management team is mainly responsible for domestic garbage, including a designated collection of harmful pollutants and classified garbage disposal. The staff canteen team takes care of the kitchen wastes. JD Logistics is responsible for recycling logistic waste such as packing boxes. With all efforts made, JD aims to minimize the impact of wastes on the ecological environment.

In addition, JD.com actively uses green supply chain technology to empower the green development of the industry. We provided the customized services for BMW Hefei to construct the regional aftermarket parts center, which has obtained LEED (Leadership in Energy and Environmental Design) certification. BMW Hefei Aftermarket Parts Distribution Center has become BMW's first "green warehouse" of aftermarket parts in China that meets LEED certification standards, providing an excellent model for green warehousing development.

JD.com Singles Day Grand Promotion Leads Sustainable Consumption

Shopping festivals, such as JD's Singles Day Grand Promotion, present great opportunities for us to promote environmental-friendly products and low-carbon logistics services. At the same time, we actively advocate the concept of sustainable consumption and a greener lifestyle.

In 2021, JD.com offered massive types of products that meet the "green consumption" standards during the Singles Day Grand Promotion. As of November 7, consumers had purchased more than 3.5 million energy-saving products and more than 400,000 water-saving products from JD.com.

On the aspect of logistics services, recycled packages were used 11.35 million times accumulatively during the shopping festival, which is equivalent to reducing the disposable garbage by 3,400 tons. At the same time, JD Logistics' all-chain carbon reduction measures throughout the logistics processes reduced carbon emissions by 26,000 tons during the event.



During the Singles Day Grand Promotion in 2021, JD Logistics' all-chain carbon reduction measures throughout the logistics processes reduced carbon emissions by

26,000 tons during the event

Green Transportation

To make the company's footprints on the road greener, JD Logistics has successively deployed new energy vehicles in more than 50 cities across the country to replace traditional fuel cargo vans. By the end of 2021, the number of new energy logistics vehicles reached 20,000, which can reduce carbon dioxide emissions by about 400,000 tons per year, equivalent to the annual carbon dioxide absorption by 20 million trees.

At the 2021 Global Smart Supply Chain Summit, JD Logistics launched the 5.0 version of autonomous delivery vehicles with markedly enhanced automation and speed performance. During JD.com Singles Day Grand Promotion, nearly 400 JD Logistics autonomous delivery vehicles were in service. These vehicles were distributed in over 25 cities across the country, and the number of delivered orders increased by over 200% compared with the same period of the last year. Autonomous delivery vehicles are incrementally becoming a vital supporting force in the last mile distribution and safeguarding the delivery of anti-epidemic supplies. In the coming two to three years, JD Logistics will continue developing and launching thousands of autonomous delivery vehicles to improve the user experience and logistics efficiency.



Part VI

Promoting Inclusive Development of the Society

JD.com supports rural revitalization through the "Benfu Plan." The Plan empowers SMEs with digital technology and develops various public welfare activities. It also facilitates the two-way flow of resource elements between urban and rural areas, which enables more people to pursue a better life and promotes an inclusive society.

京东年货村 让富平柿子走天下



Public Welfare Concept and Policy

JD.com supports charitable activities through JD Foundation. Based on the online public fund-raising platforms such as "Collecting Objective with Love" and "Nuan Dong Philanthropy," JD.com has launched a series of corporate philanthropy programs such as the "Book Sharing" Children's Book Donation program. The main focus areas cover rural revitalization, rural education, inclusive medical care, anti-epidemic and disaster relief, etc. In 2021, the total amount of JD Foundation's donation exceeded RMB 120 million. By leveraging their own business strength, all business units of JD.com actively pursue the company's philosophy for public benefit and conduct diversified activities to promote the well-being of society.



In 2021, the total amount of JD Foundation's donation exceeded RMB **120 million**

The Focus Areas of Philanthropic Efforts

We actively fulfill our social responsibilities in safeguarding people's lives, rural revitalization, education support, healthcare, and emergency relief by consistently conducting diversified philanthropic programs.

Survival Safeguard

By the end of 2021, the total number of JD.com's full-time employees reached 380,000. We secure the employment and livelihood of our employees and their families by providing essential welfare safeguards and rolling out a series of favorable welfare policies that are superior to the industry's average practices.



JD Rural Revitalization "Benfu Plan"

JD.com attaches great importance to serving the development of agriculture, rural areas, and farmers. We have been devoted to the nation's poverty alleviation since 2016. We positively contributed to the complete victory in fighting against poverty through a series of targeted alleviation efforts in rural areas, including supporting relevant industries, promoting consumption, enlarging employment, supporting entrepreneurship, giving donations, providing financial support, empowering technology infrastructure, strengthening the healthcare system, etc. JD.com has initiated and promoted the "Benfu Plan" since October 2020. By the end of 2021, the "Benfu Plan" had driven the production value in rural areas to reach RMB 320 billion, which helped millions of farmers increase their income substantially. We take full advantage of our smart and connected supply chain and are committed to interconnecting the rural industrial chains. JD.com well demonstrates its five core competencies in supply chain, logistics, technology, finance, and service in supporting the nation's rural revitalization strategy.



Empowering Rural Industrial Chain with JD's Supply Chain and Building the "Rural Revitalization Expressway" with Five Core Competencies

The promotion of the rural industrial chain is essential for accelerating rural revitalization. As of the end of December 2021, JD.com had cooperated with more than 1,000 agricultural specialties production zones and agricultural industry belts in China. Meanwhile, JD.com directly connected to more than 500 large-scale, high-quality vegetable planting bases and jointly built more than 70 modernized, standardized, and smart farms. By establishing more than 700 online pavilions for local specialties, JD.com helped farmers in remote or underdeveloped areas to expand market channels for their agricultural and handicraft products. At the same time, JD.com provided job opportunities for a significant number of migrant workers who returned to their hometowns. Meanwhile, JD.com guaranteed solid revenue to more than 200,000 rural families through stable income, social insurance, housing fund, etc.



JD.com guaranteed solid revenue to more than **200,000** rural families



Empowering All-Chain of Rural Revitalization by Digitalizing Agriculture and Constructing New Infrastructure in Rural Areas



By persistently strengthening our supply chain advantages in the countryside and sharing our solid capabilities in infrastructure construction and technology innovation, we set up the all-chain of rural revitalization that empowers rural industrial development. In 2021, JD Fresh collaborated with the China Geographical Indications Industry Associations (CGIIA) of 21 provinces, municipalities and autonomous regions in China, which advanced the sales and brand exposure of local landmark products such as Jiangsu Suqian Diwang Crabs, Fujian Ningde Big Yellow Crocker, Guizhou Xiuwen Kiwifruit, etc., and consequently helped agricultural specialty products to achieve scalable, high-quality, and brand-driven development.



JD Technology also fully boosts the sustainable development of rural revitalization. JD Technology assists multiple agricultural product brands such as Baishui Apples, Tongchuan Chinese Herbal Medicine, and Sichuan Meishan Citrus in achieving an industrial upgrade. By initiating the "Village Empowerment Action"⁹ through our Jingxi Farm¹⁰, we led over ten thousand farmers in eight provinces to reduce costs and increase income. This uplifted the average yield per mu by 10-20% and resulted in cost-saving of up to RMB 50-100 per mu every year (a mu=0.0667 hectares).



JD's private label brand HuiXun cooperates with Dida Agriculture in Shanhe Town of the Wuchang City in Heilongjiang province to develop a specialized product of pearl rice that is only ground after the order is placed. The cooperation between HuiXun and Dida Agriculture closely connects the very first and the very last kilometer in the logistics of agricultural products, which significantly shortens the product circulation process. JD.com's e-commerce platform stimulates product sales for local enterprises and simultaneously helps the local communities to generate more income. In the meantime, the new business model with a partnership between the e-commerce platform and brands also provides a demonstrating model that attracts local youths to start businesses back to their hometowns. In 2021, through cooperation with HuiXun, the purchase orders received by Dida Agriculture increased by 700%, while the logistics cost decreased by about 40%.



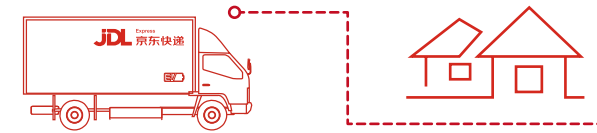
JD Health launched an online healthcare service, "Zhen Jing Cai," aiming to increase the accessibility of the medical supply chain in the rural areas, and promote the training of rural doctors. Zhen Jing Cai improved the digital intelligence capability of medical care institutions in rural areas and helped rural patients get diagnosed and receive timely medical treatment.

⁹ "Village Empowerment Action" is one of the specific programs in JD's "Benfu" Plan.

¹⁰ Jingxi Farm is a rural revitalization solution launched by JD's online consumption mall Jingxi.

Supporting the Supply Chain Construction in Central and Western China

We have significantly improved the effectiveness of our logistics delivery in remote areas by building "Asia No.1" Logistics Industrial Park in Urumqi, Yinchuan, Deyang, and other central and western regions of China.



Providing Insurance for Supply Chain of Agricultural Products

In 2021, led by JD.com, the AllianzJD Insurance Sichuan branch developed a demonstrating service model of rural revitalization in Xiuwen, Guizhou province. This project planned to provide agriculture-related insurance services for famous local kiwifruit, covering product liability insurance and price insurance. Furthermore, the project benefited the supply chain facilities such as production, warehouse, and logistics and helped rural revitalization in Xiuwen county by exerting JD's expertise in insurance.

Rural Education

We are committed to promoting education in poverty-stricken areas in China. Based on our public welfare platform of "Collecting Objectives with Love," we have taken on a series of corporate philanthropy programs by incorporating our smart and connected supply chain capability.

Children Books Donation Campaign

Since 2018, JD.com has jointly launched a Children Books Donation Campaign with Stars Youth Development Center (SYDC). Together with the People's Daily App, we further promoted this Donation Campaign in 2021. This campaign aims to help rural schools that lack book resources update their library collections, enrich the reading world of children in remote rural areas and improve local children's reading quality. In this event, JD's couriers pick up the books from donors for free and deliver them to the designated schools under the guidance of the SYDC. The Children Books Donation Campaign not only responds to the advocacy of "World Book Day," but also promotes book recycling and contributes to environmental protection. During the 2021 event, 67,608 valid children's books were donated to 119 project sites in 17 provinces, municipalities and autonomous regions through the JD Giving Platform.



During the 2021 event, **67,608** valid children's books were donated through the JD Giving Platform



联合发起: 京东公益 中华慈善 腾讯公益
联合倡导: 京东图书 京东读书 JDL 京东物流 拍拍

◀ Rural Children's Dreams-Come-True Plan

In 2021, JD.com joined hands with the China Social Assistance Foundation to launch the "Dreams-Come-True" public welfare activity, aiming to improve the living conditions for the children in Dayi Hope Primary School of Gaixin Village in Pu'er City of Yunnan province, Huanggang Primary School of Shuangjiang Township in Liping County, Qiangongnan Prefecture of Guizhou province, and Yuhua Hope Primary School of Datai Village in Fuping County, Baoding City of Hebei province. We helped the children to realize their dreams according to the "wish list" collected from all the school children, aiming to convey social values.

◀ SOS Children's Village in China

In 2021, we worked with several partnered brands to sponsor a gamification public welfare campaign, "JD Fun Festival." We donated various materials and services worth about RMB 967,000, including children's healthcare products, health consultations, household appliances, amusement park tickets, etc. We provided livelihood support for the children in SOS Children's Villages from remote regions, brought hope to hundreds of children who have lost their families and enabled them to feel warmth and care from the society.

Medical Health

By organizing thematic public welfare activities on international health days, JD.com advocates a healthy lifestyle and calls on the whole society to care for patients with various major diseases.

◀ JD Health's Rare Diseases Care Program

On the eve of the Rare Diseases Day 2021, JD Health launched the "Rare Diseases Care Program" and established the "JD Health Rare Diseases Care Fund" together with the Beijing Illness Challenge Foundation (ICF). By connecting forces from all walks of life, we build a one-stop solution platform integrating "medical consultation, medication, insurance, and public welfare," and provide comprehensive medicines and medical services for rare disease populations to help them alleviate three major barriers namely, the difficulty in accessing high-quality diagnosis and treatment, necessary medicines and financial support. In 2021, more than 24,000 patients with rare diseases purchased relevant medicines and obtained corresponding medication services from JD Health, and the Fund has aided 69 patients with rare diseases.

The "JD Health Rare Diseases Care Fund" has aided **69** patients with rare diseases in 2021

◀ "Oxygenate Life" Project for Pneumoconiosis Patients

On World Breath Day in June 2021, the JD Foundation and nonprofit organizations such as DaAiQingChen, launched public welfare science popularization activities, drawing the public's attention to respiratory health and care for pneumoconiosis patients. In addition to popular science activities, JD Foundation launched the second phase of the "Oxygenate Life" project, which sourced 15 oxygen generators and 200,000 masks to donate to pneumoconiosis patients.

◀ Joined Responsibility and Efforts on AIDS Prevention

Collaborating with the Chinese Foundation for the Prevention of STD and AIDS, JD Health launched a special event on World AIDS Day, introducing a one-stop anti-AIDS solution ranging from relevant knowledge sharing on HIV/AIDS prevention, to treatment, providing reliable healthcare services to all the people regardless of their conditions.

JD Foundation sourced **15** oxygen generators and **200,000** masks to donate to pneumoconiosis patients

Emergency Support

Over the years, JD.com has actively participated in disaster relief and epidemic prevention tasks by leveraging its unique strength in a smart and connected supply chain. As an enterprise with the capability to reserve living necessities for city-level supplies backed by a nationwide supply chain network, we can quickly respond to situations from regular times to emergencies. We have a stable and powerful supply chain which can provide the whole process of supply chain services from upstream production and procurement to last-

mile distribution. Our efficient digital command and dispatch system provides high efficiency supply services for emergency materials allocation. Our self-operated business can help stabilize prices in special periods, and it is the "stabilizer" of emergency support systems in various places. In 2021, JD.com fully leveraged its experiences in anti-epidemic and disaster relief and spared no effort to ensure an adequate supply of relief materials in disaster-stricken and epidemic-affected areas.

◀ Assist Regular Health Management When Epidemic Prevention Becomes Routine

- JD Health Free Online Consultation Services**
 JD Health also offered free online consultation services in these areas, so as to effectively meet people's urgent need for healthcare support.
- Intelligent Government Service Hotline**
 JD.com introduced a new generation of intelligent government service hotline, which supported the local governments with epidemic screening work during the outbreak of epidemic in Dongguan, Guangdong Province in December 2021, and completed the joint screening work in only 4 hours, serving millions of citizens in the city. And the feedback information was collected, analyzed, and assessed to generate detailed reports, which were used by city governors and relevant epidemic prevention and control departments as a piece of important information to carry out precise anti-epidemic measures.
- COVID-19 Vaccination Information Sharing Platform**
 JD Health upgraded its online reservation and onsite testing service of nucleic acid testing and launched the "COVID-19 Vaccination Information Sharing Platform" to help residents get timely vaccination information in their cities.
- Green Online Channel for COVID-19 Insurance Claim**
 AllianzJD opened the original-bill-free mode for minor claim cases during the epidemic period, and the green online claim channel is opened for all COVID-19 medical cases, which is of great significance under the global outbreak of COVID-19. AllianzJD also launched a series of innovative products and services for companies with a global business presence and provided relevant support for global transshipment and medical services for the COVID-19 epidemic cases. There were 1,197 COVID-19 related claims throughout 2021, with a total indemnity of RMB 11.34 million, including many overseas claims cases, and more than 95% of claims were settled through the green online channel.

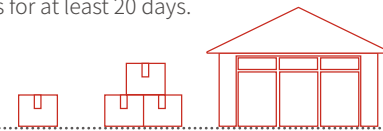


◀ Materials Supply and Transportation Support

JD.com highly values the timely supply of emergency materials in case of disasters, epidemics, and other major accidents. JD has made a commitment that the managers of JD's warehouses near the site of emergency are endowed with the authority to donate relief items needed by disaster areas from the warehouses without getting approval from upper management.

After the outbreak of flood disasters as well as the regional epidemics, JD.com kicked off the emergency mechanism immediately to exert the capacity of logistics infrastructure and ensure that living necessities and relief materials are delivered to the affected areas in a timely and efficient manner. During the flood season in Henan province, JD.com rapidly raised and transported several disaster relief materials to the disaster-stricken areas. On the anti-epidemic front line, JD.com's autonomous delivery vehicles undertook the heavy responsibility of ensuring the supply of livelihood materials in the epidemic control areas. And JD Health launched a 24-hour free online consultation service, provided emergency supplies of disinfection and epidemic prevention materials, and set up an offline medical rescue team to carry out onsite diagnosis and treatment.

JD Super, JD.com's omnichannel supermarket actively conducted the stock-taking with various brand owners and suppliers. The physical stores of our offline brand, such as SEVEN FRESH, replenished the livelihood supplies to ensure an adequate supply with stable prices in cities under the medium and high COVID-19 risks for at least 20 days.



Animal Protection

We actively cooperate with animal protection foundations as well as rescue stations and undertake philanthropic actions to ensure the pet food supply of stray animal rescue stations.



JD Pet worked with nonprofit organizations and various pet-caring brands to launch the "Warm Winter Care Plan" during the 2021 JD.com Chinese New Year Grand Promotion. The Plan donated 10,000 kilograms of pet food for stray animals.



JD launched the "Order for Philanthropy Project" in 2021. Consumers can convert every online purchasing order on JD.com into the caring energy to donate. JD and pet product brands will match the caring energy to donate the pet food and vaccination services to stray animal rescue stations. The project provided concrete help to the stray pets, helped reduce the homeless animals, and mitigated the related social problems as well.

JD.com has formulated the *Prohibited Goods and Information Management Standard for JD.com's Open Platform* according to the *Law of the PRC on Wildlife Protection*, the *Regulations of the PRC on the Implementation of Terrestrial Wildlife Protection*, the *Fisheries Law of the PRC*, as well as other relevant laws and regulations. The Standard prohibits the sale of animal killing tools, equipment, and accessories that seriously endanger animal safety, including electric fish traps, bird nets, hunting clips, stumble covers, etc. JD also sorts out the common illegal hunting and fishing tools by establishing a special team. The special team also adopts an interception strategy empowered by digital technologies, as well as takes manual inspections ensuring to interdict illegal commodities before, during, and after the illicit products occur on our platform. We delist all illegal items and effectively cut off the selling channels for illegal hunting and fishing tools on our platform, which help prevent the wildlife and fishery resource from being damaged and make our own contribution to the ecological environment protection.

◀ Supported Hong Kong for Epidemic Relief with Various Measures

JD announced a donation of RMB 100 million worth of anti-epidemic relief supplies to healthcare professionals in Hong Kong on February 18, 2022. JD also maintained close communication with the social organization "Hong Kong Community Anti-Coronavirus Link," to provide support whenever necessary in the fight against the pandemic resurgence in Hong Kong. Thanks to the rapid response mechanism of the strong supply chain system, the first batch of JD's donations of 6,000 cartons of epidemic prevention supplies successively arrived in Hong Kong on February 23, 2022. Furthermore, to meet Hong Kong residents' surging demand for anti-epidemic and life necessities, JD mobilized inventories and set up a special portal on its App to offer online shopping convenience for Hong Kong customers. In addition, JD Health launched a free online consultation service for users in Hong Kong to have easy access to healthcare advice from telemedicine doctors and multimedia guidance on coronavirus infection prevention.



Thematic Report on Climate-related Financial Information Disclosures

The crisis of climate change is threatening the safety of business assets and operations, while proactively tackling climate change can 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.com is committed to building a more productive and sustainable world. Relying on its business impact alongside the supply chain, JD.com is taking a leading role in engaging more partners in climate actions. In 2021, JD.com made a carbon reduction declaration to the whole value chain it operates in, established a green financial framework, and continued to expand the influence of the Green Stream Initiative. JD.com is accelerating its low-carbon development through technology, promoting the green transition of the industry, and leading the society towards greener consumption.

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.com disclosed its climate-related governance structure, the strategic process of risks and opportunities identification, risk management, and goals.

Governance

The Board's Oversight of Climate-Related Risks and Opportunities

The Board of Directors of JD.com has continuously promoted the governance of the company's climate-related risks and opportunities. The board of directors follows the company's ESG governance system structure and cooperates with the Strategy Execution Committee (SEC) to jointly manage, supervise, and regularly review the implementation and progress of the company's climate governance.

Management's Role in Assessing and Managing Risks and Opportunities

The SEC conducts daily supervision and reporting with respect to climate-related risks and opportunities governance. At the same time, the ESG Task Force of JD.com is responsible for coordinating the daily management of climate-related risks and opportunities and collaborating with the relevant responsible persons from business groups and units to implement and promote related work.

Strategy

In Different Climate Scenarios¹¹, the Forecast of Macro-Environmental Situation Confronted by JD.com

To better understand the potential impact of climate change on JD's business, JD.com conducted a climate scenario analysis for JD's 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).

¹¹ SSP1 and SSP3, i.e., emission scenarios under different climate policy interventions.

Table 1: Forecast of Macro-Environmental Situation that JD.com 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 ecology¹²	<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, most parts 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 environment¹³	<ul style="list-style-type: none"> Global climate policy: major countries and regions in the world have announced the carbon neutrality paths (including China's carbon peak by 2030 and neutrality goals by 2060) 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 as compared with that in 2020, and by more than 65% in 2030 as 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; and by 2030, the proportion of vehicles powered by new energy and clean energy will reach about 40%. Consumption trend in China: by 2025, the 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 long-term goals. Global business models: profit-driven business model, which fails to properly consider the environmental and social impacts, without obvious fluctuation in 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: as in 2025 and 2030, the carbon price keeps the same as that of 2021, which is RMB 49-56 per ton. 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 as that in 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.

¹² Sources: the sixth assessment report of the Intergovernmental Panel on Climate Change (IPCC) Working Group (WGI) and the CMIP6 climate model.

¹³ 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.com 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 our operation, supply chain, retail business, technological innovation, and investment and financing. We then identify the potential physical and transition risks in different climate scenarios. We define risks and opportunities as short-term (S), medium-term (M) and long-term (L) influence periods according to whether the risks and opportunities have affected the business and their impact cycles¹⁴.

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



Table 2: Potential impact of physical risks on JD.com business in high emission scenario (SSP3), risk identification and impact cycle

Strategic dimension	Impact dimension	Risk description	Physical risk classification	Impact Cycle
Operation	Infrastructure Failure	<ul style="list-style-type: none"> The frequency of extreme natural disasters such as extreme precipitation, 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 office buildings, smart industrial parks and data centers, and increases the cost for maintaining infrastructure such as warehouses and data centers. According to relevant statistic data, from 2000 to 2019, the frequency of flood disasters in China increased significantly as compared with the period from 1980 to 1999. In 2021, Henan and Shanxi Province suffered from extreme precipitation events¹⁵, which caused serious disasters and had an impact on warehousing and operation sites. Future sea level rise may force the infrastructure and business in coastal areas to relocate to inland areas, which will increase operating costs. 	<ul style="list-style-type: none"> Heatwave Flood Sea Level Rise Frequent Occurrence of Extreme Weather 	M L

Operation	Human Health Crises; Ecological Environment Damage	<ul style="list-style-type: none"> The increased risk of infectious diseases¹⁶ and air pollutants caused by climate change will affect the health and safety of employees, especially front-line employees. Increased heat weather events will reduce the working efficiency of employees of JD.com, endanger health and safety, and increase high temperature subsidies and medical expenses. With the increasing frequency of drought disasters, the consequent wildfires will cause heat damage. The smoke and dust will harm public health. For example, compared with the period 2001-2005, the annual average wildfire exposure¹⁷ in China for the period 2016-2020 increases by 24.5%¹⁸. If JD.com's suppliers, customers or business partners are threatened in respect to health and safety, JD.com's operation may be interrupted and damaged. 	<ul style="list-style-type: none"> Biodiversity Loss Heatwave 	S M L
Supply chain management	Infrastructure Failure	Floods, typhoons, thunderstorms, higher frequency of extremely high/low temperature weather caused by climate change will increase the possibility of damage to logistics infrastructure (including business-related facilities, regional order fulfilment centers, front-end distribution centers, other newly-established warehouses, distribution stations or self-pickup outlets, and road facilities), which will lead to the reduction of operational efficiency or even failure of regional order fulfilment centers, and subsequently a negative impact on commodity transportation, delivery and sales of goods. For example, severe rainstorm and flood will damage the logistics planning of route, storage and transportation network, and the battery components of transport vehicles may be damaged due to heatwave or extreme cold weather, which will affect the express delivery efficiency and the enterprise income.	<ul style="list-style-type: none"> Heatwave Flood Frequent Occurrence of Extreme Weather 	M L
	Ecological Environment Damage; Nature Resource Crises	The flood, typhoon, thunderstorm, and high frequency of extreme high/low temperature weather caused by climate change will affect the supply and transportation of raw materials, which will lead to the higher price of raw materials or the challenge to commodity supply and inventory. Seasonal commodities such as rain gear and quilts will adversely affect the profitability and business performance of JD.com's brands and partner businesses. For example, the offline fresh stores operated by JD.com's 7FRESH rely on continuity and timeliness of various suppliers and sellers in providing and distributing JD.com's storage of perishable products. However, if major suppliers or sellers encounter extreme weather events, and the production and quality of agricultural products decline, JD.com's product inventory may be seriously damaged, thus affecting the whole supply chain.	<ul style="list-style-type: none"> Heatwave Flood Frequent Occurrence of Extreme Weather 	S M
Consumers/users	Ecological Environment Damage	Climate change leads to the destruction of the ecological environment and brings challenges to food chain operation as well as food safety and quality, consequently reducing consumer satisfaction and increasing potential health risks. For JD.com, the cost for restoring consumers' satisfaction and protecting their rights and interests will also increase accordingly.	<ul style="list-style-type: none"> Biodiversity Loss 	S M

¹⁴ As defined in this topic, short-term is designated for less than 2 years, medium-term for 2-5 years, and long-term for more than 5 years.
¹⁵ Source: 2021 Lancet Countdown Annual Report on Population Health and Climate Change, China Edition released by the Lancet Countdown Regional Centre in Asia.
¹⁶ Source: "May Coronavirus pneumonia exist for a long time?" released by UNEP in 2020
¹⁷ Average number of days per year that people are exposed to wildfires.
¹⁸ Source: 2021 Lancet Countdown Annual Report on Population Health and Climate Change, China Edition released by the Lancet Countdown Asia Center.

- Low emission scenario (SSP1), potential impact of transition risks on JD.com business, risk identification, and impact cycle.

In respect to the risk of business transformation caused by JD's climate actions, the tightening of macro policies in the low emission scenario and the holistic low-carbon transformation tendency may bring enterprises more potential policy restrictions, which will affect JD.com's operation and income.

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

Table 3: Climate-Related Transition Risks and Strategic Dimension, Risk Description, Classification and Impact Cycle of JD.com in 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 mechanism and shifting to renewable energy); "Opinions of the Central Committee of the CPC and the State Council on 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 neutrality and emission peaking goals in key domains, industries and regions, as well as the transition trend of regionalization and industrialization.	<ul style="list-style-type: none"> • Policy and Legal 	<p>S M</p> <p>L</p>
Supply chain management	<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 in strengthening compliance management and promoting the transformation in time, the logistics business of JD.com 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.com 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 whole 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.com. • Industrial parks: "The Implementation Plan for Special Action of Green Development of National High-tech Zones" points out that it is necessary to cooperate with industrial parks in urban energy green transition and maximize the use of clean energy and recycling-targeted transformation of parks to build a low-carbon city and develop a low-carbon economy. <p>Laws and regulations related to green supply chain are increasingly strict.</p>	<ul style="list-style-type: none"> • Policy and Legal • Technology 	<p>S M</p>

Supply chain management	Pressure from the supply side	With the tightening of the national policy on dual control of energy consumption intensity and total amount, the power consumption of high-energy-consuming enterprises is limited, and the electricity price is increased, and the excessive response to energy transition will impact the energy market. The supply of high-energy-consuming industrial products will shrink, and enterprises in key emission industries will face the pressure of capacity contraction, which may lead to the price increase of raw materials and the adjustment of industrial structure. Some suppliers of JD.com will also be potentially affected, and directly manifested in poor supply and rise of purchase prices.	<ul style="list-style-type: none"> • Policy and Legal • Technology <p>S M</p>
	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 consumption preferences have shifted, with more attention paid to the low-carbon attributes of commodities; and the younger generation attaches importance to the social value of enterprises when looking for jobs. Shifts in market preferences (such as consumer preferences, supply and demand) may lead to an increase in consumers' demand for environmentally friendly products, which in turn will lead to potential cost increase, including but not limited to the cost caused by changes in manufacturing technique, processes and facilities, or the cost increase in raw materials, etc. If we lag behind our peers in grasping the direction of market changes, we may lose revenue and market share. For example, "the Notice of the General Office of the Ministry of Commerce on Promoting the Green Development of E-commerce Enterprises" encourages e-commerce platforms to actively promote green consumption and expand sales of energy-saving, environment-friendly and green products.	<ul style="list-style-type: none"> • Market • Reputation • Policy and Legal <p>S M</p> <p>L</p>	
Technological progress and application	Driven by policies, the superposition effect of the "dual revolution" of information technology and energy technology will be further revealed, and 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.com 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 infrastructure, such as data center efficiency, artificial intelligence, industrial internet, etc. Without implementing that, JD 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 and development and application of technologies.	<ul style="list-style-type: none"> • Technology • Policy and Legal • Reputation <p>M L</p>	
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 system for green credit, supervision, and rating management. By the end of 2021, the central bank had successively launched tools for supporting carbon emission reduction and refinancing for clean and efficient utilization of coal 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 dimension of consideration, is developing rapidly. If JD.com fails to timely and quantitatively assess the climate-related risks and comprehensively evaluate the systematic impact of low-carbon transformation on business, it may lose some potential investment and financing opportunities.	<ul style="list-style-type: none"> • Policy and Legal <p>M L</p>	

Transition Opportunities in Response to Climate Change

JD.com insists that green development is the main driver for the high-quality development. We aim to seize the opportunity of a new wave of the scientific and technological revolution and industrial market transformation in the process of transforming to a low-carbon economy and provide more efficient and innovative solutions to tackle global climate risks through our technological innovation.

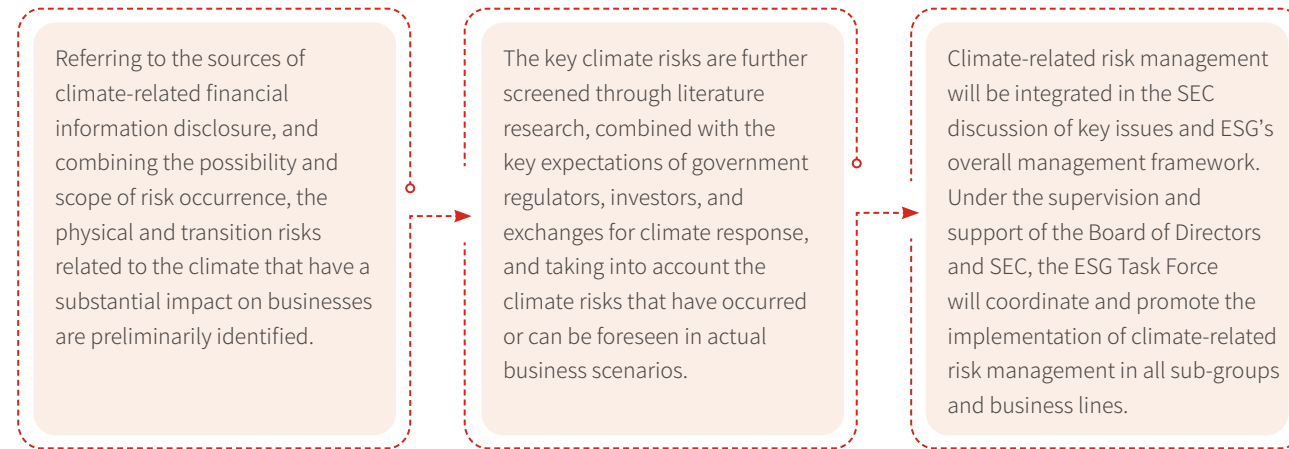
Table 4: Strategic Direction, Transition Accomplishment, Classification and Impact Cycle Under the Background of Low-Carbon Economic Transformation of JD.com

Strategic direction	Opportunity and strategy	Transition accomplishment	Classification	Impact cycle
Green operation	Develop photovoltaic industrial parks	In 2021, JD.com has completed the construction of the first batch of 12 photovoltaic power generation systems for "Asia No.1" smart industrial parks, and another 1,000 megawatts of photovoltaic power generation capacity is expected to be built in three years by JD.com, providing green energy for 85% of JD.com smart industrial parks. Photovoltaic power generation can provide abundant, clean, and safe energy sources. Under the requirement of carbon neutrality, the market space of photovoltaic industry will gradually expand.	• Energy source	M
	Promote green finance	JD.com has formulated the Green Finance Framework, which systematically demonstrates the principles and processes of green finance in funding sustainable development projects. At the end of 2021, a five-year \$2 billion green syndicated loan was signed. Green financing can facilitate the projects that have positive environmental impacts and promote sustainable practices, so as to support the Group's green and sustainable development strategy.	• Markets	M
	Monitor the climate risks by using big data	JD.com will further explore new data management methods to provide early warning and decision-making support for the potential harm to employees when working in severe weather and the fluctuation of business volume caused by the concentration of social demands in extreme weather. On the other hand, extreme weather may increase employees' demand for remote work, and we will improve the performance of the data system to meet this demand. Through data-enabled and system-supported measures, the management risks caused by climate change can be reduced, and the internal management efficiency of the organization can be improved.	• Resilience	L
	Build infrastructure with climate resilience	<ul style="list-style-type: none"> When constructing JD.com's new headquarters buildings NO. 2 and NO. 3 and its Southwest China headquarters office buildings, the designers fully considered the possible influence of extreme weather on the buildings. The concept of sponge city design is adopted to maximize the natural infiltration of rainwater, replenish groundwater resources, where rainwater storage tanks are set up to reduce the drainage pressure of municipal rainwater system. In JD.com's Smart Industrial Parks, emergency response plans are formulated for all kinds of extreme weather, including but not limited to wind-proof appliance for typhoon and windy weather, heavy rain flood control, snow sweeping and anti-freezing for blizzard weather, lightning shielding and detection for lightning weather, etc. Plans for dealing with extreme weather have been made for JD.com's Data Center. It is capable of weathering typhoons, lightning, rainstorms, and high temperature respectively. Infrastructure construction with more climate resilience can not only effectively resist climate disasters, but also make full use of natural resources, reduce water and electricity consumption of buildings and greenhouse gas emissions. At the same time, it helps reduce costs and meet the requirements of environmental supervision for emissions. 	• Resilience	S M

Supply chain	Develop new energy vehicles and optimize transportation routes	<ul style="list-style-type: none"> As of April 2021, JD.com has deployed new energy 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. By 2030, JD.com will replace and upgrade 100% logistics vehicles with new energy logistics vehicles. JD.com uses big data to allow real-time route optimization, and warehouse and transportation network planning, to reduce the number of vehicles en route and improve the full-load rate of returning vehicles. Some freight transportation modes are changed from road transportation to railway transportation, and the green transportation pattern is fully implemented to optimize the logistics transportation efficiency. 	• Resource efficiency	M L
	Promote green reusable logistics packaging	<ul style="list-style-type: none"> For logistics packaging, we are committed to promoting 100% renewable and replaceable packaging, replacing traditional petroleum-based plastic bags with packages made of green degradable materials, aiming to engage 80% of upstream partner brands by 2030 to conduct eco-friendly packaging research and development. By continuously promoting the recycling of packaging, under the "Green Stream Initiative," the reusable packages have been used for 200 million times, and through the linkage of more than 200,000 merchants, this action saves 10 billion delivery cartons every year. It has driven hundreds of millions of consumers to participate in this initiative, effectively reduced the cost of packaging materials, and raised public awareness of recycling. 	• Resource efficiency	M L
	Improve the resilience of supply chain	For commodities with sales vulnerable to extreme weather and climate change, such as seasonal commodities like umbrellas, rain gear, quilts, etc., it is necessary to timely adjust inventory according to weather changes to avoid out-of-stock or dull of sale; and for primary products of agriculture, forestry, for instance, an annual purchasing plan shall be made, ensuring at least one year's supply, and increasing the cold storage space.	• Resilience	S M
Consumer/user	Introduce green products and services	JD.com offers massive types of "green commodities" to customers. Through intelligent recommendations to guide green consumption, the energy-saving appliances sold every year can reduce carbon emissions by nearly 2 million tons. As one of the first batch of national pilot companies, JD.com has fully implemented the practice of electronic invoicing. According to statistics, in 2021, more than 2.8 billion electronic invoices were issued by JD.com, thus saving about 16,000 tons of paper, equivalent to less felling of over 310,000 adult trees and reducing carbon emissions by 15,000 tons. The supply of green products and services can help shape the concept of green sustainable consumption, while strengthening JD's branding and market value in supplying green products.	• Products/services	S
	Provide energy-saving and carbon-reducing services for enterprises through digital intelligence	The demand for professional consulting regarding the nation's carbon peak and neutrality goals from the government and enterprises, as well as establishing a digitalized carbon neutrality platform will gradually expand in the future. JD Industry takes the advantages of technologies such as internet of things, big data and artificial intelligence to develop digital intelligent "dual-carbon brains" for the government and industrial parks respectively. Combining the competences in industrial supply chain and industrial internet technology base and integrating the databases encompassing the energy, carbon emissions, carbon footprint and carbon emission factors, we conduct real-time monitoring and analysis of energy consumption and carbon emission data. We also track the nation's carbon peak and neutrality goals accomplishing process through the analysis of energy structure and industry benchmarking and enable the industry to achieve the high-quality management in energy conservation and carbon reduction.	• Products/services	M L

Risk Management

JD.com's Process of Identifying, Assessing and Managing Climate-Related Risks



Comprehensively Coordinate Enterprise Risk Management

- Incorporate climate-related risks into JD.com's overall risk management system.
- Further quantify the actual impact of climate change on operations, governance, and finance.
- Risk management framework integration by unifying grading setting and centralizing the management.

Metrics and Targets

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

Table 5: JD.com's 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 the Group level	<ul style="list-style-type: none"> Incorporate climate change into the company's overall strategy framework 	Preliminarily establish strategic framework in 2022
	Identify the value proposition and impetus for JD on climate actions	<ul style="list-style-type: none"> Strengthen climate adaptability and resilience Strengthen competitiveness <ul style="list-style-type: none"> Cost reduction Attraction to new type of talents Promote product and business innovation Income growth Strengthen social recognition <ul style="list-style-type: none"> Support climate public governance and obtain new business growth scenarios Improve reputation Expand social influence <ul style="list-style-type: none"> Gradually shaping consumers' purchasing preferences 	Establish and clarify the value proposition and impetus of climate actions by the end of 2023
	Quantify the impact of climate action on value proposition	Evaluate the company's financial performance attributed to climate action based on 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 sorting of climate-related risks in this report, more key departments should participate in risk assessment and grading	Establish a substantial climate-related risk management system in JD.com to rate various risks by the end of 2023
	Quantify the financial impact of climate risk	Make quantitative statistics for the financial impact of high-level risks based on risk rating	
	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	Conduct a comprehensive greenhouse gas accounting	Determine the boundary and scope of greenhouse gas accounting, and conduct a comprehensive greenhouse gas accounting	In preparation
	Establish the carbon emission reduction targets at the group level	Establish and announce the carbon emission reduction targets at the group level	In preparation

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 issues Management structure: the Board of Directors and SEC will cooperate in supervision and management, and the ESG Task Force will coordinate the implementation of climate objectives in each sub-group and business lines 	In 2022, relying on the updated ESG governance structure, the management of climate-related issues will be clarified	
	Establish a climate governance mechanism	<ul style="list-style-type: none"> Segment the Group's carbon emission reduction targets and establish management metrics Clarify the roles and responsibilities among sub-groups and various business lines Establish a climate-related performance evaluation system Strengthen the recruitment and training of climate-related talents 	<ul style="list-style-type: none"> Start to establish the climate-related management metrics by the end of 2023 Starting from 2024, JD will establish climate-related performance evaluation system Starting from 2022, we will make continuous efforts in relevant talents' hiring and training 	
Promote carbon emission reduction actions 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 for office space Improve the use of energy-saving facilities Encourage remote work Encourage 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 data center	<ul style="list-style-type: none"> Using natural cold sources Clean energy, including energy recovery and large-scale distributed photovoltaic power generation system Energy storage and cold storage Architectural layout and design for low energy consumption O&M management platform More climate resilience, effective resistance against extreme weather risks 	<ul style="list-style-type: none"> PUE continues to be improved on the basis of 1.1 Infrastructure energy consumption continues to decrease The total amount of carbon emissions continues to decrease Climate resilience continues to improve
		Expand the financing scale of low-carbon projects	Based on the published framework, principles, and processes of green finance, we will continuously identify low-carbon projects and expand the intensity and scale of green finance	Identify more projects with low carbon competitiveness and expand the scale of green financing
	Low-carbon supply chain	Low-carbon transportation	<ul style="list-style-type: none"> Full coverage of new energy vehicles Fully apply digital smart technology and optimize route, storage, and transportation network planning Optimize transportation structure and energy efficiency 	In the coming two to three years, JD.com will continue to develop and deploy thousands of autonomous delivery vehicles, continuously improve customers' experience and service efficiency, aiming to achieve 100% new energy for logistics vehicles by 2030

Promote carbon emission reduction actions in all business scenarios	Low-carbon supply chain	Low-carbon logistics park	<ul style="list-style-type: none"> Energy substitution: maximize the use of renewable power, such as distributed photovoltaic and efficient energy storage Efficient operation: automatic operation + full electrification of park energy consumption Online O&M system of the solution to carbon neutrality goals in smart logistics park 	<ul style="list-style-type: none"> Xi'an Industrial Park has become the first certified "carbon neutrality" industrial park in China's logistics industry, and the Suqian Industrial Park is expected to be officially certified in 2023 As of the end of 2021, JD.com had completed the construction of photovoltaic power systems in the first batch of 12 smart industrial parks. We are expected to build a total photovoltaic power generation capacity of 1,000 MW in three years, which can provide green energy for 85% of JD.com smart industrial parks
		Low-carbon packaging	<ul style="list-style-type: none"> Promote reusable packaging Packaging reduction Packaging material innovation Application of digital intelligence technology Upstream and downstream collaboration Reusable packaging sharing and recycling public system 	<ul style="list-style-type: none"> Packaging materials will be 100% environment-friendly and renewable by 2030 Motivate more than 80% of upstream brand enterprises to develop eco-friendly packaging
	Participation of the whole value chain in carbon emission reduction actions	Suppliers' collaborative effort in carbon emission reduction	<ul style="list-style-type: none"> Lead the suppliers to participate in the establishing and implementing carbon reduction targets 	<ul style="list-style-type: none"> By 2025, to promote 50% suppliers of JD Logistics to participate in the Science Based Targets initiative (SBTi) Actively encourage upstream and downstream suppliers to use new energy vehicles
		Promote low-carbon consumption	<ul style="list-style-type: none"> Participate in the formulation of national standards for low carbon product Expand the supply of low-carbon products Strengthen low-carbon consumption and lifestyle campaigns 	Based on massive types of "green commodities," JD.com will continue to expand the supply of low-carbon commodities and the scale of low-carbon consumption market
Information disclosure	Conduct annual climate-related information disclosure	Promote industrial low-carbon development	Based on digital smart supply chain infrastructure and digital technology capabilities, JD provides intelligent solutions for the low-carbon transformation of real economy enterprises	JD will continue to explore our new business and profit models by technologically empowering the low-carbon transition of traditional industrial enterprises
		Conduct annual review and disclosure of climate-related risks and opportunities	<ul style="list-style-type: none"> Conduct disclosure and reporting of our climate targets and accomplishment process 	Starting from 2022, JD.com will continue to release TCFD reports

About the Report

Key Performance

Note: The tables of 2021 JD.com's 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 guidelines issued by GSSB, and the greenhouse gas accounting boundary of JD.com 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 ¹⁹	Data	Unit
Emissions of Air Pollutants	Nitrogen oxide	1,630,818.23	Kilogram
	Sulphur oxide	1,271.43	Kilogram
	Particulate matter	128,690.16	Kilogram
Greenhouse Gas (GHG) Emissions ²⁰	Direct (Scope 1) GHG emissions	238,774.90	Ton
	Energy indirect (Scope 2) GHG emissions	271,067.08	Ton
	Other Indirect (Scope 3) GHG emissions	1,906,566.66	Ton
Waste Produced	Total non-hazardous waste	32,340.85	Ton
Use of Resources	Natural gas consumption	428,571.43	Cubic meter
	Diesel fuel consumption	77,155,551.87	Liter
	Liquefied petroleum gas consumption	1,633,650.00	Kilogram
	Towngas consumption	118,615,531.59	Megajoule
	Charcoal consumption	1,038,549.00	Kilogram
	Gasoline consumption	1,823,837.71	Liter
	Electricity use	443,819,216.26	Kilowatt-hour
	Water consumption	5,046,291.19	Ton
	Total packaging material used for finished products ²¹	222,022.85	Ton
Packaging materials used per product ²²	52.07	g/piece	

¹⁹ For the calculation method of 2021 environmental key performance indicators, reference is made to the *Reporting Guidance on Environmental KPIs* issued by Hong Kong Stock Exchange.

²⁰ "Direct (Scope 1) and indirect (Scope 2) GHG emissions" statistics include administrative offices, logistics and transportation, warehousing, data centers and major construction projects in 2021. Due to the data availability, "other indirect GHG emissions (Scope 3)" statistics in the table include the employee shuttle buses and fossil fuel combustion and electricity use of some investment portfolios in JD.com, as well as emissions from JD Logistics and other sources.

²¹ The total packaging material used for finished products is provided by JD Logistics, including major logistics packaging consumables such as waybills, express delivery envelope, plastic film packaging bags and other minor packaging consumables.

²² The data of "Packaging materials used per product" is provided by JD Logistics, and the calculation method is total packaging material used for finished products/total number of packages.

Defining the GHG Accounting Boundary of JD.com

JD.com discloses greenhouse gas emissions in strict accordance with the environmental requirements of HKEX (Table 2). We disclose the greenhouse gas emissions generated by the Group's own operations (Scope 1 and Scope 2). Concurrently, as a new type of real economy enterprise and a leading retail enterprise, we are also aware of the huge carbon emission reduction potential in our complex supply chain. Therefore, to better promote the low-carbon transition of JD.com's supply chain, we further expand our disclosure of Scope 3 emissions for the first time, that is, other indirect emissions generated in the value chain other than JD.com's operations. We will also continue to improve our GHG accounting system, include more Scope 3 categories, and fully disclose the emissions from upstream and downstream enterprises of the Group.

Table 2: GHG Accounting Boundary of JD.com

	Definition	Business Activity
Scope 1	<ul style="list-style-type: none"> Operation facilities owned or rented by JD.com, including but not limited to all kinds of fossil fuel emissions consumed by business activities such as heating, cooling, and power supply in office buildings and staff cafeteria GHG emissions from fuel combustion used in land, air, and water transportation GHG emissions from the operation of equipment and systems Carbon sinks (absorption of greenhouse gases) generated by newly planted trees 	<ul style="list-style-type: none"> Fossil fuel combustion from engines, cafeterias, and vehicles in the logistics parks Fugitive emissions of the refrigerants from air conditioners in the office and cold chain logistics vehicles of JD.com Newly planted trees
Scope 2	<ul style="list-style-type: none"> Carbon emissions from electricity purchased for the Group's operation 	<ul style="list-style-type: none"> Electricity use of JD.com in office buildings, retail stores, logistics parks, data centers, and other operating places, as well as the purchase of electricity for new energy logistics vehicles
Scope 3	<ul style="list-style-type: none"> Other indirect emissions generated in the value chain outside the Group's internal operations 	<ul style="list-style-type: none"> Goods and services purchased by JD.com (logistics packaging) Upstream and downstream transportation and distribution services of third-party logistics Employee travel and commuting Investment assets operation

Table 3: 2021 Green Office Operation Performance

Category	Indicator	Quantity	Unit	
New Energy and Emission Reduction Performance	Carbon emissions reduced by electronic invoicing	145,694	Ton	
	Carbon emissions reduced by electronic filing	2,602	Ton	
	Carbon emissions reduced by using new energy employee shuttle buses	742.26	Ton	
	Carbon emissions reduced by paperless new employee onboarding process	52	Ton	
	The mileage of electric vehicle for employee transportation	3,233,289	Kilometer	
	Carbon emissions reduced by using electric vehicles in employee commuting	258.66	Ton	
	Paper documents saved by paperless office	2,499,999	Number of documents	
	Joymeeting Online		1,626,711	Number of online meeting sessions
			29,418,076	Cumulative number of participants
			327,984	Online meeting hours
	Server optimization	Optimized servers	179	Number of servers
		Electricity saving	470,000	Kilowatt-hour
		Amount saved	560,000	RMB
		Carbon emission reduction	286.70	Ton
	Remote work by using VPN	9,213,820	Number of VPN logins	
	New energy vehicles used in administrative activities	80	Number of vehicles	
	Electricity saving in the office of data center	797,103	Kilowatt-hour	
Carbon emissions reduction due to other green transformation and technology in data center ²³	1,847.05	Ton		
Water Use Efficiency and Water Saving Performance	Water saving in data center	21,408	Cubic meter	
	Water circulation in the office of data center	325	Cubic meter	

²³ For "Carbon emissions reduction due to other green transformation and technology in data center," energy-saving measures mainly include sealing of cold and hot passages, use of energy-efficient equipment, optimized planning of loading scheme, transformation of intelligent cold water automatic control, etc.

Table 4: 2021 Social Key Performance

Category	Indicator	Quantity	Unit
Employment²⁴	Total number of full-time employees	383,084	Person
	Total number of part-time employees	43,735	Person
	Percentage of male employees	75.39	%
	Percentage of female employees	24.61	%
	Percentage of male employees (excluding front-line employees)	62.25	%
	Percentage of female employees (excluding front-line employees)	37.75	%
	Percentage of employees aged under 30	40.80	%
	Percentage of employees aged 30-50	58.18	%
	Percentage of employees aged above 50	1.02	%
	Total number of management staff	15,319	Person
	Number of male management staff	13,314	Person
	Number of female management staff	2,005	Person
	Number of management staff aged under 30	3,430	Person
	Number of the management staff aged 30-50	11,762	Person
	Number of the management staff aged above 50	127	Person
	Percentage of female senior management staff ²⁵	25	%
	Basic salary ratio of full-time male and female employees (excluding front-line employees)	1.04	N/A
Remuneration ratio of full-time male and female employees (excluding front-line employees)	1.13	N/A	
Health and Safety	Lost days due to work injury	53,227	Day
	Frequency of health and safety training	2	Twice a year
	Percentage of employees covered by health and safety training	100	%

²⁴ The "total number of full-time employees" and "total number of part-time employees" in employment data is calculated on the number of employees of listed and non-listed companies under JD.com. The statistics about gender, age and position are only available for full-time employees of the Group.

²⁵ The statistical method of "percentage of female senior management staff" is the number of female senior managers/the total number of senior managers in JD.com, and for the data source, please refer to <https://ir.jd.com/zh-hans/management>.

Category	Indicator	Quantity	Unit
Development and Training	Percentage of employees trained	74	%
	Percentage of trained male employees in total male employees	76	%
	Percentage of trained female employees in total female employees	70	%
	Percentage of trained management staff in total management staff	97	%
	Percentage of trained general employees (excluding management staff) in total general employees	73	%
	Total training time for all employees	20,855,445.41	Hour
	Total training time for all male employees	16,678,108.21	Hour
	Total training time for all female employees	4,177,337.21	Hour
	Average training hours per male employee	57.75	Hour
	Average training hours per female employee	44.31	Hour
	Average training hours per full-time employee	54.44	Hour
	Total number of employees that attended anti-corruption training	319,093	Person
	Percentage of employees that attended anti-corruption training ²⁶	98.80	%
Total training hours for women's vocational empowerment and leadership programs ²⁷	10,910	Hour	
Product responsibility	Number of incidents violating the health and safety regulations of customer-oriented products and services	0	Case
Anti - corruption ²⁸	Number of public lawsuits against company or employee for corruption	0	Case
	Filed and investigated corruption cases	12	Case
	Number of incidents in which employees were fired or punished due to corruption	69	Case
Community investment	Charity donation ²⁹	1.2	In hundred million yuan

Table 5: 2021 Supplier Management Key Performance

Category	Indicator	Quantity	Unit
Supply Chain Management	Total number of suppliers ³⁰	4,690	Number of suppliers

²⁶ The statistical scope for "percentage of employees that attended the anti-corruption training" is as of April 2021, according to the online sign-in data of full-time employees and except the ones who are in pre-dismission, maternity leave and long-term leave.

²⁷ "Training for women's vocational empowerment and leadership programs" has a cumulative training duration of 10,910 hours, with a total of 10,368 participants.

²⁸ Among the anti-corruption data, the statistics of "filed and investigated corruption cases" and "number of incidents in which employees were fired or punished due to corruption" are based on JD.com's "commercial bribery, occupation and employee fraud" incidents (excluding JD Logistics and JD Health).

²⁹ "Charity donation" is based on the statistics of the 2021 annual work report of JD Foundation.








³⁰ The statistical scope for "total number of suppliers" refers to suppliers who received pre-winning bids in the procurement business of JD.com's Procurement and Cost Department.

JD's Progress on the United Nations Global Compact

The United Nations Global Compact is a voluntary strategic initiative advocated by the United Nations to promote enterprises' operation and strategy to meet ten fundamental principles in four areas of human rights, labor, environment, and anti-corruption. JD.com became a member to the United Nations Global Compact in September 2021. We recognize and support the ten principles and incorporate them into our corporate strategy, values, and daily operations. At the same time, we hope to cooperate more closely with the United Nations, especially on the sustainable development goals.

Category	Principle	Corresponding Chapter
Human rights	Principle 1: businesses should support and respect the protection of internationally proclaimed human rights	Employment and Labor Standards
	Principle 2: make sure that they are not complicit in human rights abuses	
Labor standard	Principle 3: businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	Internal Communication Mechanism of Employees
	Principle 4: the elimination of all forms of forced and compulsory labor	Employment and Labor Standards
	Principle 5: the effective abolition of child labor	
	Principle 6: the elimination of discrimination in respect of employment and occupation	
Environment	Principle 7: businesses should support a precautionary approach to environmental challenges	Green Operation Low-Carbon Supply Chain Thematic Report on Climate-related Financial Information Disclosures
	Principle 8: undertake initiatives to promote greater environmental responsibility	ESG Governance Structure Sustainable Development Strategic Framework Identification and Management of Environment and Social Risk of Suppliers Thematic Report on Climate-related Financial Information Disclosures
	Principle 9: encourage the development and diffusion of environmentally friendly technologies	Green Operation Low-Carbon Supply Chain Thematic Report on Climate-related Financial Information Disclosures
Fight against corruption	Principle 10: businesses should work against corruption in all its forms, including extortion and bribery	Anti-Corruption and Integrity Compliance

United Nations Sustainable Development Goals (SDGs) Response

SDGs	Our Actions
	<p>In response to China's vision of rural revitalization, we continue to promote JD.com's "Benfu Plan." By giving full play to our five core competencies of the supply chain, logistics, finance, service and technology, we join hands with all sectors of society to build an "expressway" for rural revitalization. By taking advantage of the business capabilities of JD Retail, JD Logistics, JD Technology, JD Health and Jingxi, we focus on developing the signature projects such as "JD.com's Campaign of Rural Revitalization · Featured Products from Thousands of Rural Counties," "Delivery within 24 hours for Thousands of Rural Counties and Towns," rural digital smart service system, "Zhen Jing Cai" medical consultation service, and "Village Empowerment Action," and continue to get rooted in the countryside and share solid infrastructure and innovative technical services, so as to realize the digital-reality integration and empower the "full chain" of rural revitalization. At the same time, with the help of JD Giving Platform, we have launched a series of public welfare activities such as "Children Books Donation Campaign" and "I Will Fulfill Your Wish" and are committed to improving the rural education in China.</p>
	<p>We actively assist disaster relief and epidemic prevention by relying on our digital intelligent social supply chain and long-term accumulated relevant experience. We use the resources of JD Health to deal with the public health security crisis. We empower public healthcare through our science and technology ability, optimize the allocation of medical resources and promote inclusive medical and health services. In addition, we provide a well-functioning welfare guarantee system to ensure the physical and mental health of our employees.</p>
	<p>We provide employees with an equal, safe, and decent work environment, and support them to obtain fair income, a better workplace, sound welfare and personal development prospects. Meanwhile, we actively support women's economic independence and leadership promotion, women-owned enterprises empowerment and other projects along the whole value chain. At the same time, we support SMEs to obtain more equitable development opportunities, and help them through the "Mantianxing Project" by stimulating their self-motivation. We also introduce the "C.E.O" (Co-Create, Empower, Open) plan for the industrial belt, make every effort to accelerate the transformation and upgrading of SMEs in the relevant industrial belt, reduce costs and increase efficiency, and promote the development of the real economy.</p>
	<p>Based on cutting-edge technologies such as AI, cloud computing, big data, internet of things, etc., as well as our years of in-depth exploration in the supply chain, we will exert our growth efficiency as a new type of real economy enterprise, empower the digital upgrading in various industries by our innovative solutions, help industries reduce costs and increase efficiency, and accomplish the low-carbon transformation more efficiently.</p>
	<p>We provide smart solutions for urban planning, transportation, environment, energy, business and security issues through technologies such as big data, AI and cloud computing. We promote the efficiency of public governance through our social supply chain infrastructure. We put our "Intelligent Mobile Warehouse" into use in the construction project of Hanzhong-Bazhong-Nanchong high-speed railway to improve the accuracy and efficiency of its procurement management. In addition, JD Health brings its supply chain and healthcare services to rural areas and enhances the healthcare capabilities in rural communities.</p>
	<p>With our commercial operation, supply chain management and technological innovation, we strive to achieve a low carbon and environmentally friendly business model, promote sustainable and responsible consumption, and continuously deepen the environmental protection strategy of JD.com. Based on the green and efficient supply chain, we have launched the "Green Stream Initiative," implemented low-carbon and energy-saving practices in our supply chain in terms of packaging, warehousing and transportation, and are committed to establishing an iconic business ecology of sustainable development in the global society.</p>
	<p>We are fully concerned with the impact of our operations on stakeholders, respond to the expectations of multiple stakeholders, and continue to work for sustainable value creation through dialogue and cooperation. Relying on our solid infrastructure, efficient digital intelligent social supply chain and innovative technology service capabilities, while maintaining our own sustainable development, we persistently open the new growth space for millions of our partners, empower the high-quality development of the real economy and create more value for the society.</p>

ESG-Related Honors and Social Recognition

2021

- Fortune 2021: Fortune Global 500 list, ranking 59th.
- China's top 500 private enterprises, ranking the second.
- China Enterprise Evaluation Association "2021 Top 100 New type of Real economy enterprises List," ranked second.
- Ranked among the "Better Life 2021 - Top Ten of Chinese Consumer Brands."
- Won "Corporate ESG Best Practices of the Year," 2021 ESG Pioneer 60.
- "All-chain carbon reduction measures" selected by Global Compact Network China as the "Best Enterprises in Achieving Sustainable Development Goals in 2021 (Carbon Peak and Carbon Neutralization)."
- Shortlisted in "Carbon Neutral Best Practices" rewarded by People.cn, All-China Environment Federation, and Center for Environmental Education and Communication of Ministry of Ecology and Environment.
- Participated in UN Climate Change Conference (COP 26) in 2021 as a guest speaker.
- Won the "Annual Recommended Case of 2021 People's Corporate Social Responsibility-Green Development Award" sponsored by People.cn.
- Recognized as "Beijing Advanced Company for Poverty Alleviation and Cooperation."
- The "Implementation and Thinking of JD.com' Strategy Exerting the Advantages as A New Type of Real Economy Enterprise" won the First Prize of "2021 Outstanding Achievements of Chinese Enterprise Reform and Development" granted by China Enterprise Reform & Development Society.
- Forbes: 2021 World's Best Employer, ranking third among Chinese enterprises.
- Shortlisted in 2021 overall ranking of China's most attractive employers, ranking among the top three in the Internet industry.
- "Large-scale robot warehouse scheduling algorithm" won the highest industrial application award in the global research and management scientific community - "Franz Edelman Outstanding Achievement Award."
- Became the first logistics enterprise in China awarded with the Data Management Capability Maturity Model (DCMM) Level 4 certification."
- Won the First Prize of "Beijing Science and Technology Progress Award."
- Approved by the "2030 Megaproject" - New Generation Artificial Intelligence.

2022

- JD.com is ranked on the FORTUNE 2022 World's Most Admired Companies list at No.6 in the Internet Services and Retailing Category. Particularly, JD ranked the first among Chinese enterprises in terms of social responsibility index.
- JD.com "Asia No.1" Xi'an Intelligent Industrial Park has obtained the carbon neutrality certification issued by Beijing Green Exchange and Centre Testing International (CTI).
- The second "China Brand Power Festival," the top ten brands of "Hope of Domestic Products."

HKEX Content Index

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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
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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
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Number and rate of work-related fatalities that occurred in each of the past three years (including the reporting year)	N/A ³²
Description of occupational health and safety measures adopted, and how they are implemented and monitored	Occupational Health and Safety
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The percentage of employees trained	Table 4: 2021 Social Key Performance
The average training hours completed per employee by gender and employee category	Table 4: 2021 Social Key Performance
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

³¹ “Total amount of hazardous wastes generated” cannot be disclosed temporarily because of incomplete data.

³² “The number and rate of people who died at work in the past three years (including the reporting year)” cannot be disclosed for the time being because of incomplete data.

Supplier Management	
General disclosure of supply chain management	Supplier Admittance and Compliance Management
Number of suppliers	Table 5: 2021 Supplier Management Key Performance
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408	Child Labor	Employment and Labor Standards
409	Forced or Compulsory Labor	Employment and Labor Standards
410	Security Practices	Occupational Health and Safety
412	Human Rights Assessment	Employment and Labor Standards
413	Local Communities	Promoting Inclusive Development of The Society
414	Supplier Social Assessment	Supplier Management
415	Public Policy	Public Welfare Concept and Company Policy
416	Customer Health and Safety	All-Round Product Quality and Safety Guarantee
417	Marketing and Labelling	All-Round Product Quality and Safety Guarantee Content Specification and Management of Marketing
418	Customer Privacy	Information Security Compliance Customer Privacy and Data Security
419	Socioeconomic Compliance	Compliance Governance to Achieve More Sustainable and Steady Development and Growth

External Verification Statement



ASSURANCE STATEMENT

SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. SHANGHAI BRANCH'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE 2021 JD.COM 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.com to conduct independent assurance of the 2021 JD.com Environmental, Social and Governance Report ((hereafter as "ESG Report"). 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.com Headquarters, No. 18 Kechuang 11 Street, Beijing Economic-Technological Development Area, Beijing City, P. R. China. Data and information of other sites were not assured in this assurance scope.

The information in the 2021 JD.com 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 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 of JD.com's 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 affirms our independence from JD.com 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 ESG Report verified are reliable and provide a fair and balanced representation of JD.com's sustainability activities in 2021.

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

CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

In our opinion, the 2021 ESG Report is 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.com conducted 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 concern by stakeholders, which could meet the materiality principle requirement.

Quantitative

JD.com planned the methodology for management approach and performed the statistics and analysis for KPIs, some KPIs, referred to the criteria and international general regulations, and reported the disclosures' impact and purpose. Some comparative yearly data could better help stakeholders to evaluate its management system's effectiveness and make decisions.

Balance

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

Consistency

JD.com 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 included 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, and 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 13, 2022



Environmental considerations for publication of the report
Paper: The report is printed on eco-friendly paper.
Printing Ink: The report is printed with eco-friendly ink to reduce air pollution.



[JD.com Official ESG Webpage](#)