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Sustainability Report





Stock Code: 600350



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Statement

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Preface

Introduction of Report Preparation I

"

This report is the Fifth Sustainable Development Report (Environmental, Social and Governance Report (ESG Report) and the fourteenth Social Responsibility Report issued by Shandong Hi-speed Company Limited (hereinafter referred to as "Shandong Hi-speed", "Company" or "We"). In the principles of objectivity, standardization, transparency, and comprehensiveness, this report provides a detailed disclosure of the Company's practices and performance in environmental, social, and governance for the year 2024.

"

Reporting Scope

This report focuses on Shandong Hi-speed Company Limited and its subsidiaries and branches, etc. The scope of this report is consistent with the scope of the Company's annual consolidated financial statements unless otherwise stated.

Reporting Period

This report covers the period from January 1, 2024 to December 31, 2024 (the "Reporting Period"). To improve the comparability and completeness, some sections of this report may be appropriately referred to previous years or contains forward-looking statements. This report is released on an annual basis, consistent with the financial year.

Compilation Basis

- Shanghai Stock Exchange Self-Regulatory Guidelines for Listed Companies No. 1 Standardized Operation of Listed Companies Shanghai Stock Exchange Self-Regulatory Guidelines for Listed Companies No.14 -Sustainability Report (for Trial Implementation)
- China Enterprise Reform and Development Society "Guidelines for Sustainable Development Reports of Chinese Enterprises (CASS-ESG6.0)"
- > Sustainability Reporting Standards of the Global Reporting Initiative ("GRI Standards")
- > Sustainable Development Goals (SDGs) of the United Nations
- > Sustainability Accounting Standards Board Standards SASB (SASB Standards)
- > State-owned Assets Supervision and Administration Commission of the State Council Guiding
 Opinions on the High-Standard Fulfillment of Social Responsibility by Central Enterprises in the New Era

Data **Explanation**

Data sources used in this report include public data from government agencies, the actual operational data, annual financial data, internal statistical reports of the Company, third-party questionnaire surveys, third-party evaluations or interviews, etc. The financial data in this report is expressed in RMB. For any discrepancy between this report and the financial statements, the financial statements shall prevail.

Definition

Term	Interpretation
Shandong Hi-speed, the Company, We	Shandong Hi-speed Company LimitedShandong Hi-speed Company Limited
Shandong Hi-speed Group, the Group	Shandong Hi-speed Group Co., Ltd.
Henan Development Company	Shandong Hi-speed Henan Development Co., Ltd.
Qilu Expressway	Qilu Expressway Co., Ltd.
Rail Transportation, Rail Transportation Company	Shandong High-speed Rail Transportation Group Co., Ltd.
Luzhou Southeast Expressway	Luzhou Southeast Expressway Development Co., Ltd.
ECON Technology	ECON Technology Co., Ltd.
Information Group	Shandong Hi-speed Information Group Co., Ltd.

Access to the Report

This report is published in electronic form. You can download the electronic version of this report from the website of Shanghai Stock Exchange (www.sse.com.cn) or the official website of the Company (www.sdecl.com.cn) to obtain more information about the Company. If you have questions and suggestions about this report, you can send an email to (sdhs@sdecl.com.cn) or call 0531-89260052. This report is released in both Chinese and English versions. In case of any ambiguity or conflict between the two language versions, the Chinese version shall prevail.

Feedback

If you have any comments or suggestions on the sustainability of our company, please feel free to contact us as follows to help us continuously improve our report.

Securities Service Hotline: 0531-89260052 Company Mailbox: sdhs@sdecl.com.cn

Investor Service Fax: 0531-89260050 Address: No.5006, Mid Aoti Road, Ji' nan City, Shandong Province

Company Website: www.sdecl.com.cn

Statement of Chairman



The year 2024 is a pivotal year for Shandong Hi-speed as it comprehensively implements the spirit of the 20th National Congress of the Communist Party of China and deepens the "dual-carbon" strategy. It is also a critical year for the Company, driven by ESG governance, in its efforts to achieve high-quality development. In the face of a complex and ever-changing macro environment and industry challenges, we consistently uphold the "Shangao · Ying" brand philosophy, leading with sustainable development, and continue to focus on the fields of environmental protection, social responsibility, and corporate governance, delivering a response that reflects the social responsibility of a state-owned enterprise.

Focusing on green development, we solidify the foundation for a low-carbon transformation. Under the guidance of the "dual-carbon" goals, the Company is fully advancing the construction of green transportation infrastructure and the layout of the new energy industry. In 2024, we completed the country's first zero-carbon expressway renovation and expansion project, with 30 megawatts (MW) of photovoltaic (PV) installed capacity and an annual wind power generation of 176,000 kilowatt-hours (kWh). This not only achieves zero-carbon operation across the entire route but also generates stable green economic benefits. We continue to promote the deep integration of transportation and energy, providing robust technical support and practical experience for green and low-carbon development through the innovative "zero-carbon toll stations" and intelligent energy management systems.

Fulfilling social responsibility, we strengthen the foundation for safe development. Safety and people's well-being have always been the cornerstone of our social responsibility. In 2024, the Company established the "all-weather traffic" system, significantly enhancing the public travel experience through the smart cloud toll stations and the "ChangHeTong" digital platform. We strengthened ESG risk prevention and control at grassroots units, ensuring zero major accidents in production, transportation, and network safety, responding to the society's heightened concerns regarding safety issues. Through innovative models such as "Expressway + Cultural Tourism" and "Expressway + Logistics", we stimulate economic development along the route, support rural revitalization, and achieve a win-win result in both social and economic benefits.

Improving the governance system, driving value creation leap. The Company focuses on market value management and continuously optimizes the governance structure. In 2024, the ESG Committee of the Board of Directors upgraded the risk prevention and control mechanism, earning an A-level information disclosure rating from the Shanghai Stock Exchange for five consecutive years. According to a five-year (2020-2024) shareholder return plan, we distributed over RMB 9.7 billion to shareholders, achieving a new record in dividend payouts, demonstrating our commitment to long-term value for investors.

ESG is not only the "must-answer question" for corporate sustainable development but also the "key variable" for reshaping core competitiveness. Shandong Hi-speed will always adhere to the mission of "enriching employees, strengthening enterprises, and giving back to society", using technological innovation as the engine and open cooperation as the link. We will work with all parties to jointly build a green, safe, and intelligent transportation future.

Zero-Carbon Road, Focus Shandong Hi-speed Leading the Way





- The ESG Vision of Shandong Hi-speed



In recent years, Shandong Province has continuously promoted the construction of a modern comprehensive transportation system, with expressways being further densified, expanded, accelerated, and enhanced with intelligent technologies. Shandong Hi-speed, based on industry and corporate realities, has comprehensively assessed the current carbon emissions in road construction and operation. Driven by technological innovation and focusing on practical implementation, the Company actively explores new models for low-carbon road construction, promoting carbon reduction and efficiency enhancement throughout the entire life cycle of highways. Through tangible actions, we contribute to the construction of ecological civilization and the achievement of the "dual-carbon" goals, making a significant contribution with the strength of Shandong Hi-speed.

Technological Breakthroughs



In 2024, Shandong Hi-speed leveraged a collaborative innovation platform integrating industry, academia, and research to develop and apply seven core low-carbon maintenance technologies, focusing on "material decarbonization, process energy-saving, and equipment intelligence", with the goal of "promoting carbon reduction and efficiency enhancement throughout the entire life cycle" of highways.

Low-Carbon Material Innovations

Fatique-resistant warm-mix full reclamation technology

This technology employs a warm mixing process that reduces energy consumption by 30%, achieving 100% recycling of old materials and reducing carbon emissions by 40%.

High-performance emulsified asphalt cold reclamation technology

This method mixes emulsified asphalt with old materials and new aggregates, allowing for ambient temperature mixing and forming without the need for heating. It is energy-efficient, environmentally friendly, and convenient for construction, effectively saving resources and costs while extending the service life of roads.

Foam warm-ix hot reclamation technology

In the production of hot reclaimed asphalt mixtures, this technology introduces water into high-temperature asphalt to create foam, thereby reducing the viscosity of the asphalt. This can lower the mixing temperature by 20 to 30°C, decreasing energy consumption and harmful gas emissions while improving the utilization of reclaimed materials.

Low-Carbon Material Innovations

High-quality ultra-thin wearing course technology

By optimizing the performance of binding materials and integrating structural design, this technology addresses issues such as cover loosening and cracking. It enhances durability by over 15% and has been successfully applied on sections of the Qingdao-Yinchuan Expressway in Xiangjin and the Jinan-Laiwu Expressway, extending the service life of the pavement to over 8 years.



High-quality ultra-thin wearing course



Construction of ultra-thin wearing course of Qingdao-Yinchuan Expressway in Xiangjin

Intelligent Construction and Quality Control

Intelligent monitoring technology for asphalt pavements

This technology integrates the Internet of Things (IoT) and AI algorithms to monitor key indicators such as construction temperature and compaction in real time. It increases the quality conforming rate to 98% and reduces the rework rate by 20%.

Low-Noise micro-surfacing technology

Through refined gradation design, this technology reduces pavement noise by 5 decibels, enhancing driving comfort.





Exhaust Gas Treatment and Energy Alternatives

Photocatalytic exhaust gas degradation sealing layer

This method utilizes nano-photocatalytic materials to decompose automotive exhaust pollutants, achieving a degradation efficiency of 70% and contributing to the improvement of air quality in roadside areas.

Practical Implementation



On December 20, 2024, the Jinan-Heze Section of the Ji' nan-Guangzhou Expressway (Ji' nan-Heze Expressway), invested in and constructed by Qilu Expressway, was fully completed and opened to traffic. This marks the first zero-carbon expressway in the country to undergo reconstruction and expansion, initiating a zero-carbon practice in the field of expressway renovation and expansion.

Zero-carbon Reconstruction and Expansion of the Expressway

In the reconstruction and expansion of the Ji' nan-Heze Expressway, the Company innovatively applied the "CO₂-REMOVE" zero-carbon concept through the following measures:

- Renewable energy utilization system (the entire line features a PV installed capacity of 30 MW and an annual wind power generation of 176,000 kWh)
- > Energy-saving and carbon reduction system (low-carbon pavement materials and smart lighting solutions)
- > Zero-carbon comprehensive control system (AI energy efficiency management platform)

As a result, the project achieves an average annual carbon reduction of 22,500 tons during its operational phase, with negative net carbon emissions. The total PV installed generation is 30 MW producing approximately 30 million kilowatt-hours annually, while wind power contributes around 176,000 kWh per year. This not only achieves zero-carbon operation across the entire route but also generates stable green economic benefits.

Zero-carbon Reconstruction and Expansion of the Expressway





Ji' nan-Heze Expressway

Zero-carbon Toll Station

In 2024, the Company completed the construction of five "zero-carbon toll stations" at Dongke Station, Zhangqiu, Zhoucun, Linzi, and Linzi East. These stations utilize an integrated model of "PV + energy storage + charging", with a total installed capacity of 1,124 kW and an energy storage capacity of 11.2 megawatt-hours, achieving an annual carbon reduction of 1,100 tons and a green electricity self-sufficiency rate exceeding 80%.

The Company also innovated a dual assurance model of "PV energy storage grid interconnection + backup power from generator sets" to ensure stable power supply. Each station achieves an average annual savings of RMB 10,000 in electricity costs.





Zero-carbon Toll Station







Engineering Practice



In 2024, the Company achieved multiple successes in engineering construction, continuously strengthening its core advantages in infrastructure development through major transportation projects. This not only highlights our comprehensive coordination capabilities in complex engineering fields but also establishes a three-dimensional road network pattern covering the eastern coastal areas and the central plains.

Successful Acquisition of the Heze-Baoji Expressway Project (Xinxiang-Changyuan Section)

In 2024, the Company engaged in its first deep cooperation with Hunan Highway in the transportation sector, successfully acquiring the remaining concession rights and all associated revenues for the Xinxiang-Changyuan Section of the Jiyuan-Dongming Expressway.



Heze-Baoji Expressway

Successful Closure of the Steel Box Girder for the Yellow River Bridge

The main steel box girder of the Yellow River Bridge in the reconstruction and expansion project of the Beijing-Taibei Expressway from Qihe to Jinan achieved precise millimeter-level closure before the flood season. The project team tackled the challenges posed by complex hydrological conditions in the pushing technology for large-span steel box girders. Utilizing a BIM digital twin system for real-time construction monitoring, they set a new record by pushing 120 meters in a single day.





Yellow River Bridge

Launch of the Reconstruction Project for the Rongcheng-Weifang Expressway (Laiyang-Weifang Section)

On December 18, 2024, a mobilization event was held in Weifang for the reconstruction project of the Rongcheng-Weifang Expressway (Laiyang-Weifang Section), which is invested in and constructed by Shandong Hi-speed. This project is an important component of Shandong Province's expressway network, which includes "twelve verticals, eight horizontals, and eleven radials". The east-west route spans 137.3 kilometers and connects five major expressways: Longkou-Qingdao, Shenyang-Haikou, Tsingdao-Xinhe Expressway, Xinhe-Dongjiakou, and Qingdao-Yinchuan, serving as a primary thoroughfare for transit traffic.

The implementation of this project is significant for accelerating the development of the Shandong Peninsula urban agglomeration, strengthening the connections between the provincial capital economic circle and the Jiaodong economic circle, enhancing the capacity and service quality of the province's expressway network, and supporting high-quality regional economic development.



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Company Profile Development Course Corporate Culture Honors and Awards

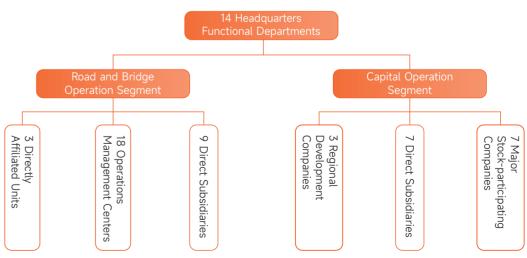






Shandong Hi-speed Company Limited was established in 1999 and controlled by Shandong Hi-speed Group Co., Ltd.; it was listed on Shanghai Stock Exchange in March 2002 with the stock code of 600350, headquartered at No. 5006, Mid Aoti Road, Ji' nan City, Shandong Province. The Company is mainly engaged in investment and operation of transportation infrastructure, as well as equity investment in upstream and downstream related industries of expressway industry chain. It is a first-class road and bridge operation service provider in China, continuously contributing to the development of a strong transportation province and country. In 2024, the Company's operating revenue reached RMB 28.494 billion, with 10,610 employees.

The main business scope of Shandong Hi-speed is divided into road and bridge operation, capital operation, and engineering construction.

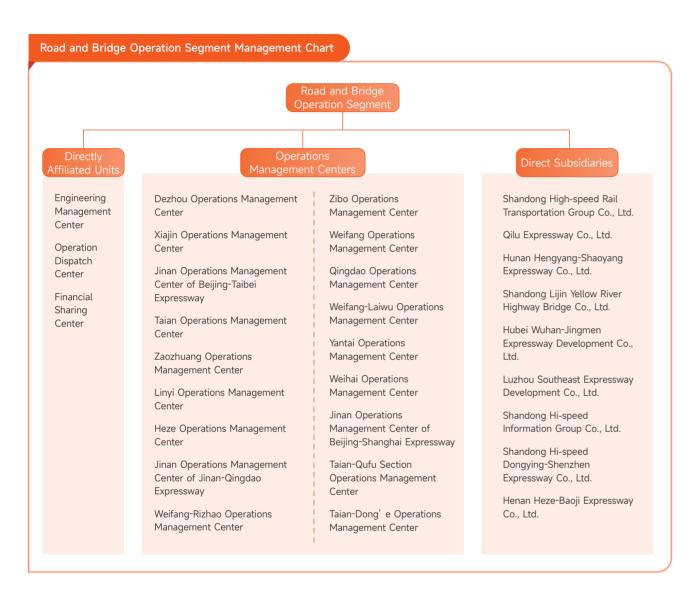


Company Functional Structure Distribution



Road and Bridge Operation

Toll roads and bridges are the core business of the Company. In 2024, the Company operated and managed a total road and bridge mileage of 2,913 km, of which 1,604 km was owned by the Company and 1,309 km was entrusted.



Total road and bridge mileage of 2,913 km

1,604 km owned by the Company and 1,309 km entrusted

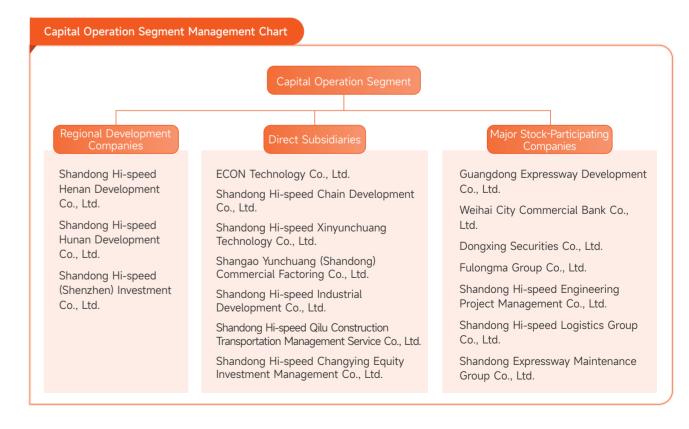
Owned Road and Bridge Assets: Jinan-Qingdao Section of G20 Wuhan-Jingmen Section of G42 Shanghai-Chengdu Qingdao-Yinchuan Expressway Dezhou-Tai'an Section of G3 Beijing-Taibei Luzhou-Chongqing Section of G93 Chengdu-Chongqing Expressway Expressway Beijing-Taibei-Jinan-Qingdao Connecting > S80 Hengyang-Shaoyang Expressway Line of G35 Ji'nan-Guangzhou Expressway Ji'nan-Laiwu Section of G2 Beijing-Shanghai Lijin Yellow River Highway Bridge Expressway Taian-Qufu First Class Highway Weifang-Laiyang Section of S16 Rongcheng-Weifang Expressway Liaocheng-Fanxian Section of G0321 Dezhou-Shangrao Expressway Weihai-Rushan Section of G18 Rongcheng-Wuhai Expressway > S28 Shenxian-Nanle Expressway Xuchang-Yuzhou Section of G1516 > G35 Jinan-Heze Expressway Yancheng-Luoyang Expressway Jiyuan-Jincheng Section of G55 Erenhot-Guangzhou Expressway

Capital Operation

Xinxiang-Changyuan Section of G3511

Heze-Baoji Expressway

As the second largest business segment of the Company, the Capital Operation Segment represents a new path for long-term sustainable development beyond the fast-growing core business. The Company is committed to further exploring capital operations, driving innovation, and expanding new growth opportunities.





Engineering Construction

Leveraging its experience from the reconstruction and expansion of highways such as the Jinan-Qingdao Expressway and the Beijing-Taibei Expressway, the Company has developed a professional management model for expressway reconstruction and expansion, covering the entire process from project initiation to completion. The Company has established an Engineering Management Center that integrates "project construction and core business investment". This center has gradually evolved into the engineering construction segment. While focusing on executing construction tasks, the Company also leverages its full chain advantages in investment, financing, construction, management, and maintenance to provide comprehensive project life cycle services.



Development Course

Since its establishment in 1999, Shandong Hi-speed Company Limited has continuously deepened its focus on major transportation, engineering construction, and investment, expanding its development pathways. It has grown into a "pioneer" in the construction of a modern socialist strong province in the new era.



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Revitalizing Shandong, Wonderful Start (1989-1999)



The construction of Jinan-Qingdao Expressway, the first expressway in Shandong Province, began.

Forging Ahead Towards Blue Chip



(1999-2009)

2008 Road and Bridge Operation

Acquired Deqi North Section of Beijing-Fuzhou Expressway, 100% equity of Shandong Hi-speed Group Xuyu Highway Co., Ltd. and 49% equity of Shandong Hi-speed Engineering Consulting Co., Ltd.

Shandong Hi-speed was listed on the Shanghai Stock Exchange and issued 505 million A-Shares for the first time.

Shandong Hi-speed Company Limited was established and controlled by Shandong Hi-speed Group Co., Ltd.

Pursuit of Excellence, Far-reaching and Wide Integration (2009-2016)

2010

Initiated major asset reorganization projects.

2011 Road and Bridge Operation

Acquired 7.5 billion high-quality road and bridge assets under the Group; entrusted to manage 500 km of road assets, with a total mileage of 1,452 km of roads under management.

2023 Road and Bridge Operation

Fully completed the toll invoice "paper-to-electronic" work; intelligent scientific and technological achievements were recognized as international advanced and domestic leading.

Capital Operation

Acquired 65% equity of Shandong Hi-Speed Information Group Co., Ltd.

2024 Road and Bridge Operation

Successfully won the bid for the Heze-Baoji Expressway, (Xinxiang-Changyuan Section) project; secured the concession project for the reconstruction of the G220 Dongying-Shenzhen Highway, from Nanwang Village in Dongying to the Binzhou boundary; initiated the reconstruction and expansion project of the Weifang-Laiwu Expressway; and successfully completed the closure of the main steel box girder of the Yellow River Bridge in the reconstruction project of the Qihe-Jinan Section of the Beijing-Taibei Expressway.

Capital Operation

Acquired 20% equity of Sichuan Luyu Expressway Company.



2022 Road and Bridge Operation

The reconstruction and expansion project of Ji' nan-Tai' an Section of Beijing-Taibei Expressway was completed, and the reconstruction and expansion project of Ji' nan-Heze Section of Ji' nan-Guangzhou Expressway was commenced.

Capital Operation

Yantai Hesheng Real Estate Development Co., Ltd. completed equity transfer, symbolizing the successful divesting of real estate business.

2021 Road and Bridge Operation

The reconstruction and expansion project of Dezhou-Qihe Section of Beijing-Taibei Expressway was completed 18 months ahead of schedule.

Capital Operation

Acquired 38.93% controlling stake in Qilu Expressway, realizing the first "A-Shares Company Controlling H-Shares Company" in the industry.

2020 Road and Bridge Operation

Completed the Reconstruction and Expansion Project of Beijing-Taibei Expressway ahead of schedule; the Reconstruction and Expansion Project of Ji'nan-Qingdao Expressway won many awards such as National Quality Award.

Acquired 51% equity of Shandong High-speed Rail Transportation Group Co., Ltd. and 9.68% equity of Guangdong Expressway.

2018 Road and Bridge Operation

Acquired 60% equity of Hubei Wujing Company and 90% equity of Jijin Company, increased operation mileage by 205 km, achieving a total operation mileage of 2,300 km; canceled the toll station at the provincial boundary between Shandong and Jiangsu, realized non-stop toll collection; officially transferred Ji'nan Yellow River Bridge, Pingyin Yellow River Bridge and Binzhou Yellow River Bridge to the government.

2019 Road and Bridge Operation

The newly expanded two-way eight-lane Jinan-Qingdao Expressway was completed 15 months ahead of schedule; acquired 80% equity of Sichuan Luyu Expressway Company.

Working Hard and Never Stop





2017 Road and Bridge Operation

The Headquarters set up an operation division to directly manage 127 grass-roots units; realized the "full payment" lane ahead of schedule.

Invested RMB 400 million to subscribe for additional shares of Longma Environmental Sanitation.

2016 Road and Bridge Operation

The construction of Jinan-Qingdao Expressway reconstruction and expansion project began.

Capital Operation

Promoted the establishment of the first RMB 1 billion Changying Fund as the Company's capital operation platform; bid for 120 million additional shares of Dongxing Securities.

Road and Bridge 2015

Acquired 65% equity of Lijin Bridge Company; constructed 233 ETC lanes and automatic card issuing lanes to realize an unattended mode at toll station entrance.

2012 Road and Bridge Operation

Acquired 70% equity of Hunan Hengyang-Shaoyang Expressway; entrusted to manage assets such as S38 Zaozhuang-Linyi Expressway and S11 Yantai-Haiyang Expressway, with a total mileage of 1,628 km of roads under management.

2013 Road and Bridge Operation

Entrusted to manage Beijing-Laiwu (Beilai) Highway, Lijin Yellow River Highway Bridge, etc., with a total mileage of 1,875 km of roads under management.

2014 Capital Operation

Subscribed 317 million additional shares of Weihai Commercial Bank; successfully issued 2 billion corporate bonds.



Corporate Culture

Shandong Hi-speed uses "Shangao" as the cultural foundation, driving the "Shangao" • Xing" brand to grow deeper and more solid. With the sense of responsibility represented by "Shan" (mountain), the ambition symbolized by "Gao" (high), and the dynamic attitude conveyed by "Xing" (action), the name "Shangao" carries a deeper significance. It not only represents the Company' s brand image but also symbolizes the Company's pursuit of excellence and its constant striving for higher achievements.



Corporate Slogans

Shandong Hi-speed, creating a road of happiness

Smooth and far-reaching, harmonious and inclusive.

Traveling smoothly through Shandong, spreading civilization, serving with integrity, and giving back to society.

Leading transportation development, paving the way for a bright future.

Providing high-quality travel services to the public.



Corporate Mission

Making the enterprise stronger with well-off staff and giving back to society



Corporate Spirit

Accountable

Aggressive

Advanced



Corporate Vision

Determined to be a century-old enterprise and build the first brand in China's expressway industry

Core Values



Far-reaching expressway, smooth and diligent travel

Honors and Awards

During the reporting period, Shandong Hi-speed, with its exceptional management standards, high-quality services, and continuous innovation, has repeatedly earned prestigious awards and gained widespread social recognition within the industry. These awards not only fully affirm the Company's overall strength but also highlight our leading position in infrastructure construction, operational services, and social responsibility. Looking ahead. Shandong Hi-speed will continue to uphold high standards and strict requirements, drawing motivation from these honors, constantly pursuing excellence, and creating more value for society.



Investor Relations Management Best Practices for Listed Companies









Tianma Award for Investor Relations s Shareholder Return of Listed Companies in China

26th Listed Companies "Golden Letter Award"

2024 Best Practice Award for Board of Directors Office of **Public Companies**

Exemplary Board of Directors of Public Companies for Best Practices in 2024









First Prize of China Highway Society Science and Technology Award

"List of Shandong Province Management Benchmark Enterprises in 2024" issued by Industry and Information Technology Department of Shandong Province

Enterprise of Significant Contribution to Rural Revitalization

Excellent Co-Construction Enterprise





Dual Materiality Analysis

Communications with Stakeholders

> Sustainable Development Goals



Dual Materiality Analysis

The Company attaches great importance to the management and assessment of ESG topics and their dual materiality, regularly conducting identification and analysis of material issues. In accordance with the Shanghai Stock Exchange Self-Regulatory Guidelines for Listed Companies No.14 - Sustainability Report (for Trial Implementation) and Shanghai Stock Exchange Self-Regulatory Guidelines for Listed Companies No.4 - Preparation of Sustainability Report (Consultation Draft) issued by the Shanghai Stock Exchange, and referencing standards from the Global Reporting Initiative (GRI), mainstream rating agencies (such as MSCI ESG Ratings, S&P CSA Ratings), and the Sustainability Accounting Standards Board (SASB), we regularly organize internal ESG Working Group discussions, seek external consultations, and conduct stakeholder surveys. These activities help us compile and summarize the material topics for the year. We also analyze and confirm the "impact materiality" and "financial materiality" of each topic, considering the specific characteristics of the transportation industry, and prioritize these topics through dual materiality ranking. This process results in a dual materiality topic matrix, which drives the development of the Company's ESG strategy.



Materiality Assessment Process

Identifying potential topics

We begin by referencing the 21 topics outlined in the Shanghai Stock Exchange Self-Regulatory Guidelines for Listed Companies No.14 -Sustainability Report (for Trial Implementation). Based on the Company's business context, we have developed a broad-spectrum list of ESG topics aligned with the Company's strategic objectives:

Environment

Environmental Compliance Management

Energy Utilization

Response to Climate Change

Circular Economy

Water resource utilization

Pollutant Emissions

Waste Disposal

Ecosystem and Biodiversity Protection

Society

Talent Recruitment and Development

Occupational Health and Safety

Innovation-Driven Growth

Responsible Investment

Safety and Quality of Services

Data Security and Privacy Protection

Supply Chain Security

Equal Treatment of Small and Medium-Sized Enterprises

Contribution to Society

Rural Revitalization

Governance

Protection of Shareholders Rights and Interests

Corporate Governance Compliance

Anti-commercial Bribery and Anti-corruption

Anti-unfair Competition

Compliance and Risk Control

Due Diligence

Communications with Stakeholders

ESG Governance

List of ESG Topics

Conducting a stakeholder survey

In addition to regular communication with various stakeholders during daily operations, we conducted a survey to gather insights from eight key stakeholder groups. These include board members, heads of functional departments and subsidiaries, employees, suppliers, customers, industry associations and research organizations, non-profit organizations and community groups, as well as government and regulatory bodies. The survey aimed to assess the level of interest and perspectives of stakeholders on each topic. A total of 222 valid responses were collected.





Conducting impact materiality analysis

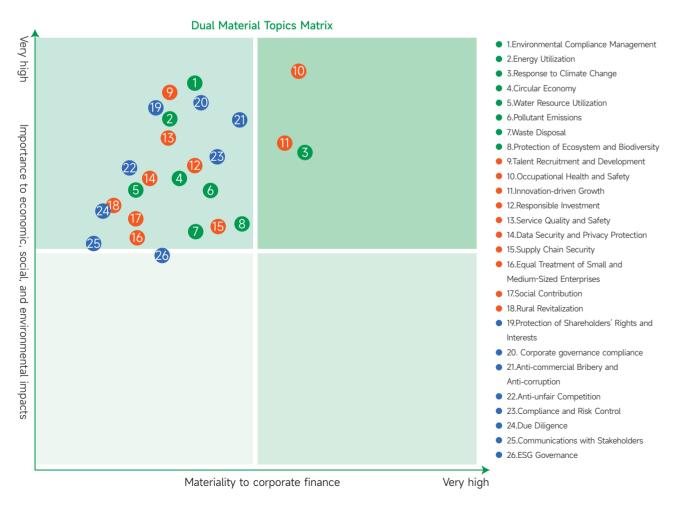
By analyzing the survey results, we assessed the materiality of each topic based on factors such as the level of stakeholder attention, the scale of impact, and the scope of impact. This allowed us to prioritize the topics according to their impact materiality.

Conducting financial materiality analysis

By integrating insights from the Company's financial statements and evaluating the operational dependencies of the business, we assessed the financial materiality of each topic. This analysis was further informed by external expert opinions, enabling us to rank the topics based on their financial impact.

Double materiality matrix

By combining the results of the impact materiality and financial materiality analyses, we developed a double material topics matrix. Topics identified as double materiality include response to climate change, innovation-driven growth, and occupational health and safety, among others.



Communications with Stakeholders

Shandong Hi-speed has integrated the principle of ecological priority into its development strategy, upholding its social responsibilities and optimizing resource efficiency through technological innovation. This approach has enabled the Company to establish a symbiotic model that balances economic operations with ecological sustainability. During the reporting period, the Company prioritized the rights and interests of stakeholders, including customers, shareholders, employees, suppliers, governments, and communities. It systematically collected and effectively addressed their key concerns in the areas of environmental, social, and governance (ESG) practices.

Stakeholders	Communication Channels and Frequency				
Shareholders	 General meeting of Shareholders (annually and ad hoc) Performance briefings (quarterly) Annual, interim, and quarterly reports (regular) 	 Other ad hoc announcements (irregular) E-interaction platform (real-time) Investor hotline, email, and officia website (irregular) 			
Governmental or Regulatory Agencies	disclosures (irregular) Regulatory assessments (annually)	> Phone calls and emails (irregular)			
Customers	> Travel service hotline (irregular)				
Employees	Employee Congress (annually)Internal communication platforms (irregular)	 Face to face communication (irregular) Employee satisfaction surveys (annually) 			
Communities and NGOs	Public welfare donations and targeted assistance (annually)	Exchanges and visits (irregular)			
Suppliers	> Supplier training (irregular)> Business visits (irregular)	Phone calls and emails (irregular)			
lustry Associations and esearch Organizations	Industry conferences (irregular)	On-site visits (irregular)			
Media	Media interviews (irregular)	Phone calls and emails (irregular)			

Developed over 10 digital system projects, including a highway customer analysis management system and

a reservation-based toll collection system, achieving innovations in safety protection, intelligent monitoring,

and digital management.





3.196 billion.

Sustainable Development Goals

Shandong Hi-speed is committed to sustainable operations, aligning its development with the United Nations Sustainable Development Goals (SDGs). The Company strives to contribute to global sustainable development while advancing its own sustainability initiatives.

Achieved an operating revenue of RMB 28.494 billion and a net profit attributable to shareholders of RMB



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- > Strengthening the ESG Framework
- Adherence to Business Ethics
- > Deepening Compliance Governance
- > Development under the Guide of the Party Leadership



Strengthening the ESG Framework

In recent years, Shandong Hi-speed has progressively advanced its ESG development, integrating ESG principles into corporate strategy, governance, reform, and daily operations. This has enhanced the Company's overall capacity and awareness in fulfilling its responsibilities. The Company has established a comprehensive ESG management framework, including the formation of an ESG Committee. During the reporting period, the Company established and implemented several systems, such as the Stakeholder Communication System, Topic Materiality Assessment System, ESG Information Management System, and ESG Manual, to build a systematic ESG management structure. These measures have elevated ESG management capabilities from the source and ensured compliance with the requirements of the State-owned Assets Supervision and Administration Commission (SASAC) and stock exchanges to ensure compliant disclosures.

The ESG Committee is chaired by the General Manager and includes an ESG Committee Task Force and an ESG Working Group. Together with ESG implementation teams from various functional departments, the Company has established a three-tier ESG governance structure, clearly defining roles and responsibilities at each level. Through the ESG Information Management System, all functional departments are integrated into the ESG governance framework, with direct accountability for managing ESG-related information. This creates a bottom-up reporting mechanism and a top-down management approach, ensuring the comprehensive, systematic, and effective implementation of sustainable development principles.



ESG Governance Framework



In terms of ESG risk management, the ESG Committee Task Force is responsible for organizing research on ESG risks and opportunities, including their identification, assessment, and mitigation. This process integrates ESG risks into the Company's comprehensive risk management framework, enhancing the comprehensive risk management structure. The Board of Directors and the ESG Committee incorporate ESG factors into major strategic decisions and executive compensation considerations. By aligning ESG management with corporate decision-making, operations, and development, the Company continuously creates comprehensive value, ensuring the steady and sustainable growth of its business operations.

During the reporting period, the Company received multiple ESG awards, including "2023 Transportation Corporate Social Responsibility (ESG) Report Rating - Excellent Report", "2024 Transportation Corporate Social Responsibility (ESG) - Excellent Case".



2024 Transportation Corporate Social Responsibility (ESG) - Excellent Case



2024 Transportation Corporate Social Responsibility (ESG) - Outstanding Case



2024 China's Top 100 Listed Companies in ESG



Golden Dawn Award - Best Conservation of Ecological Diversity



2023 Transportation Corporate Social Responsibility (ESG) Report Rating - Excellent Report





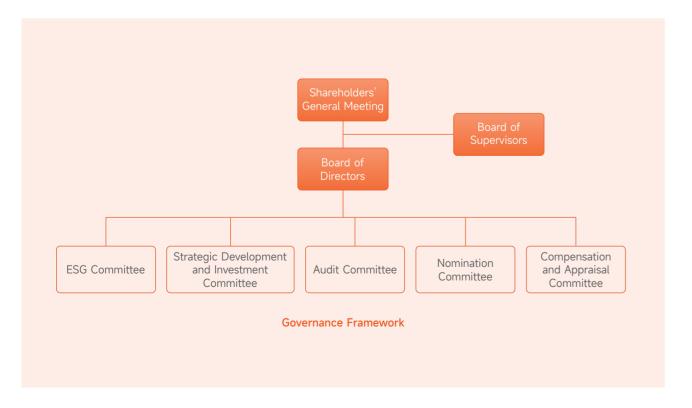
Deepening Compliance Governance

Shandong Hi-speed, in strict accordance with legal and regulatory requirements, including the Company Law, Securities Law, Governance Code for Listed Companies, and the Rules Governing the Listing of Stocks on the Shanghai Stock Exchange, continuously improves its governance structure, establishes and refines internal management and control systems, and ensures their rigorous implementation. This has led to the creation of a governance system characterized by legally defined responsibilities, transparent accountability, coordinated operations, and effective checks and balances, safeguarding the interests of all shareholders and consistently enhancing the Company's governance standards.

Governance through the Shareholders' General Meeting, Board of Directors, and Board of Supervisors

In the Company's operations, the Shareholders' General Meeting, as the top authority, actively participates in decision-making on major matters. The Company ensures standardized convening and conduct of the Shareholders' General Meeting, guaranteeing that all shareholders, especially minority shareholders, enjoy equal rights and can fully exercise their voting rights.

The Board of Directors, as the core decision-making body, has established five specialized committees: Strategic Development and Investment Committee, ESG Committee, Audit Committee, Compensation and Appraisal Committee, and Nomination Committee. These committees coordinate their respective working groups to strengthen internal controls and ensure the scientific, rational, and standardized nature of corporate decision-making.



The Company firmly believes that the diversity of its board members is essential for enhancing corporate performance and achieving strategic goals for sustainable development. When planning the composition of the Board of Directors, the Company considers diversity of its board members, including but not limited to age, cultural and educational background, professional experience, and skills. The Board of Directors consists of 11 directors, including 4 independent directors, accounting for 36.36% of the board. The current board members boast extensive experience in fields such as finance, engineering, and environmental protection, leveraging their expertise to support informed decision-making of the Company.



The Board of Supervisors demonstrates a high sense of responsibility and professionalism, independently and effectively overseeing and inspecting key personnel, including directors, managers, and other senior executives. This ensures that the Company's operations adhere to regulatory and legal standards.

Investor Relations Management

The Company adheres to the investor relations philosophy of "delivering excellent performance and sincere returns". It has standardized the information disclosure process by implementing policies such as the Related Party Transaction Management System, Information Disclosure Affairs Management System, and Information Disclosure System. These measures regulate information disclosure practices, strengthen the management of disclosure activities, and effectively protect the legitimate rights and interests of stakeholders. During the reporting period, the Company received an "A" rating for its 2023-2024 information disclosure, marking the fifth consecutive year of achieving this top rating.

Key Performance During the Reporting Period, the Company disclosed 4 periodic reports and 116 interim announcements.

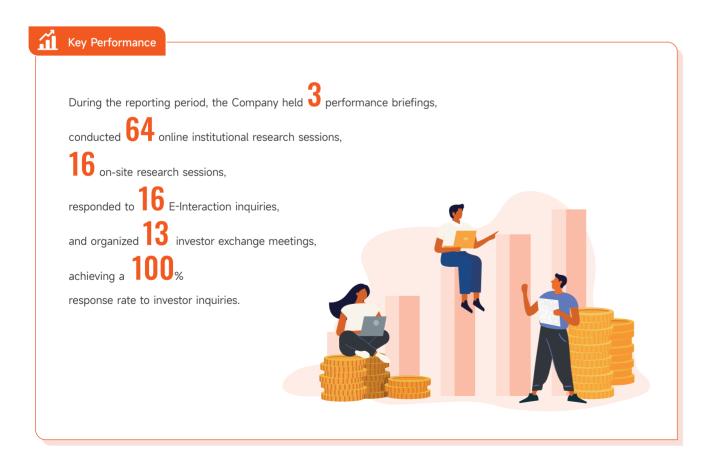
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In accordance with the *Shandong Hi-speed Company Limited Shareholder Return Plan for the Next Five Years (2020-2024),* the Company maintained stable dividend distributions to shareholders.

Annual Evaluation	Cash Dividend Per Share	Amount of Cash Dividends (Tax Included)	Percentage of Net Profit Attributable to Owners of Parent Company in the Consolidated Statement
2022	RMB 0.40	RMB 1.931 billion	67.63%
2023	RMB 0.42	RMB 2.033 billion	61.66%
2024	RMB 0.42	RMB 2.038 billion	63.76%

The Company continues to strengthen its investor relations management to deepen investors' understanding and recognition of the Company, fostering long-term and stable relationships with investors. During the reporting period, we actively engaged with investors through various channels, including performance briefings, investor hotlines, the Shanghai Stock Exchange E-Interaction platform, and external research activities. We addressed investors' concerns, prioritized safeguarding their rights to information and voting, and maintained a strong foundation of trust between the Company and our investors.



Case

Hosting External Institutional Research

On May 14, 2024, a delegation from Alliance Bernstein (AB), one of the world's leading investment management firms, conducted an in-depth research visit to Shandong Hi-speed. The Company's General Manager, Board Secretary, and heads of relevant departments accompanied the delegation during the visit.

During AB's research activities in Shandong Hi-speed, both parties engaged in systematic discussions on the Company's development history, core investment pattern, and strategic planning orientation. Key topics included the market potential, policy trends, and risk control mechanisms in the transportation infrastructure sector. Through this visit, Shandong Hi-speed and AB further strengthened their collaborative consensus, paving the way for future exploration of industrial investment opportunities and enhanced resource synergy and information sharing.





Communication Activity Scene

Case

2024 Semi-Annual Performance Exchange

To help investors gain a comprehensive and in-depth understanding of the Company's operational results and financial status for the first half of 2024, Shandong Hi-speed hosted its 2024 Semi-Annual Online Performance Briefing on September 10, 2024, at the Shanghai Stock Exchange Roadshow Center, together with an "Engage and Reach Out" event for face-to-face exchange.

During the briefing, the Company engaged with investors through an online + offline format, discussing the detailed operational results and financial metrics for the first half of 2024. Within the scope of permissible information disclosure, the Company addressed questions of common concern to investors.





Scene of 2024 Semi-Annual Performance Briefing



Risk Management

The Company has established the *Risk Management Measures* based on its internal control system, creating a comprehensive and effective risk management framework. This framework is supported by a "three lines of defense" model, consisting of grassroot units, departments and offices of the Headquarters, and audit and supervision departments. Regular risk identification activities are conducted, and business units periodically carry out research and inspections at the grassroots level. These efforts focus on risk information collection, risk prevention and assessment, risk resolution, and risk monitoring, ensuring a robust risk management system that enables timely identification and effective management of various risks. During the reporting period, no significant risk-related losses occurred.

Additionally, the Company's initiative, "Integrated Management of Internal Audit and Risk Prevention for High-Quality Development in Expressway Enterprises" was awarded the Second Prize in the "20th Transportation Enterprise Management Modernization Innovation Awards" during the reporting period.





Second Prize in the 20th Transportation Enterprise Management Modernization Innovation Awards

The Audit Department won the title of "Benchmarking Team"

Risk Management Initiatives

Steady Advancement of the "Risk Resolution Year" Campaign



The Company launched the "Risk Resolution Year" campaign, conducting self-assessments of financial, investment, work safety, and stakeholder grievance risks. This initiative aimed to identify risk exposures, clarify resolution responsibilities, improve response plans, and establish long-term mechanisms.



During the reporting period, the Rail Transportation Company carried out a concentrated risk resolution effort. From August to October, it conducted potential risk investigation, with all identified issues rectified. The Audit and Legal Department provided oversight and support as the lead department for specialized risk resolution, assisting in the effective mitigation of risks and enhancing risk prevention mechanisms.

Advancing Proactive Defenses for Risk Management



For key projects with an investment budget exceeding RMB 50 million, the Company implemented full-process track and audit. The finance and audit departments participated in the review and demonstration of project approvals and transfers, promptly identifying potential risk points and conducting investigations. Each investment project was presented with a risk assessment report with targeted recommendations.

Strengthening Internal Control Audits and Self-Evaluations



During the reporting period, the Company revised, improved, and inspected its policies and processes from top to bottom, aligning them with regulatory changes and operational realities. We conducted internal control audits and evaluations to comprehensively enhance the internal control audit system.



The Company engaged third-party audit firms annually to test and review the construction and operation of its internal control system, and addressed identified issues promptly. During the reporting period, the Audit Department completed multiple audit projects through a combination of comprehensive and special audits, as well as remote audits and on-site verifications.

Strengthening Dynamic Monitoring of Risk Events



The Company has reinforced closed-link management of risk issues across the entire chain. Key issues were elevated to the company level for supervision and follow-up, with regular tracking until risks were fully resolved. The outcomes of risk event resolutions were incorporated into the performance evaluations of affiliated units.

Enhancing the Role of Internal Audit as the Third Line of Defense



Internal audit is integrated with internal control and risk management to strengthen analysis and judgment. Risks identified are promptly highlighted, and corrective actions are supervised.

Focusing on Raising Risk Awareness



Through activities such as risk management training, the Company collects and analyzes major risk events through multiple channels and dimensions. This enhances employees' risk awareness and strengthens the overall effectiveness of the Company's risk management efforts.





During the reporting period, the Company provided 4 sessions of training on internal risk, with a total of 100 participants and for a total training duration of 840 hours, averaging **8.4** hours per participant.



Compliance Management

During the reporting period, Shandong Hi-speed continued to refine its Compliance Management Measures. Under the coordination of the Party Committee, the Compliance Committee took the lead in advancing the construction of the compliance management system. The Company annually prepares a compliance management report, which is submitted to the Board of Directors for review, ensuring comprehensive oversight by the governance layer over risk control and policy implementation.

Additionally, the Company actively organized compliance training programs, collaborating with grassroots units to hold special lectures on compliance management and provide training on the new Company Law. These efforts integrate compliance awareness into daily operations, establishing a long-term prevention mechanism that combines "institutional constraints + cultural immersion".

Case

Training on the New Company Law

In May 2024, the Company conducted training sessions on the revised provisions of the new Company Law. These sessions aimed to help affiliated units understand the implications of the new Company Law on the corporate governance of state-owned enterprises and to raise awareness of the performance risks for directors, supervisors, and senior management.



Scene of Training on the New Company Law

Case

Hosting a Specialized Lecture on Compliance Management

In December 2024, the Company organized a special lecture on compliance management, focusing on training participants to prevent and address legal risks in business operations. The session enhanced attendees' compliance awareness, strengthened their risk prevention capabilities, and improved the Company's overall level of compliance management, playing a positive role in promoting the Company's high-quality development.





Scene of Lecture

Key Performance

During the reporting period, the Company offered 11 legal training sessions, with a total participation of **4,294** attendees, including **354** legal personnel. The cumulative training duration reached **82,720** hours, averaging **19.26** hours per participant.

Tax Management

Shandong Hi-speed consistently upholds the principles of legalization and standardization in its operations, strictly adhering to national tax laws and regulations and fulfilling its obligation to honest tax compliance. We regard tax compliance as a crucial aspect of fulfilling its economic and social responsibility as a state-owned enterprise. We continuously improve our tax management system, strengthen tax risk prevention mechanisms, and enhance tax management efficiency through digital empowerment. This ensures the accuracy and timeliness of tax declarations and payments. During the reporting period, the Company paid a total of RMB 2.131 billion in taxes and fees.

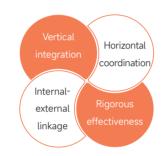


Adherence to Business Ethics

Anti-corruption and Anti-bribery

Shandong Hi-speed continuously improves its institutional framework. During the reporting period, the Company revised six disciplinary inspection-related documents, including the Detailed Rules for Case Review by the Discipline Inspection Commission of Shandong Hi-speed Company Limited, the Management Measures for Supervision, Inspection, and Review Statistics of the Discipline Inspection Commission of Shandong Hi-speed Company Limited (Trial), and the Regulations on Strengthening Case Quality Management by the Discipline Inspection Commission of Shandong Hi-speed Company Limited, aiming to implement the requirements of comprehensive strict governance of the Party, enhance employees' ideological awareness, and standardize their business ethics practices.

To ensure the legality and compliance of business conduct, under the unified leadership of the Company's Party Committee and Discipline Inspection Commission, the Discipline Inspection Office and other departments of Shandong Hi-speed have played a comprehensive coordinating role in planning, supervision, analysis, and evaluation. The Company emphasizes intra-Party supervision as the leading force, promoting the effective integration of disciplinary inspection supervision with other forms of oversight. establishing mechanisms for resource sharing, information exchange, and complementary measures.



Political Supervision Framework

During the reporting period, the Company conducted multiple training sessions and activities focused on integrity education.

Integrity Education for New Hires

On August 30, 2024, the Discipline Inspection Commission of Shandong Hi-speed conducted an integrity education session for over 30 new employees. The session introduced the responsibilities and functions of the Company's Discipline Inspection Commission and its internal departments, explained the scope of supervision targets and public officials, and analyzed five common disciplinary violations and their corresponding penalties based on the newly revised Regulations and recent typical cases. Participants also watched educational videos, including "Discipline • Penalty Regulations • Animated Lessons" and The Wrong Path, to guide new hires in "fastening the first button" of integrity in their careers.

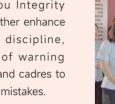


Scene of the Integrity Education Activity for New Hires

Case

Visiting an Integrity Education Base

In June 2024, company leaders, mid-level managers from headquarters, and members of stationed units visited the Dezhou Integrity Education Base. This visit aimed to further enhance awareness of integrity and legal discipline, strengthen the deterrent effect of warning education, and guide Party members and cadres to learn from examples and avoid similar mistakes.



Scene of the Visit to the Integrity Education Base

Complaint Reporting Channels and Whistleblower Protection Mechanisms

Shandong Hi-speed has established multiple reporting channels, including phone lines and email, to ensure open and accessible communication. The Discipline Inspection Commission's hotline is staffed during working hours, and the number is publicly available on the Company's website under the Party conduct and integrity section.

Regarding whistleblower protection, the Company adheres to the Implementation Rules for Handling Real-Name Reports by the Discipline Inspection Commission of Shandong Hi-speed Company Limited and other relevant policies, ensuring strict confidentiality of real-name whistleblowers information.



Key Performance

During the reporting period, the Company actively organized anti-corruption training sessions, covering a total of 7,782 employees with a cumulative training duration of 36,904 hours. Directors of Shandong Hi-speed participated in 4 anti-corruption training sessions, with a total attendance of 18 participations and a cumulative training duration of 176hours, averaging 4 hours per participant. The signing rate of integrity and business ethics-related documents reached 100%



Anti-monopoly and Anti-unfair Competition

Shandong Hi-speed consistently adheres to the principles of legalization and market-oriented operations, strictly complying with national laws and regulations such as the *Anti-Unfair Competition Law of the People's Republic of China* and regulatory requirements. The Company upholds the principles of fair competition and honest business practices, firmly resisting unfair practices such as commercial bribery and false advertising. The company's *ESG Management Manual* specifies that the Environmental, Social, and Governance (ESG) Committee and its subordinate working groups oversee antitrust and anti-unfair competition initiatives, continuously improve internal compliance control mechanisms, and strengthen the cultivation of commercial ethics and compliance awareness across all employees. By embedding anti-unfair competition requirements into the entire business process, the company upholds its state-owned enterprise's responsibilities to actively foster a healthy and orderly market environment, ensuring compliance-driven operations to safeguard high-quality development.

Development under the Guide of the Party Leadership

During the reporting period, the Company's Party Committee continuously improved its institutional framework, including the Rules of Procedure for Party Committee, the Measures for Creating "Four Good" Leadership Teams, and the Implementation Measures for the Party Committee's Primary Responsibility and the Discipline Inspection Commission's Supervisory Responsibility in Party Conduct and Integrity. The Company remains steadfast in its commitment to Party leadership, integrating Party building into all aspects of production and operations, and strengthens Party organization development, ensuring deep integration of Party work with corporate management.



Party Building and Activities

The Company is committed to leveraging the "Shangao Dang Qi Hong" (Red Party Flag of Shandong Hi-speed) Party building brand as a guiding force, and has established platforms and mechanisms to solidify grassroots foundations and energize Party members. During the reporting period, Party secretaries at all levels delivered 180 disciplinary-themed Party lectures, and numerous Party-building activities were organized to effectively guide and educate Party members and cadres.

Case

Special Study Session to Implement the Spirit of the Third Plenary Session of the 20th CPC Central Committee

To thoroughly study and implement the spirit of the Third Plenary Session of the 20th CPC Central Committee, the Company organized a special study session during the reporting period. The opening ceremony emphasized that the Third Plenary Session systematically outlined plans for further comprehensively deepening reforms and advancing Chinese modernization, providing clear direction for future progress. It was highlighted that raising political awareness, deeply understanding the rich connotations and core principles of the plenary session's spirit, and demonstrating a high level of political, action, and ideological consciousness are essential for effective implementation. The session also stressed the importance of improving the quality of learning through active exchanges, experience sharing, and mutual learning to collectively enhance the ability to solve practical problems. Participants were encouraged to apply what they learned to their specific work, transforming the insights gained into a powerful driving force for advancing reforms and achieving new breakthroughs in all aspects of the Company's operations.



Special Study Session to Implement the Spirit of the Third Plenary Session of the 20th CPC Central Committee in Party Committee of Affiliated Units

Case

Strengthening Ideals and Beliefs, Maintaining the True Character of Party Members

The Party Branch of the Information Group carried out a themed Party Day activity titled "Strengthening ideals and beliefs, maintaining the true character of party members", which comprehensively demonstrated three stipulated procedures: concentrated study, Party member meetings, and branch committee meetings. The meeting addressed issues identified during routine inspections and provided training on "Standardizing pre-research by Party organizations and meeting minutes documentation" to tackle prominent problems. Party branch secretaries and Party affairs personnel engaged in discussions and exchanges on how to conduct high-quality themed Party Day activities. All participants expressed their commitment to learning from the experiences of outstanding Party branches, aligning with advanced practices, identifying and addressing shortcomings, and further standardizing intra-Party organizational life.



On-site Observation Meeting for Themed Party Day Activities of Affiliated Units

Case

Special Study Training on to the Spirit of the Third Plenary Session of the 20th CPC Central Committee

To thoroughly study and implement the spirit of the Third Plenary Session of the 20th CPC Central Committee, unify ideological consensus, grasp the core principles, and comprehend its essence, the Company's Party Committee organized a specialized training session on the spirit of the Third Plenary Session from November 20 to 29, 2024. Senior executives and mid-level leadership personnel participated in the concentrated study and training program.





Special Study Training on to the Spirit of the Third Plenary Session of the 20th CPC Central Committee





> Response to Climate Change

> Energy Resource Management

> Environmental Compliance Management





Response to Climate Change

Climate change is one of the most significant global risks today, posing threats to both human survival and the long-term sustainable development of enterprises. In response to the national dual-carbon goals, Shandong Hi-speed actively adheres to relevant laws, regulations, and institutional requirements, drawing on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The Company manages climate-related risks and opportunities through four dimension, namely governance structure, risk and opportunity identification, risk management, and metrics and targets.

Corporate Governance

The Company has formulated the ESG Working Manual, clarifying responsibilities for climate change initiatives and establishing a top-down management system. The Company's ESG Committee and its subordinate working groups oversee climate change initiatives. They regularly identify and assess climate-related risks and opportunities arising from operations, develop targeted climate strategies, and coordinate company-wide carbon emissions and reduction efforts. By adopting new materials, constructing "zero-carbon" highways, and implementing digital emission reduction solutions, the Company is scientifically and systematically advancing greenhouse gas emission control, and integrates response to climate change into the Company's strategic planning.

Strategy

Guided by frameworks and guidelines from the Intergovernmental Panel on Climate Change (IPCC), Shared Socioeconomic Pathways (SSP), and the Network for Greening the Financial System (NGFS), the Company conducts climate scenario analyses to identify climate-related risks and opportunities. This analysis enables the Company to anticipate and strategically manage the impacts of climate change on its operations.

Scenario Category	Low Emission Scenario	High Emission Scenario
Temperature Rise >	Global temperature increase controlled within 1.5°C	Global temperature increase exceeds 2°C
Scenario Description >	Assume global net-zero emissions by 2050, with average temperatures stabilizing at 1.5°C above pre-industrial levels	Assume continuous increase in greenhouse gas emissions throughout the 21st century, leading to a global temperature rise of 3.2-4.5°C by 2100
Scenario for Physical Risks Assessment	1	Increased probability of acute physical risks such as extreme weather events, with significant impacts from rising global temperatures and sea levels
Scenario for Transition Risks Assessment	Stricter policy regulations under this scenario, leading to significant transition risks	/

Using the above scenarios, we have analyzed the climate-related risks and opportunities faced by the Company, their time horizons (short-term: 0-1 year, medium-term: 1-5 years, long-term: 5+ years), impacts on the Company, and corresponding response measures, as summarized in the table below.

Risk Identification

ı	Risk Type	Risk Description	Reporting Period	Value Chain Links of Impact	Financial Impact	Response Measure
Physical Risks	Extreme weather events such as heavy rain, snowstorms, and fog	Extreme weather conditions may lead to road surface damage, slope collapses, accelerated aging of bridge structures, and an increased probability of accidents.	Short-term	Operations, downstream	Reduce toll revenue due to decreased traffic; increase accident handling due to increased accidents and increase road repair costs due to road repair	 Monitor weather changes and establish emergency plans for extreme weather. Enhance climate resilience of infrastructure. Use digital systems to collect real-time road and weather data.
Risks	Average temperature rise	Global warming increases the risks of droughts and wildfires. Higher average temperatures elevate cooling demands in service areas and toll stations, negatively impact road quality, and raise maintenance costs.	Long-term	Operations, downstream	Increase cooling demand in service areas and toll stations; increase energy consumption and maintenance costs	 Conduct high-temperature weather monitoring to ensure operational safety. Develop high-temperature emergency plans. Promote energy-efficient equipment to improve energy efficiency. Develop maintenance technologies for high temperatures.
Trans	Policies and laws	Adjustment of carbon emission and new energy management policies and release of new policies	Short to medium term	Operations	Increase compliance costs for carbon emissions	 Stay updated on policy and regulations changes, implement energy-saving and consumption reduction measures, and accelerate low-carbon transformation.
Transformation Risks	Technology	Further advancements in low-carbon maintenance technology, leading to obsolescence of traditional technologies	Short to medium term	Operations	Increased R&D expenditures for new and alternative technologies	Allocate budgets for low-carbon technology R&D and proactively initiate energy-saving projects.
	Reputation	Increase in invisible pressure on enterprises due to increased competition in new energy and low-carbon technologies	Medium and long-term	Operations	Poor progress in low-carbon initiatives may harm reputation and reduce revenue	 Actively develop green and low-carbon technologies. Enhance digital management and promote achievements such as zero-carbon highways.



Opportunity Identification

Opportunity Type	Description	Reporting Period	Value Chain Links of Impact	Financial Impact	Response Measure
Resource efficiency	Improving resource utilization efficiency reduces resource consumption and costs	Short to medium term	Operations, downstream	Reduce resource usage and operational costs	Actively implement energy-saving projects, adopt low-energy equipment, and explore resource recycling measures.
Energy alternatives	Optimizing energy structure will become important development orientation, presenting opportunities for transformation and upgrading	Medium and long-term	Upstream, operations, downstream	Reduce reliance on non-renewable energy and operational energy costs	Continue developing PV technology and actively adopt clean energy.
Products and services	Increased consumer focus on low-carbon travel due to climate change concerns	Medium and long-term	Operations	Zero-carbon projects and green operations attract customers, increasing revenue	Accelerate the construction of zero-carbon toll stations and highways, develop green operation models, and enhance publicity.
Market	Government incentives such as subsidies and tax benefits to address climate change	Short to medium term	Operations	Have access to government funding and improve corporate reputation	Monitor government policies, actively promote cooperation, and strive to secure policy support.

Impact, Risk, and Opportunity Management

The Company has established a management mechanism to address the risks, opportunities, and corresponding impacts of climate change through three key steps: identification, assessment, and response.



In line with the disclosure framework proposed by the TCFD, we systematically evaluate the array of risks and opportunities confronting the Company, classifying them into physical risks, transition risks, and opportunities. Drawing on national laws and regulations, policy directives, domestic and international sustainable development trends, and our organizational context, we define and describe the risks and opportunities precipitated by climate change.

For each identified risk and opportunity, we meticulously discern the primary climate-related drivers and assess their potential financial ramifications, and timeframe of impact.





Drawing upon our assessments, we devise tailored response measures to equip the Company with the requisite capabilities and resources to effectively mitigate climate change risks, and harness associated opportunities.

Metrics and Targets

The Company adheres to the principle of green development, actively responds to the national "Carbon Peak and Carbon Neutrality" goals, and focuses on greenhouse gas (GHG) emissions management. The primary management objective is to reduce GHG emission intensity, increase the use of clean energy, optimize the energy structure, and achieve high-quality development.

During the reporting period, the Company's GHG emissions were as follows:

Scope	Unit	2024
Direct (Scope 1) GHG emissions	tCO2e	13,913.78
Indirect (Scope 2) GHG emissions	tCO2e	89,687.15
Total GHG emissions (Scopes 1 and 2)	tCO2e	103,600.93
Total GHG emissions per million revenue (Scopes 1 and 2)	tCO2e/million yuan	3.64

Clean Power Generation

Case

PV Construction

The Information Group has installed PV panels covering approximately 1,094 square meters on the rooftop of Building 2, United Wealth Plaza. Since its installation and commissioning, the system has consistently generated around 80,000 kWh of electricity annually. This clean energy not only meets part of the daily electricity demand but also significantly reduces reliance on the traditional power grid, making a substantial contribution to the Company's energy-saving and emission-reduction goals.





PV Equipment



Energy Resource Management

Energy Management

Shandong Hi-speed is deeply committed to achieving the national "Dual Carbon" strategic goals. By focusing on refined energy management, the Company has established a modern energy management system that is green, low-carbon, and highly efficient. In strict compliance with policies such as the Energy Conservation Law, the Company leverages innovative digital energy monitoring platforms to track and analyze energy consumption across its road network in real time. Initiatives such as PV power generation are actively promoted to drive clean energy substitution and improve energy efficiency.

Comprehensive Energy Management Platform

The integrated energy management system of the affiliated units of the Company, a key tool for energy digital transformation, plays a significant role in the precise control of electricity usage. During the reporting period, the system enabled remote control and locking of air conditioning panels. By adjusting panel settings based on weather conditions, the platform effectively reduced energy consumption.



Case

Transition from Paper to Electronic Toll Invoices

The "Paper to Electronic" (P2E) project revolutionizes traffic service processes through digital transformation, "replacing material flows with data flows". This initiative achieves synergistic benefits of zero resource consumption, improved energy efficiency, and carbon emission reduction. It establishes a "lightweight, recyclable, and low-friction" traffic service system, providing an innovative model for implementing circular economy principles in public services.

The Company took the lead in promoting the P2E initiative across the province, independently developing an "Electronic Invoice" issuance terminal;

Vehicle passage efficiency increased by 25%-30% after implementing the P2E system;

Annual carbon emissions reduced by approximately 2,700 tons; annual operational costs saved by over RMB 8.5 million.





Drones and Digital Platforms

As of the end of the reporting period, the Company's "Integrated Air-Ground Smart Highway" project has achieved significant milestones in pilot areas.

Launched in 2023, the project focuses on developing drone-based dynamic monitoring and air-ground material delivery technologies. It has deployed nest-type, portable, and emergency rescue drone systems in the Jinan-Qingdao (Jinan section), Beijing-Taibei (Jinan section), and Zibo regions. In Jinan-Qingdao (Jinan section) Pilot: Utilizing nest-type drones at Huashan North Station, the project achieved twice-daily automated inspections along the Lingdian Interchange to Huashan Hub section, accumulating a total flight distance of 2,000 kilometers; Beijing-Taibei (Jinan section) Pilot: Drones deployed at the Gushan Toll Station cover the section from Yinjialin to the service area, transmitting real-time road condition data to optimize algorithms. Portable drones are managed by the Operations Management Center, conducting over 150 flights for inspecting complex sections such as the Jinan North Interchange and the Second Yellow River Bridge, as well as for emergency incident assessments. These flights support the development of multi-source data fusion algorithms.

The project establishes a three-dimensional monitoring network through a "fixed + mobile" model, ensuring 24/7 coverage of key road sections. Drone inspection automation rates exceed 90%, significantly improving event identification efficiency and emergency response capabilities. This initiative provides an innovative blueprint for the operation of smart highways.



Key Performance

Energy Consumption

Natural gas **216.07**_{10,000 m³</sup>}

Gasoline **273.10** Myrialiter **116.88** Myrialiter gas **30.17** Ton

Liquefied petroleum

Fuel oil

19.40_{Ton}

Liquefied natural gas **15.85**Ton Total purchased electricity

16,713.97_{10,000 kWh}

Total outsourced

heat $\mathbf{0}_{\mathsf{GJ}}$

Energy Consumption

Comprehensive energy

consumption **27,838.59**tce

Comprehensive energy consumption

density **0.98**tce/million yuan

Water Resource Utilization

Installation of Smart Water Meters

The Company has enhanced water resource management efficiency through intelligent upgrades, including the installation of smart water meters and the addition of main water pipeline switches and valves. These measures not only facilitate water conservation but also position smart water meters as critical tools for refined water resource management.











Key Performance

In 2024, the Company's total water consumption was **891,348.74** tons.



Environmental Compliance Management

Environmental Management System

In accordance with the Environmental Protection Law and other relevant regulations, Shandong Hi-speed has established a series of environmental protection management systems, including the Environmental Protection Management Regulations for New, Renovated, and Expanded Projects and the Environmental Protection Management System for Maintenance Operations. These systems integrate low-carbon and green development concepts into all aspects of production and operations. The Engineering Management Center has formed an Environmental Protection Leadership Group to strengthen environmental management in new, renovated, and expanded projects. Each department is responsible for the supervision and evaluation of environmental protection management.

Subsidiaries such as the Information Group, Luzhou Southeast Expressway, ECON Technology, and Henan Development Company have obtained ISO 14001 Environmental Management System certification, demonstrating their commitment to sustainable environmental practices.



ISO 14001 Environmental Management System Certification of Henan Development Company



ISO 14001 Environmental Management System Certification of Information Group



ISO 14001 Environmental Management System Certification of Luzhou Southeast Expressway



ISO 14001 Environmental Management System Certification of ECON Technology



Environmental Inspections and Emergency Drills

Shandong Hi-speed places a high priority on environmental management, strictly adhering to national regulations such as the *Interim Measures For the Management of Emergency Plan for Environmental Emergencies*. The Company has formulated the *Comprehensive Emergency Plan for Natural Disaster Incidents* and regularly conducts emergency drills to enhance environmental risk prevention and control capabilities, as well as the professional level of emergency response. This ensures "timely detection, rapid response, and precise handling" of emergencies.

During the reporting period, subsidiaries conducted multiple environmental inspections, identifying and rectifying potential environmental risks across various projects, and made improvements in areas such as drainage system setup and hazardous waste management, ensuring compliance with environmental regulations and safety standards. Additionally, the Company demonstrated excellent performance in responding to severe weather conditions, swiftly organizing emergency measures to maintain a safe and efficient working environment.

Case

Snow Removal and Anti-slip Drill

On November 22, 2024, the Zibo Maintenance Sub-center of the Zibo Operations Management Center conducted a winter snow removal and anti-slip emergency drill. The drill was organized by the Snow Removal and Anti-Slip Leading Group Office, with the Operations Management Center General Manager serving as the overall commander and the Assistant General Manager as the on-site commander. The project department head was responsible for coordinating personnel, equipment, and materials. All departments actively participated in the drill, helping refine and detail the emergency response plan, significantly strengthening the Company's emergency response capabilities.





Snow Removal and Anti-Slip Drill

Case

Taidong Operations Management Center Successfully Completes National Highway Network Tunnel Inspection, Achieving Top "National Ranking"

In July 2024, during the National Highway Network Technical Condition Monitoring, the Taidong Operations Management Center successfully completed the special inspection of the Panlongshan Tunnel. Through meticulous responsibility allocation and systematic organization, the Company leveraged the "Four New" technology concept (new technologies, new equipment, new materials, and new processes) to establish a new benchmark in tunnel management and maintenance, facilitated the development of an intelligent control platform, upgrades to the digital inspection system, and the application of unmanned maintenance equipment, forming a comprehensive technological innovation system. The inspection team highly commended the tunnel structural maintenance, electromechanical facility operations, and emergency response capabilities, providing a practical model for the Center to further standardize and refine its management practices.

The inspection results were fully validated in the 2025 annual assessment released by the Ministry of Transport. Shandong Province achieved top national rankings in comprehensive evaluation and key bridge and tunnel monitoring. Notably, the Panlongshan Tunnel, recognized for its forward-looking life cycle management system and innovative technological applications, ranked first in the key tunnel monitoring category. This achievement highlights the Company's success in implementing smart and green development practices under the "14th Five-Year Plan" for maintenance and development, providing strong support for high-quality public travel.



Meeting Scene





National Highway Network Technical Condition Monitoring



Green and Smart Maintenance Design

During the reporting period, the Company actively conducted a series of research projects and applied new green maintenance technologies in the field of infrastructure maintenance. These initiatives aim to enhance maintenance efficiency, ensure safety, and promote sustainable development.

Case

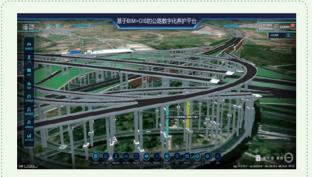
BIM + GIS-based Digital Highway Maintenance Platform

The Company innovatively developed a smart maintenance management platform based on the integration of "Building Information Modeling (BIM) and Geographic Information System (GIS)" technologies. By combining 3D BIM models with GIS, the platform achieves total-factor digital modeling of highway assets, dynamic monitoring of defects, and precise scheduling of maintenance operations.

- ▶ The establishment of BIM + GIS digital maintenance platform enables parametric modeling of structures, visual representation of defects, and technical condition assessments.
- Application effect: Supported the development of the industry standard Application Standard for Highway Engineering Maintenance Information Models, filling the gap in BIM technology standards for the maintenance and operation phase, promoting sustainable development within the industry



Operation Interface of BIM + GIS Digital Platform



Visual BIM Model



State Diagram of Tunnel Internal Components
Associated with Defect

Case

New Technological Achievements by Road and Bridge Operating Units

During the reporting period, the Company's road and bridge operating units achieved several technological advancements:

- ► High-speed snow removal equipment for highway shoulders: Enables mechanized clearing of snow on road shoulders, with a clearing speed of up to 15 km/h; significantly improves efficiency, reduces safety risks, and lowers maintenance costs.
- Quick pickup device for highway litter: Is capable of quickly collecting litter from highways at speeds of 50 km/h or higher; maintains road cleanliness and reduces the risk of traffic accidents.
- ➤ Smart maintenance robot: Utilizes Beidou positioning and visual recognition technologies to enable intelligent and visible maintenance operations; reduces safety risks and labor costs.



Operation of High-Speed Snow Removal Equipment for Highway Shoulders



Quick Pickup and Collection Device for Highway Litter



Smart Maintenance Robot



Case

Highway Maintenance Construction Safety Supervision System

During the reporting period, the Company developed a Highway Maintenance Construction Safety Supervision System, utilizing cloud computing and Internet of Things (IoT) technologies. This system enables real-time monitoring and safety warnings at construction sites. By integrating smart devices, it enhances safety protection capabilities during maintenance operations, effectively reducing the risk of accidents and ensuring a safe and controlled construction process.



Interface of Construction

Case

"Shangao Smart Patrol" Intelligent Inspection System

The "Shangao Smart Patrol" system, a lightweight vehicle-mounted intelligent inspection solution, leverages artificial intelligence and automated analysis technologies to improve the efficiency and accuracy of maintenance inspections. The system enables precise detection and timely handling of defects, promoting the implementation of preventive maintenance, effectively reducing daily maintenance costs and enhancing management efficiency.





"Shangao Smart Patrol" Maintenance Platform

Installation of Patrol Equipment

Case

Intelligent Snow Removal and Ice Melting System

The intelligent snow removal and ice melting system collects real-time road and weather data to accurately calculate and automatically initiate the ice-melting process. It sprays environmentally friendly de-icing agents on targeted road sections, effectively preventing ice formation. This system not only enhances the intelligence level of winter maintenance but also ensures road safety. The project was awarded the "Outstanding Award for Promotion of Technological Innovation Achievement in Maintenance Management" by Shandong Hi-speed Group.





Intelligent Snow Removal and Ice Melting System

Outstanding Award for Promotion of Technological Innovation Achievement in Maintenance Management

Three Wastes Management

Shandong Hi-speed has actively established waste management systems to meticulously address wastewater, waste residue, and noise pollution.

Wastewater Treatment



In order to ensure the normal operation of wastewater treatment systems, Shandong Hi-speed formulated the *Measures for the Management of Sewage Treatment Equipment*, which stipulate in detail the management of sewage treatment systems in Operations Management Center and service area under its jurisdiction. The following sewage treatment methods are as follows:

- Mechanical and electrical staff regularly inspect equipment during operation of sewage system. Sewage treatment equipment shall be inspected once a day, and the inspection information shall be recorded in the *Inspection Record Form of Sewage Treatment Equipment*.
- The sewage of mixing station shall be purified and precipitated first, and the treated clean water shall be used for vehicle cleaning, road surface watering, structure maintenance, etc. Other unusable wastewater shall be discharged into sewage pipeline after treatment and inspection.
- Laboratory wastewater shall be collected by classification according to laboratory management methods and uniformly delivered to qualified wastewater treatment institutions for disposal.



Waste Residue Disposal



Construction waste residues shall be collected and transported to waste treatment station for disposal as required.

Noise Treatment



By installing noise barrier facilities, the noise hazard caused by expressway operation to the sensitive points of acoustic environment along the line can be effectively eliminated or mitigated.

Key Performance

Waste Consumption

Waste lamp tube

570 Piece

Waste printer cartridge

2,297_{Unit}

Waste battery

5,968 Unit

Waste ink cartridge

1,281_{Unit}

Waste lamp cartridge

206_{Unit}

Waste paper

7,200_{Bag}

Domestic waste

783,447_{Ton}

Kitchen waste

290.85_{Ton}

Green Park

Shandong Hi-speed consistently prioritizes green construction and ecological improvement in its park. Based on the actual conditions of the park, the Company has carried out greening and replanting efforts in a timely manner, covering an area of approximately 700 square meters. A variety of high-quality vegetation, including acer monoes, osmanthus fragrans, and ilex crenata, has been introduced, creating a healthy and harmonious ecological environment. Through meticulous greening management, the Company strives to provide employees and the public with a more beautiful and refreshing working and living environment.



Greening of the Park

Biodiversity Conservation

The Company strictly complies with the Convention on Biological Diversity and relevant national regulations. Its ESG Working Manualhas specified responsibilities for biodiversity-related issues, while the Environmental, Social, and Governance (ESG) Committee and its subordinate working groups oversee biodiversity conservation initiatives, integrating strategic planning, risk management, and operational execution to ensure systemic protection. The Company upholds red lines for ecological protection and optimizing site and route selection plans. We proactively avoid ecologically sensitive areas and biodiversity-rich regions, minimizing disturbances to natural ecosystems through measures such as optimizing construction techniques and preserving native vegetation. Additionally, the Company innovatively applies green construction technologies (such as low-noise equipment) to establish an ecological management system. In the future, Shandong Hi-speed will continue to strengthen our capacity for biodiversity protection. As a state-owned enterprise, we are committed to contributing to the construction of an ecological security barrier and promoting the harmonious coexistence of humans and nature, providing the "Shangao Solution" for building a beautiful China where humanity and nature thrive together.

Total environmental investment 21,608.19 RMB 10,000	Environmental incidents $oldsymbol{0}_{Case}$	Incidents of violation of laws and regulations in the environmental field 0_{Case}
Conforming rate observed in pollutant monitoring 100%	Synchronized operation rate of environmental facilities 100%	Compliance rate of "three simultaneities in environmental protection for construction projects 100%







Service Quality Assurance Innovation-Driven Development

Data Security Protection

Responsible Supply Chain



Service Quality Assurance

Shandong Hi-speed rigorously implements laws and regulations such as the Product Quality Law and adheres to its quality policy "Continuously improving the quality of toll collection, maintenance, road assets, information and electromechanical systems, and travel services to serve the public, contribute to society, reward shareholders, and empower employees". By consistently enhancing quality management, the Company drives high-quality development.

Product Quality Management

During the reporting period, Shandong Hi-speed successfully underwent the re-certification audit for its ISO 9001 Quality Management System. Additionally, Henan Development Company obtained ISO 9001 Quality Management System certification for the first time.





ISO 9001 Quality Management System Certification of Shandong Hi-speed

In accordance with the requirements of the quality management system, the Company refers to the Risk Management Measures to identify and analyze opportunities and risks that impact performance across all departments and units, plans response measures, and clarifies work strategies to ensure product quality and service safety.



ISO 9001 Quality Management System Certification of Shandong Hi-speed (Henan)



Quality Management Honors

Shandong Hi-speed consistently regards quality management as the lifeline of corporate development. During the reporting period, the Company focused on its core operations, the deepening of state-owned enterprise reforms, benchmarked against top-tier standards for quality and efficiency improvement, and selected and promoted management benchmarks. By actively summarizing and refining innovative experiences and best practices, the Company comprehensively demonstrated the achievements of our ongoing management advancements, striving to build a benchmark enterprise and drive high-quality development. During the reporting period, the Company was honored with awards such as the "Standardization Typical Case in Transportation Enterprises" and the "Standardization Excellence Unit in Transportation Enterprises"



中国交通企业管理协会 高速公路运营企业标准体系的构建 山东高速股份有限公司 交通企业标准化典型案例 颁发单位:中国交通企业管理协会 颁发日期:二〇二四年九月



Plague of Work Rules for Highway Road Highway Administrator System

Standardization Typical Case in Transportation Enterprisest

Standardization Excellence Unit in **Transportation Enterprisest**



Certificate of Units Participating in Preparation of Group Standard



Certificate of Units Participating in Preparation of Group Standard



Standardization Typical Case in **Transportation Enterprises**

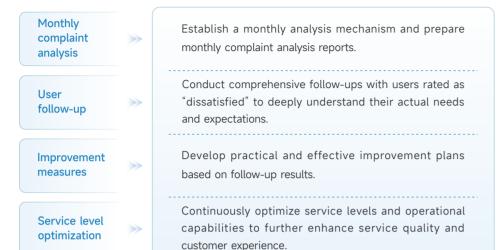
Customer Satisfaction Management

To further standardize complaint management, improve complaint handling procedures, and comprehensively enhance service quality, Shandong Hi-speed updated and revised the Complaint Handling Management Measures based on the principles of "unified management, categorized processing, hierarchical handling, and follow-up evaluation", aligning with practical work requirements.





Satisfaction Process Measures





Product Accessibility Improvement

Shandong Hi-speed adheres to the core philosophy of "enabling the public to share high-quality travel services". Guided by the goal of improving the accessibility of transportation infrastructure, the Company fulfills its social responsibility by building an extensive, inclusive, and intelligent road network service system. The Company continues to advance the optimization of its road network structure, strengthening transportation connectivity in underdeveloped regions. By leveraging ETC contactless passage, full coverage of mobile payments, and upgrades to accessibility facilities, the Company ensures that diverse groups have equal access to convenient travel services; additionally, the Company deepens application of technologies such as the "BIM + GIS" smart maintenance platform and vehicle-road coordination warning systems to enable the real-time sharing of road condition information and precise emergency response scheduling, effectively overcoming barriers posed by extreme weather and special sections.

Smart Travel Services

Case

67

"ShanGao Xing • ChangHeTong" Cultural and Tourism Activities

In line with the Company's 2024 work requirements and the new integration of "expressway + cultural tourism", Shandong Hi-speed signed comprehensive strategic cooperation agreements with Shandong Cultural Tourism Group and Shandong Self-driving Travel Association. In 2024, the Company launched eight large-scale themed cultural and tourism activities under the theme of "ShanGao Travel • ChangHeTong"; additionally, keeping pace with innovative trends in transportation-tourism integration, the Company integrated self-driving tourism-related products into the ChangHeTong App. This integration enables interoperability with the self-driving tourism association's mobile service platform, offering customized products and services. The App also features a scenic spot e-ticket module, providing the public with one-stop services such as ticket purchases, route planning, and travel services.

Leveraging the Company's big data platform, the system accurately identifies major customer vehicles, establishing comprehensive, accurate, and dynamic profiles for refined management. Throughout platform operations, the Company has been maintaining excellent communication with customers, utilizing backend data and program logs to collect and analyze user feedback, addressed issues such as application crashes and long buffering times through optimized code and caching technologies, enhancing response speed, system stability, and overall efficiency. These efforts continuously improve the service functions and application scenarios of the "ChangHeTong" App.





"ShanGao Xing • ChangHeTong" Cultural and Tourism Activities

Campus and Enterprise Quality Training

Shandong Hi-speed actively commits to quality training initiatives both on campuses and within the enterprise. In 2024, in collaboration with the Shandong Quality Survey Management Association, the Company carried out a series of campus science popularization activities. Internally, the Company conducted training programs covering market order, tunnel management, ballastless track, station management, and marketing, strengthening the integration of theory and practice while promoting the inheritance and development of knowledge and skills, thereby laying a solid foundation for cultivating future industry leaders and enhancing the Company's core competitiveness.

Case

Quality Campus Tour - PDCA for Growth

On May 21, 2024, at the invitation of the Shandong Quality Survey Management Association, the Company participated in the Lixia District Campus Lecture Hall event organized by the Lixia District Science and Technology Association and the Lixia District Education and Sports Bureau of Jinan City. The event featured a lecture titled The Application of the PDCA Cycle in Class Management, attended by over 90 students.



Lixia District - Campus Lecture Event



Case

Specialized Business Training on Railway Construction Market Order and Bidding

On July 8, 2024, the Company's subsidiary, Rail Transportation Group, in collaboration with Lunan High-Speed Railway Co., Ltd., organized a specialized training session on railway construction market order and bidding. Over 100 participants from Rail Transportation Group, Shandong Railway Investment Holding Group Co., Ltd., and other related entities attended the training. The session combined "theoretical explanations with practical case studies", providing detailed insights into bidding processes, migrant worker wage distribution, and contract management in railway construction projects, and addressed key challenges encountered in daily operation on-site.





Specialized Business Training on Railway Construction Market Order and Bidding

Case

Tunnel Construction Safety and Quality Management Training

On November 2, 2024, Rail Transportation Group, in partnership with Lunan High-Speed Railway Co., Ltd., conducted a training session on tunnel construction safety and quality management. Over 140 participants from Rail Transportation Group, Shandong Railway Investment Holding Group Co., Ltd., and other relevant units attended the training. The session adopted a hybrid teaching model of "theoretical essence + practical case sharing", focusing on the core aspects of safety management in tunnel construction.





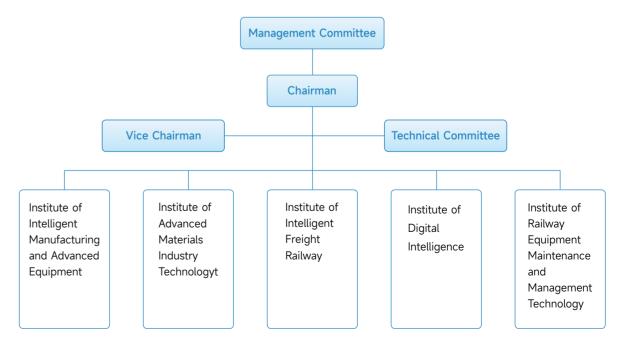
Tunnel Construction Safety and Quality Management Training



Innovation-Driven Development

Corporate Governance

Shandong Hi-speed attaches great importance to innovation and R&D. The Company has formulated the *Measures for the Management of Innovation Work* to promote the smooth realization of the Company's strategic objectives and tasks and promote the systematization, standardization, specialization and institutionalization of innovation work. The Rail Transportation Company has set up a Research and Development Center, which is managed by the Management Committee and consists of five research institutes.



R&D Center Organizational Structure



Strategy

Risk Identification

Risk Type	Risk Description	Reporting Period	Financial Impact	Response Measure
Technology Risks	In the development of new technologies such as intelligent transportation and smart expressways, challenges like insufficient technical maturity, cost overruns, or low market acceptance may lead to project failure or delays	Medium and long-term	Increase R&D expenditures; cause potential revenue loss and reduce market competitiveness if technology fails to meet expectations	 Strengthen technical team building, conduct regular project evaluations, and establish technical early warning mechanisms. Collaborate with universities and research institutions to access advanced technical support
Policy and Legal Risks	Changes in national transportation policies or stricter environmental requirements may impact the Company's operational models and innovation direction, such as regulations on new energy vehicles	Short to medium term	Increase compliance costs, cause potential fines, lawsuits, or administrative penalties, affecting cash flow.	 Actively monitor policy changes, enhance communication with government departments, and ensure alignment with policies and regulations. Establish a compliance management system.
Competitive Risks	With the development of a multi-tiered road network comprising expressways, national and provincial highways, as well as county and rural roads, the road network has been progressively refined year by year. This has led to the emergence of parallel or alternative routes in certain sections; concurrently, the ongoing enhancement of other passenger and freight transport systems is likely to divert traffic from the original road segments, impacting their usage patterns.	Medium to long term	Potential decline in revenue and unclear market positioning, impacting profitability	 Enhance service quality, create superior road conditions, and improve road traffic efficiency. Strengthen intelligent infrastructure development, increase investment in the research and development of smart highway technologies and explore the application of Al technologies to boost service efficiency.

Opportunity Identification

Opportunity Type	Description	Reporting Period	Financial Impact	Response Measure
Product Innovation	The introduction of technologies such as toll collection systems, smart toll stations, and intelligent traffic management platforms can create new products and services that meet market demands.	Medium and long-term	Successful product launches can drive revenue growth and enhance market competitiveness	 Increase R&D investment, adopt advanced technologies, and conduct market research to ensure new products meet customer needs. Promote digital transformation to improve service efficiency.
Data-Driven	Leverage big data and artificial intelligence technologies to enable traffic flow prediction, smart maintenance, and other new models, improving decision-making efficiency and service quality.	Medium and long-term	Data-driven strategies can enhance operational efficiency, achieving cost savings and revenue growth.	 Establish a data analysis team, integrate internal and external data resources, and promote data-driven decision-making and innovation.

Opportunity Type	Description	Reporting Period	Financial Impact	Response Measure
Transformation and Upgrading	With ongoing national investment in transportation infrastructure and the expansion of the highway network, the Company can achieve business transformation and upgrading through renovation and expansion projects.	Medium and long-term	Successful transformation can improve operational efficiency and service quality, enhancing profitability.	• Develop systematic transformation strategies, optimize resource allocation, and strengthen project management to ensure the smooth fulfillment of renovation and expansion tasks.

Impact, Risk, and Opportunity Management

The Company ensures effective response to potential risks during research, development, and innovation through risk identification, assessment, monitoring, and management, thereby promoting technological innovation and enhancing market competitiveness.



The Company conducts regular comprehensive risk identification, with a particular focus on technical risks, policy risks, and market competition risks in areas such as intelligent transportation, smart expressways, and new energy projects, ensuring better identification of potential threats during the innovation process.



For each identified risk, the Company assesses its specific financial and operational impacts. For example, technological risks may lead to increased R&D costs without immediate revenue generation, while policy risks may raise compliance costs. The results of risk assessments are used to prioritize and adjust strategies.



The Company establishes a dynamic risk monitoring system to regularly analyze policy changes, market trends, and competitor activities, particularly in intelligent transportation and green projects. This enables timely adjustments to corporate strategies, preventing risks from materializing into actual losses.



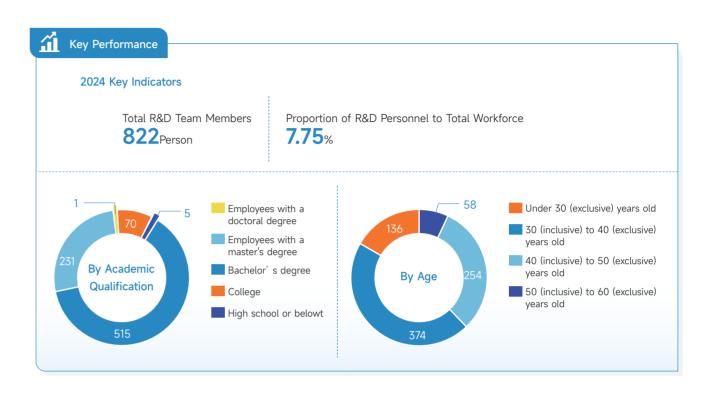
The Company develops targeted risk management plans to ensure effective control and mitigation of risks during technological innovation and market expansion. For instance, collaborations with research institutions and communication with industry associations provide the latest technical insights and policy guidance, ensuring that new products and services meet market demands and regulatory requirements.



Metrics and Targets

In 2024, the Company formulated the *Digital Development Plan* (2024-2026) and initiated over 10 digital system projects during the reporting period to comprehensively enhance road and bridge operations and corporate management.









Digitalization Construction

In alignment with the Group's overall digital transformation strategy and the Digital Development Plan (2024-2026), the Company will leverage its development blueprint to continuously strengthen its core highway business, promote high-level application of data elements, and support digital governance and business intelligence, enhancing the "Shangao . Xing" brand and drive high-quality sustainable development.

Future Three-Year Digital Construction Planning Concept



Digital Development Blueprint

In line with the Company's "1 + 3 + 9" digital development blueprint, the transformation path is clearly defined, with a focus on strengthening the digital construction of the highway main business.



Empowerment Across Business Lines

Digital empowerment will enhance the entire business chain of "construction, management, maintenance, operation, and service,", improving operational efficiency and management levels across all business areas.



Digital Highway Industry Development

The Company will fully develop the "Highway +" digital industry, broaden business models, and actively explore the integration of digital and traditional businesses.



Role of Data Elements

Data will serve as a foundational resource and innovation engine. By promoting high-level application of data elements, the Company aims to achieve deep integration and synergy across businesses.



Collaborative Optimization and Reuse Efficiency

The focus will be put on collaborative optimization and reuse efficiency of data elements, enhancing their application efficiency and effectiveness across business links.



Digital Governance and **Intelligent Operations**

The Company will promote digital governance and intelligent business operations, achieving efficient integration and smart management of information flow, capital flow, and business flow.



Industrial Transformation and Brand Enhancement

The Company will support industrial transformation and upgrading, enhance the "Shangao · Xing" brand, and improve market influence and competitiveness.



The Company will inject strong momentum into high-quality sustainable development, ensuring effective alignment and integration of digital transformation and sustainability goals.



Future Three-Year Digital Construction Goals



Digital Infrastructure Construction

By the end of 2026, the Company will establish a comprehensive digital infrastructure and data resource system to support all digital applications.

The Company will accelerate the process

of data assetization, transforming data

into valuable assets and enhancing its



Expansion of Data Element Applications

The Company will significantly expand the breadth and depth of data element applications, promoting comprehensive data utilization across all business processes.



Integration of New Digital Technologies and System Coverage

The Company will get the innovative integration of new digital technologies promoted, ensuring full coverage of digital systems across all main business and enterprise management scenarios, improving management efficiency and operational effectiveness.



Digital Shangao Platform Construction

"Smart Shangao 3.0" New Landscape

development.

The Company will establish a

comprehensive "Smart Shangao 3.0"

landscape, enhancing the Company's

competitiveness and market position in

digital transformation and high-quality

overall value.

Data Assetization Process

The Digital Shangao platform will achieve high-level integration and seamless connectivity, facilitating efficient integration of information flow, capital flow, and business flow.



Digital Empowerment Effects

Digital empowerment will enhance global security, reduce business burdens, lower costs, and improve efficiency, significantly boosting management and service levels while enhancing the overall operational efficiency.



Digital Industrialization and **Diversified Business Expansion**

The Company will deepen digital industrialization and diversified business expansion, boosting business model innovation and diversified development.



National Leadership Goals

The Company aims to lead the nation in digital transformation, becoming a top-tier domestic provider of high-energy transportation infrastructure investment, construction, and operation services.

High-Quality Sustainable Development





Major Technological Innovation Achievements

- 1. Safety protection innovation and upgrade comprehensive technology for enhancing highway traffic safety facilities
- ➤ Shandong Hi-speed established a Transportation Safety and Simulation Technology R&D Center to address the complex human-vehicle-road environment.
- Developed Height-Retaining Anti-Block Device to upgrade W-beam guardrails to Class A safety standards through simple replacement, achieving a reuse rate of over 90%.
- ▶ Deployed on over 10 expressways, including Beijing-Shanghai and Rongcheng-Weifang, saving more than RMB 279 million.00



Transportation Safety and Simulation Technology R&D Center to Address the Complex Human-Vehicle-Road Environment





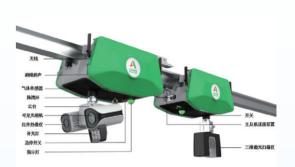
Height-Retaining Anti-Block Device to Upgrade W-beam Guardrails





Application of Series of Traffic Safety Facility Achievements

- 2. Intelligent measurement and control technology innovation application of intelligent inspection robots for tunnels in operation
- ▶ Depending on G2 Beijing-Shanghai Expressway (Jinan-Laiwu section) tunnel cluster, enhanced the tunnel management efficiency
- ▶ Independently developed intelligent track inspection robot featuring an analysis and decision-making system for 24/7, full-coverage tunnel structure monitoring
- Provided multi-parameter real-time monitoring to offer key support for tunnel risk prevention and precise management, realizing digital and precise management

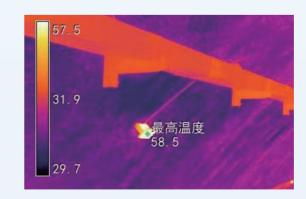


Concept of the Intelligent Tunnel Inspection Robot

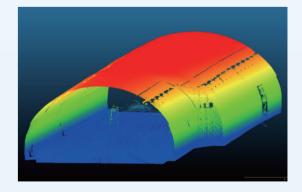




Use of the Intelligent Tunnel Inspection Robot







Data Diagram of 3D Point Cloud Data From Robot



3. **Digital management technology development** - integrated digital operation and maintenance technology for smart highways

The "Research and Application of Integrated Digital Operation and Maintenance Technology for Smart Highways" by the Information Group in 2024 developed IoT sensing devices such as smart cloud boxes and smart equipment cabinets to address challenges in data monitoring and fault localization of electromechanical systems. This achievement: was recognized as internationally advanced, further promoting intelligent operation and management of highways.



Smart Operation and Maintenance Platform

The Company continuously deepened technological R&D and innovation during the reporting period, earning multiple professional awards and industry honors, which further solidified the Company's technical expertise and advanced green development and industrial upgrading.





20th Transportation Enterprise Management Modernization Innovation Awards

Excellence Unit in the 20th Transportation Enterprise Management Innovation Awards

Awarding Authority	Award Name
	First Prize of Intelligent Control Technology and Application for Safe and Efficient Operation of Highway Tunnel Clusters
China Highway Society	Second Prize of Green and Low-Carbon Key Technologies for W-Beam Guardrails
	First Prize of Key Technologies for Traffic Safety Facility Upgrades and New Guardrail Development During Highway Operation
	First Prize of Smart Audit Key Technology Integrating Vehicle Holographic Recognition with Highway ETC Systems
Shandong Highway Society	Second Prize of Differentiated Design and Application Key Technologies for Asphalt Mixtures Based on Material Sources and Interface Adhesion Performance
	Second Prize of Key Technologies for Integrated Design of Subgrade and Pavement in Alluvial Plains of the Middle and Lower Reaches of the Yellow River
	Third Prize of Key Technologies for Integrated Management Platform of Highway Operation Big Data
	Technological Innovation Achievement Award of Key Technologies for Traffic Safety Facility Upgrades and New Guardrail Development During Highway Operation
Shandong Hi-speed Group	Technological Innovation Achievement Award of Smart Audit Key Technology Integrating Vehicle Holographic Recognition with Highway ETC Systems
	Technological Innovation Standard Award of Guidelines for Highway Slope Protection Using Plant Fiber Blankets

Collaborative Innovation.

The Company actively implements the "industry-academia-research-application" collaborative innovation mechanism, focusing on key areas such as green and low-carbon technologies, smart transportation, and new energy. By partnering with renowned universities and research institutions, the Company jointly tackles critical technical challenges and promotes the application of research achievements, such as PV pavement materials and energy storage system integration, in zero-carbon service areas and smart toll stations. These efforts inject strong intellectual momentum into the high-quality industrial development.



Case

Practical Learning Activities for Projects Along the Yellow River Basin

In 2024, the Company collaborated with Shandong Jiaotong University to establish the Shandong Provincial Collaborative Innovation Center for Ecological Protection and High-Quality Development in the Yellow River Basin. Leveraging the Jinan-Qihe Section of the Beijing-Taibei Expressway and utilizing big data analysis technologies, the project achieved cross-domain information sharing and developed an integrated air-ground traffic model based on multi-source data. Additionally, the Company created a comprehensive set of efficient emergency response plans and practical drill systems for traffic incidents, as well as fatigue warning systems for highways and intrusion warning systems for maintenance work zones.





Practical Learning Activities for Projects Along the Yellow River Basin

Innovation Incentive and Intellectual **Property Rights Protection**

To further advance and enhance the transformation of scientific and technological achievements, and to standardize related activities, the Company has formulated the Measures for the Management of Transformation of Scientific and Technological Achievements in accordance with national laws and regulations, as well as the Group's Measures for the Management of Science and Technology Projects and Measures for the Management of Innovation Work. These measures are tailored to the Company's actual conditions and aim to encourage employees to carry out in innovations and creations.

The subsidiary Information Group has passed GB/T 29490-2013 Intellectual Property Management System Certification.



GB/T29490-2013 Intellectual Property Management System Certification

Technology Ethics

As a leading entity in the investment, construction, and operation of transportation infrastructure, Shandong Hi-speed attaches importance to major livelihood projects such as highways. Its business attributes are not directly related to cutting-edge technological fields such as artificial intelligence or genetic engineering. Therefore, the Company currently does not engage in topics related to scientific and technological ethics review. The Company consistently complies with national laws, regulations, and industry standards, continuously improves its ethical risk assessment mechanisms for technological applications, and maintains a cautious approach to areas that may involve data security and the application of intelligent transportation technologies, resolutely preventing the risks of technology misuse.

Data Security Protection

Governance of Data Security

Shandong Hi-speed adheres to the guiding principle of "active utilization, lawful management, scientific development, and ensured security". In accordance with relevant laws and regulations such as the Cybersecurity Law and the Data Security Law, the Company has developed management systems including the Measures for the Management of Network and Information System Security and the Data Management Measures. During the reporting period, the Company engaged professional cybersecurity companies to conduct in-depth security penetration testing on key information systems and major affiliated units, organized over 30 self-inspections and safeguards for network and information security issues, along with two professional training sessions on cybersecurity awareness. These efforts continuously improve the Company's cybersecurity protection capabilities and effectively safeguard the rights and interests of both the Company and its customers. Its subsidiary Information Group has not only obtained ISO 27001 certification for its information security management system but also achieved the Data Management Capability Maturity (DMCM) Assessment Model Steady Level (Level 3) certification and the DSMM Level 2 certification in 2023, effectively ensuring the protection of the Company's and its customers' rights and interests.







ISO 27001 Certificate

Data Management Capability Maturity Assessment Model Steady Level (Level 3)

Certificate of Data Management Capability Maturity



Leveraging distributed multi-node database technology within the road network traffic system, Shandong Hi-speed has achieved in-depth mining and intuitive visualization of key data on highways. Through three core modules, the Company comprehensively monitors the status of the road network to ensure safe and stable operations.



Three Core Modules of Road Network Traffic System

Information Security Management System and Emergency Plans

The Company has established a comprehensive enterprise information security management system to protect corporate information and information systems from unauthorized access, use, disclosure, interruption, modification, and destruction, ensuring that data is not lost in the event of failures or catastrophic incidents.

Additionally, the Company places high importance on cybersecurity and has formulated the Comprehensive Cybersecurity Emergency Plan. This plan categorizes cybersecurity incidents into eight types and four levels, aiming to reinforce information security management, effectively prevent and mitigate information security risks, and ensure smooth business operations and data security. To enhance leadership and management, the Company established a Cybersecurity Leadership Group to oversee emergency response efforts, with an office dedicated to handling daily operations. The plan is designed to reinforce information security management, effectively prevent and mitigate information security risks, and ensure smooth business operations and data security.

Security System



Establish a comprehensive security management system, covering the entire life cycle of network and information system operation, maintenance, and usage, and clearly define the responsible entities for cybersecurity protection.

Graded **Evaluation**



Strictly adhere to graded security requirements and conducts regular graded evaluations. For systems that fail to meet the required security protection levels, take immediate remediation measures to ensure compliance with standards.

Testing and Reinforcement

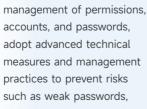
year



Conduct regular comprehensive testing and security reinforcement of information systems, update malicious code libraries and system patches promptly, and perform penetration testing on critical information systems at least once a

Enhanced Management

Strengthen security



such as weak passwords, plaintext passwords, and unauthorized access, ensuring the stable system operation.

Customer Privacy Protection

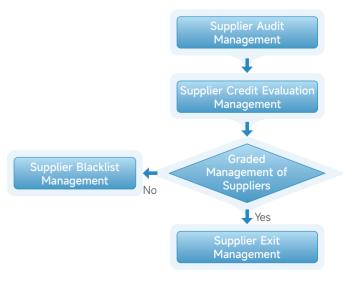
Shandong Hi-speed has established the "Shandong Hi-speed Operation Data Classification and Grading Management Platform" to precisely meet risk management requirements, ensure compliance and security, and significantly enhance the protection of operational data. This platform builds a robust defense for the confidentiality, integrity, and availability of user information.



Responsible Supply Chain

Whole-life-cycle Management of Suppliers

Shandong Hi-speed places great emphasis on the sustainable development management of its supply chain, and thus has developed a series of supplier management systems, including Bidding and Procurement Management Measures, Non-Bidding Procurement Management Measures, Performance Procurement Management Measures, Investment and Leasing Management Measures, and Supplier Management Measures. These systems ensure comprehensive life cycle management of suppliers. In addition, the Company has established a Bidding and Procurement Leading Group (Sunshine Procurement Leading Group) to oversee supplier procurement activities. This group implements a unified leadership model, with designated responsibilities, categorized and graded management, and separation of implementation and supervision.



Whole-life-cycle Management of Suppliers



To comprehensively assess comprehensive supplier performance, Shandong Hi-speed has developed a scientific and reasonable evaluation system, which evaluates suppliers across multiple key dimensions. Suppliers are classified into four grades based on their evaluation results:

Grade	Evaluation Criteria
А	Credit score ≥ 90, and all individual project performance scores ≥ 85 within the same year.
В	75 ≤ Credit score < 90; or credit score ≥ 90, but individual project performance scores < 85 and ≥ 60 within the same year;
С	60 ≤ Credit score < 75;
D	Credit score < 60.

Responsible Procurement of Suppliers

When selecting and managing suppliers, the Company not only focuses on cost and quality but also ensures that suppliers meet environmental, social, and governance (ESG) standards. This ensures a transparent, sustainable, and ethical supply chain. In the bidding documents, it must be specified that the preparation of bidding documents must strictly follow company or industry standards, ensuring legality, compliance, and scientific rationality based on project characteristics, prohibiting discriminatory clauses, and specifying specialized subcontracting is encouraged for highway projects while subcontracting under the guise of labor cooperation is banned, and the bid and performance bonds must comply with national and company regulations. Furthermore, the Company adheres to the principles of unified platform, dynamic management, graded responsibility, information sharing, and accountability for violations. The Bidding and Procurement Leading Group and its subordinate offices oversee supplier supervision and management.

Additionally, Shandong Hi-speed emphasizes integrity and self-discipline in supplier management, and requires suppliers to sign integrity agreements and provide commitment letters certifying no bribery or criminal conduct. Evaluation teams must also sign conflict of interest declarations.









Protection of

Employees' Rights
and Interests

Occupational
Health and Safety

Building a Better Society

90



Protection of Employees' Rights and Interests

Employee Recruitment and Employment

Shandong Hi-speed has developed comprehensive recruitment and compensation management systems and fair and transparent recruitment process based on laws and regulations such as the Labor Law and the Labor Contract Law. Internal policies include the Measures for the Management of Employee Recruitment, Regulations of the Management of Labor Relations, Headquarters Department Responsibilities, and Measures for Management of Total Wage Allocation.

The Company strictly adheres to position and staffing allocation regulations, upholding the principles of "openness, equality, competition, and merit-based selection" in recruitment and daily management. We rigorously verify identity documents to ensure authenticity of employee records and fully implement labor contract systems to resolutely oppose any form of forced labor, thereby safeguarding employee rights. Committed to human rights protection, we firmly reject illegal practices such as child labor and forced labor, while actively promoting gender equality, equal pay for equal work, and non-discriminatory employment principles. Our goal is to foster a transparent, fair, and inclusive workplace that respects human dignity. During the reporting period, no human rights violations occurred.

In 2024, the Company boasted a 100% rate of labor contract execution, coupled with 100% social insurance coverage, 133 new employees hired, 42 from social recruitment, 84 from campus recruitment, and 7 from other recruitment channels.





Number of employees with disabilities

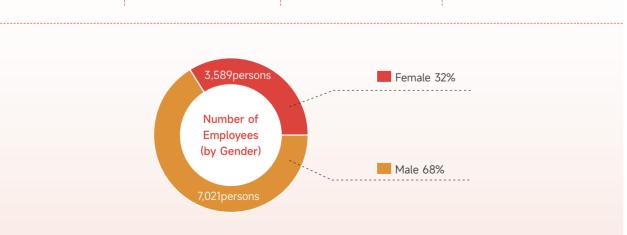
46_{persons}

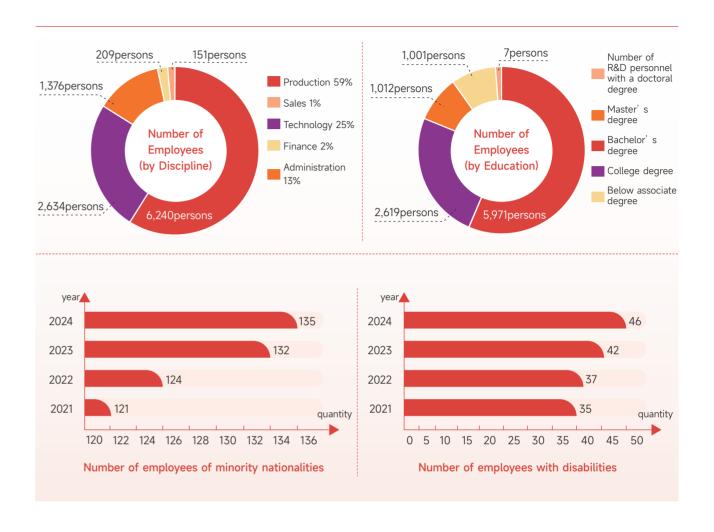
Number of employees of minority nationalities 135 persons

labor dispatch contracts

Number of employees under

421 persons

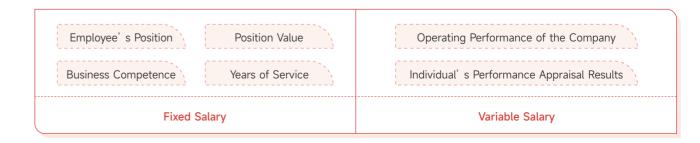




Employee Compensation and Benefits

The Company has established policies such as the Employee Compensation Management System, Employee Performance Evaluation Measures, and Total Wage Allocation Management Measures to build a scientific compensation system and performance evaluation mechanism. These policies aim to reward employees for their hard work and motivate their work drive.

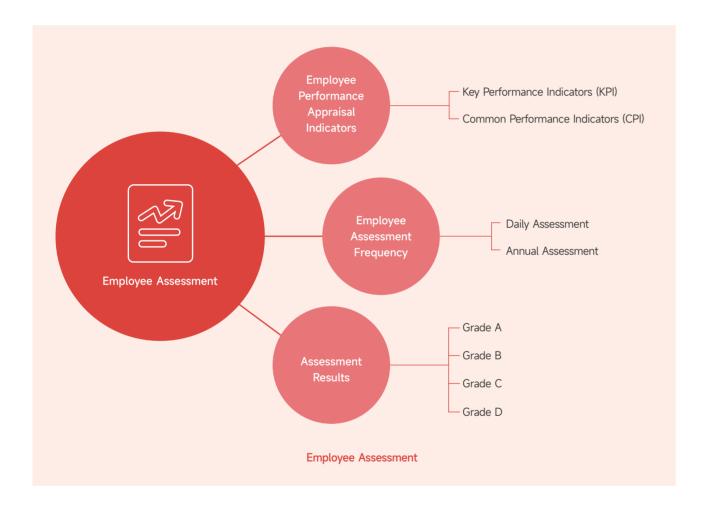
The employee compensation structure is divided into two parts: fixed salary and variable salary. Fixed salary is determined based on the employee's position, position value, business competence, and years of service.





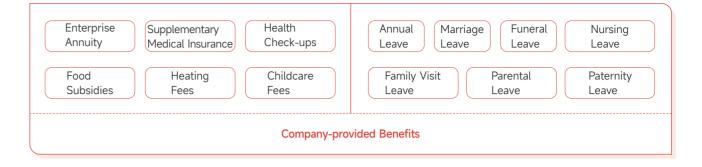
The employee performance appraisal index system consists of key performance indicators (KPI) and common performance indicators (CPI). It is built on precise quantitative analysis, supplemented by in-depth qualitative assessments, creating a comprehensive and accurate performance appraisal framework. Additionally, the Company has established an employee performance evaluation appeal mechanism. If employees have objections regarding their compensation or evaluation results, they can file an appeal with the human resources department during the public notice period, the human resources department will promptly notify employees of the results.

Assessment results are categorized into four grades: A, B, C, and D. According to the *Employee Compensation Management System*, these results are applied to the payment of performance salary, adjustment of ranks and grades, selection of excellent talents, and renewal, termination, and cancellation of labor contracts. They are also used as the condition for evaluation of employee's performance.



The Company's employee welfare system includes national statutory benefits and company-provided benefits. National statutory benefits include pension insurance, medical insurance, work injury insurance, unemployment insurance, maternity insurance, housing provident fund, paid annual leave, heatstroke prevention allowance. These benefits ensure that employees' basic rights are fully protected.

Company-provided benefits include enterprise annuity, supplementary medical insurance, on-the-job training, health examination, food subsidies, heating fees, and childcare fees. These benefits aim to enhance employees' quality of life and professional development. In accordance with the Labor Law and the Regulations on Medical Periods for Employees with Illness or Non-Work-Related Injuries, the Company has implemented the Attendance and Leave Management Regulations. In addition to statutory holidays, employees are entitled to various paid leaves, including parental leave, funeral leave, annual leave, paternity leave, nursing leave, marriage leave, and family visit leave.



Equity Incentive

To further improve Shandong Hi-speed's corporate governance structure, promote the establishment of incentive and restraint mechanisms, and fully motivate the enthusiasm, sense of responsibility, and sense of mission of directors, senior management, mid-level management, and other key personnel, the Company has developed a series of equity incentive plans in effective alignment with the interests of shareholders, the Company, and individual executives in accordance with laws such as the *Company Law* and *Securities Law*, and in combination with the Company's existing compensation and performance appraisal systems.



August 10, 2020

The first grant registration of stock options was completed, with 43.2 million shares granted for the first time and 206 people granted for registration.

May 31, 2021

The registration of reserved shares of stock options was completed, with 4,663,700 reserved shares registered and 34 people registered for reserved shares.

August 2, 2022

Completed the first exercise by the first granted persons, with a total of 16,046,600 shares listed and circulating, and a total of 195 exercising persons.

July 12, 2023

Completed the exercise of the second exercise period granted for the first time and reserved for the first exercise period, with a total of 13,185,200 shares listed and circulating (11,399,800 shares granted for the first time and 1,785,400 shares reserved for grant), and a total of 222 exercising persons (189 granted for the first time and 33 reserved).

July 26, 2024

Completed the exercise of the third exercise period granted for the first time and reserved for the second exercise period, with a total of 11,683,398 shares listed and circulating (10,349,838 shares granted for the first time and 1,333,560 shares reserved for grant), and a total of 214 exercising persons (181 granted for the first time and 33 reserved).



Democratic Management and Caring for Employees

Shandong Hi-speed places democratic management and caring for employees at its core. By regularly convening employee congress, the Company implements democratic decision-making mechanisms, encouraging employees to actively contribute ideas and ensuring that every voice is heard and effectively addressed. The Company also deeply practices the concept of caring for employees, focusing on employees' physical and mental health as well as their professional development. It provides diverse support and benefits, striving to create a warm and harmonious, people-oriented work environment.

Case

The Company held the Fourth Session of the First Trade Union Member (Employee) Congress, the 2024 Work Meeting, and the Safe Production Conference.

In 2024, the company held the Fourth Session of the First Trade Union Member (Employee) Congress, the 2024 Work Meeting, and the Safe Production Conference to review and summary the achievements of 2023, and arrange and deploy tasks for 2024. These meetings recognized outstanding contributions, reinforced responsibilities, and mobilized the entire company to embrace challenges, pioneer new initiatives, and strive for breakthroughs in high-quality development in the new era.





Targeted Assistance Program for Employees in Need

In 2024, the Company organized the "Dream Fulfillment through Education" and "Golden Autumn Assistance" programs to support employees in need: Dream Fulfillment through Education: Supported 8 employees with funding of RMB 8,000; Golden Autumn Assistance: Supported 1 employee with funding of RMB 6,000.



In 2024, the Company supported **53** employees in need in the assistance programs with funding of RMB **151.700**.

Shandong Hi-speed conducts employee satisfaction surveys through various channels every year to fully understand employees' demands and actively respond to employees' opinions and suggestions. The Company conducts interviews with employees through inspection and special inspection to understand their job satisfaction, record their problems in detail, form a list of problems and propose solutions. Moreover, we will also hold seminars such as youth employee seminars to listen to the opinions and suggestions put forward by employees and deal with them.



In 2024, the Company's employee satisfaction rate was over **99**%.

Talent Development Training

Shandong Hi-speed places great emphasis on talent development. In line with its strategic goals, the Company has formulated and refined the *Measures for the Management of Employee Training*, continuously optimizing talent cultivation and career development pathways, and encouraging employees to engage in continuous learning to adapt to market and technological changes. The Company has established a dedicated internal lecturer team. In 2024, 32 lecturers conducted courses such as From Good to Great: Building High-Performance Teams and Interpretation of Expressway Operation Policies. These lecturers underwent rigorous selection based on their professional skills, topic development, and training objectives to ensure high-quality training.

Case

Training for New Employees and Outstanding Young Talents

To strengthen the young talent pool and help new employees and outstanding young talents expand their knowledge, broaden their perspectives, and enhance their problem-solving abilities, the Company organized a training program from August 30 to September 1, 2024. A total of 55 new employees and outstanding young talents from subsidiaries and operations management centers participated in the program.





Scene of Training for New Employees and Outstanding Young Talents



Case

Safety Management Training

To further enhance employee safety awareness and advance the three-year campaign for fundamental improvements in work safety, the Company conducted a safety management training session on May 27, in combination with the activity in the Work Safety Month. Attendees included company leaders, mid-level managers from headquarters, all staff members, and leadership teams from units stationed at the research building, heads of safety departments, and full-time safety officers.





Scene of Safety Management Training

Professional Skills Training

Shandong Hi-speed deeply recognizes the importance of integrating theory with practice. Therefore, our approach to employee development extends beyond knowledge transfer and training to include a wide range of practical competitions. These competitions provide employees with a valuable platform to apply their knowledge in real-world scenarios. By simulating challenges from actual work environments, they encourage innovative thinking and teamwork, enabling employees to deepen and expand their skills while solving problems. This comprehensive approach significantly enhances employees' professional competence. In 2024, Company employees won multiple awards in major vocational skills competitions.

Case

Participation in the Shandong Provincial Highway Toll and Monitoring Staff Vocational Skills Competition

From August 12 to 15, 2024, the Shandong Provincial "Skills Revitalize Shandong" Vocational Skills Competition - the 2024 Shandong Transportation Industry Highway Toll and Monitoring Staff Vocational Skills Competition - concluded successfully in Jinan. The Company's 12 participants achieved outstanding results, securing 1st to 9th places, as well as 12th, 13th, and 14th places, having the highest average score among all participating units. The Company was awarded the Team First Prize and the Excellent Organization Award, making it the most awarded unit in the competition.



Opening Ceremony of the Competition



Scene of the Competition



Scene of Awards Ceremony

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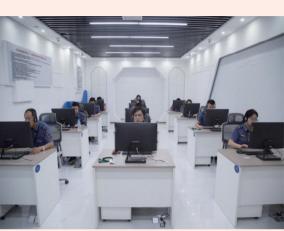
Scene of Awards Ceremony

Case

Hosting 2024 Toll and Monitoring Staff Vocational Skills Competition

To further enhance the professional skills of frontline employees and select candidates for higher-level competitions, Shandong Hi-speed successfully hosted the 2024 Toll and Monitoring Staff Vocational Skills Competition from June 17 to 20.





2024 Toll and Monitoring Staff Vocational Skills Competition

Case

Conducting Independent Evaluation of Toll and Monitoring Staff Vocational Skills

To ensure the in-depth implementation of the "'Shangao • Xing' service brand leading the way" initiative and promote the transformation of resources such as platforms, funds, and talent, the Jinan Operation Management Center of Jinan-Qingdao Expressway organized the 2024 Vocational Skills Evaluation Exam for toll collectors and road condition monitoring and information dissemination staff. This initiative aimed to identify and nurture potential skilled talents.





Independent Evaluation of Toll and Monitoring Staff Vocational Skills

Conducting Vocational Skills Level Evaluation for Toll and Monitoring Staff

From March 16 to April 1, 2024, the Company successfully completed the 2024 Vocational Skills Level Evaluation for toll and monitoring staff. A total of 488 employees from four operations management centers (Weifang-Laiwu, Weifang, Weifang-Rizhao, and Qingdao) and two development companies (Weifang and Qingdao) participated in the evaluation.





Conducting Vocational Skills Level Evaluation for Toll and Monitoring Staff

Key Performance

2024 Key Performance

Investment in employee training **845.35**RMB 10.000

Number of training sessions **1.748** Session

Total number of persons trained 10,209 Person

Total number of persons trained **77,108** Training participants Training coverage rate 100%

Total training hours 614,305.65 Hour

Average training hours per employee per year 60.17 hours/person



Occupational Health and Safety

Corporate Governance

Shandong Hi-speed places high importance on work safety management, and thus has established a governance model characterized by unified leadership and hierarchical management. The Company has set up a Safety Management Department as the comprehensive supervisory body and formed a Work Safety Committee, and has also formulated and revised relevant management rules and regulations. In strict compliance with laws such as the Occupational Disease Prevention and Control Law, the Company has built a comprehensive occupational health and safety management system, regularly organizes employee health check-ups and specialized training on occupational health, striving to create a safe and healthy work environment for employees.

The company emphasizes full participation in safety responsibilities, and has developed detailed work safety evaluation indicators and requires managers at all levels and employees to sign Work Safety Management Responsibility Agreements and Position Safety Responsibility Agreements. This ensures that everyone takes responsibility for safety, actively implements safety measures, and forms a top-down accountability system, aiming to enhance overall work safety management and safeguard employees' occupational safety and health.

Work Safety Policy



- Uphold the leadership of the Communist Party
- Prioritize the people and value life above all
- Adhere to the principle of safety first, prevention as the main focus, and comprehensive management.
- Follow the philosophy of people-oriented and safe development.
- Prevent and resolve safety risks from the source.

Work Safety Principle



- · Joint responsibility of the Party and government, dual responsibilities for each position, and accountability for negligence.
- · Full participation in the work safety responsibility system.
- Safety management is integral to operations, business activities, and production management.
- Hierarchical management with responsibility at

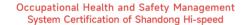
During the reporting period, the Company revised 7 management systems, including the Measures for the Management of Work Safety, Measures for the Management of Safety Fund, Measures for the Management of Work Safety Management Evaluation and Rewards and Penalties, and Measures for Management of Safety Risk Grading and Control and Hidden Hazard Investigation. Additionally, two new safety management systems were introduced: the Measures for the Management of Electric Bicycle and Electric Vehicle Safety and Measures for the Management of Hazardous Work Safety. These revisions and additions ensure the effective implementation of work safety policies and measures.





During the reporting period, Shandong Hi-speed obtained the GB/T 45001-2020/ISO 45001: 2018 Occupational Health and Safety Management System Certification. Its subsidiary, Henan Development Company, also newly achieved the GB/T 45001-2020/ISO 45001: 2018 Occupational Health and Safety Management System Certification.







Occupational Health and Safety Management System Certification of Henan Development Company

Strategy

Risk Identification

Risk Type	Risk Description	Reporting Period	Financial Impact	Impact Scope	Response Measure
Macroeconomic and policy risks	The road transportation economy is highly correlated with the macroeconomic cycle. Economic fluctuations may affect the demand for transportation resources, and policy changes could lead to adjustments in safety production regulations, which, in turn, may impact the Company's safety investments and operations.	Short to medium term	Possibly cause fluctuations in revenue, increase safety investment costs, and affect profitability.	Operations	Strengthen communication with government departments, closely monitor policy developments, ensure that safety production investments align with policy requirements, and foster diversified profit growth drivers.
Safety incident risks	During construction and operational processes, safety accidents may occur, potentially resulting in casualties, injuries, and property losses. These incidents directly impact employees' occupational health and safety.	Long- term	Compensation and medical expenses may significantly impact the company's financial condition, while also potentially causing project delays and reputation damage.	Operations	Improve safety management systems, strengthen safety training and drills, develop accident emergency response mechanisms, and conduct regular safety inspections and risk assessments.

Risk Type	Risk Description	Reporting Period	Financial Impact	Impact Scope	Response Measure
Project management risks	In large-scale renovation and expansion projects, unforeseen factors such as relocation and material price fluctuations may arise. These factors could lead to inadequate implementation of safety measures, thereby affecting project safety management and budget control.	Short- term	Possibly lead to project cost overruns, impacting profitability, while delays could result in additional financial costs.	Operations, downstream	Optimize design and construction plans, ensure strict adherence to safety standards, control material procurement and changes, and strengthen on-site safety management

Opportunity Identification

Opportunity Type	Description	Reporting Period	Financial Impact	Impact Scope	Response Measure
Technological innovation opportunities	With the advancement of data analysis and intelligent monitoring technologies, the Company can significantly enhance safety management levels and improve accident response speed. Introduce advanced safety monitoring systems and intelligent management tools to promptly identity potential hazards and reduce the incidence of accidents	Medium and long-term	While technology investments may incur initial costs, they can significantly reduce long-term operational expenses and enhance profitability by minimizing accident compensation and penalties	Operations	Invest heavily in intelligent safety systems, regularly upgrade technology, cultivate professional talents, and enhance intelligent safety management
Policy support and opportunities	The government's increasing focus on occupational health and safety may provide policy support and financial subsidies to help enterprises enhance their safety management levels. Companies can actively participate in government-led work safety initiatives to access policy benefits and resources	Short to medium term	Have access to government funding to reduce initial safety management investments, and allocate freed-up capital to other operational needs, improving financial stability	Operations	Actively apply for special government funds; participate in government-guided safety management projects, and elevate the Company's safety management standards

Impact, Risk, and Opportunity Management

To strengthen work safety management and ensure the safety of employees and company assets, the Company has detailed relevant standards for the safety risk grading and control in the Measures for the Management of Work Safety. Additionally, the Measures for the Management of Safety Risk Grading and Control and Hidden Hazard Investigation provide clear guidelines, collectively forming a comprehensive safety risk management system of the Company.



Basic Principles of Work Safety Risk Grading and Control

Shift focus forward, prioritize prevention

Full participation, grading and control

Dynamic management, effective operation

Eliminate hidden hazards, ensure safety



Process of Work Safety Risk Grading and Control



Risk identification and assessment

- The Company and its units must establish a safety risk grading and control system. This system should clearly define the procedures, methods, and standards for identifying risk points, conducting risk assessments, and determining risk levels.
- Conduct at least one comprehensive risk point inspection annually; maintain a detailed record of identified risks' perform hazard identification and qualitative/quantitative risk assessments
- Risks are categorized into four levels based on severity: major risk, significant risk, general risk, and low risk.
- All units must develop a risk grading and control list, outlining the key control points, responsible personnel, safety protection measures and emergency response plans.
- For major and significant risks, develop specific control plans, including restricting or prohibiting access to high-risk areas, and conducting regular inspections and patrols
- Perform at least one comprehensive review of risk control measures annually

Risk grading and control





Dynamic monitoring and information-based management

- Encourage the use of information technology for dynamic monitoring and the establishment
 of comprehensive risk control records, including dynamic monitoring and record keeping,
 risk grading and control system, risk point inspection records, and control lists and
 inspections records
- High-risk units should establish risk monitoring and early warning systems to continuously
 monitor risk levels and issue timely warnings to prevent incidents
- Units with such risks must establish comprehensive management mechanisms integrated
 with identification and registration, safety assessment, reporting and filing, monitoring and
 rectification and emergency response, and adopt advanced technologies for dynamic
 monitoring to regularly inspect facilities and equipment, and set up safety warning signs
- Report to the regulatory authorities every six months detailing monitoring activities and implementation of safety measures

Major hazard source management





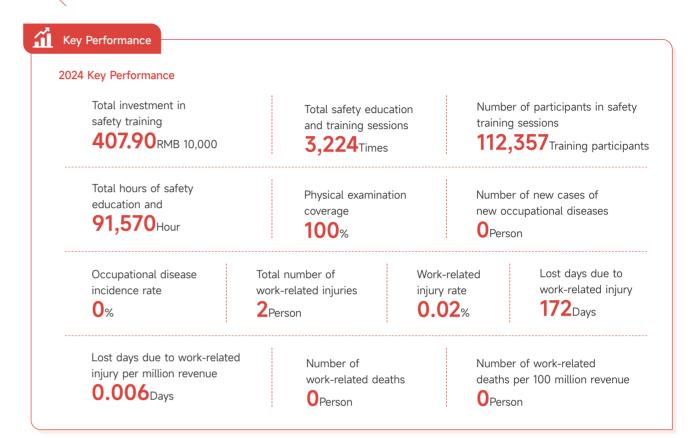
Responsibility and accountability

- Heads of units act as the first accountable individuals for hidden hazard investigations and risk prevention, and a whole-staff responsibility system is implemented
- If accidents occur due to failure to fulfill safety responsibilities or violations of regulations, the responsible individuals will be held accountable in accordance with relevant measures
- The Company actively seeks opportunities to improve the level of safety management by monitoring policy changes, industry trends, and technological advancements
- Enhance the safety awareness and skills of employees through training and education, improve
 the overall safety management ability, and ensure that the Company stays ahead in work safety

Opportunity management



Metrics and Targets





Fulfillment of 2024 Occupational Health and Safety Objectives

Indicator	Objectives	Achievement
Major safety incident	Incidence 0	Achieved
Serious injury incident	Incidence 0	Achieved
Fatal incident	Incidence 0	Achieved
Fire Incidents	Incidence 0	Achieved
Occupational disease incident	Incidence 0	Achieved
"Three-level safety education" for employees	Coverage 100%	Achieved
Certification rate for special operations and special equipment operators	100%	Achieved



Work Safety Inspection and Related Parties Safety Management

The Company actively conducts work safety inspections, which, after revisions during the reporting period, are categorized into three types: basic inspections, categorized inspections, and daily inspections. All units and business departments are required to perform these inspections regularly to ensure comprehensive coverage of all production, operation positions, and sites. During the reporting period, the Company collaborated with external contractors whose services include security and cleaning, obstacle removal and rescue, shuttle bus rental, fire protection maintenance, property management outsourcing, environmental operations, and waste disposal and handling.



Safety Inspection System

"Those who inspect and sign take the responsibility"

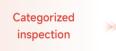


Classification of Work Safety Inspections

Basic inspection

▼ Regularly organized to assess the foundational and grassroots-level safety management practices within the Company

 Conduct at least once per month, annually cover all subordinate units, and perform random inspections of grassroots units.



V Conducted by business areas (such as road and bridge operation, engineering construction, green and low-carbon industry)

At least once a year

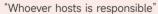


- ▼ Conducted for the Company's Party Committee decision-making, special safety activities and special periods requiring inspections
- Carried out irregularly throughout the year as needed.



Safety Management Rules for Related Parties

"Whoever tenders is responsible" "Whoever organizes is responsible"



Identification of Hidden Hazards

The Company has adopted a systematic approach in the investigation and management of safety hazards to ensure the proper implementation of work safety practice. Hidden hazard identification is divided into company-level, affiliated unit-level, and grassroots unit-level. Each unit and department is required to conduct regular safety inspections to ensure that hazards are identified and rectified in a timely manner.



Identification Process of Hidden Hazards

Hidden hazard identification and reporting

Regular safety inspection

Hidden hazard Rectification feedback

Rectification and Hidden hazard re-inspection management archiving

measures

Rectification measures

Response to external rectification requirements and accountability

Identification Process of Hidden Hazards



Inspection frequency

- Company-level: At least once a month, with all affiliated units covered within six months and random inspections on grassroots units.
- Affiliated unit-level: At least once a month, with all departments and grassroots units covered each quarter.
- · Affiliated unit-level: At least once a month, with all departments and grassroots units covered each quarter.
- All employees must immediately report any identified hidden hazards. Inspectors are • required to provide feedback on the hidden hazards using forms such as the Safety Hazard Rectification Notice. Major hazards must be reported to higher authorities promptly

Hidden hazard reporting



Hazards can also be reported through the hazard reporting "SuiShouPai" APP to enhance the convenience of hazard detection and



Rectification responsibility

- Responsible units must take immediate actions to eliminate hidden hazards, with rectification • progress accurately recorded and communicated to employees. After rectification, a re-inspection must be conducted to confirm the completion of the corrective measures.
- Establish a hidden hazard identification and management archive, including hidden hazard • inspection records, rectification notices, meeting minutes, and rectification reports, ensuring the traceability of the hidden hazard management process.

Hidden hazard archiving





Rectification requirements

- For rectification requirements from external supervisory bodies, written responses detailing • the rectification measures must be provided as required, ensuring the rationality and feasibility of the rectification measures
- If an accident or major hidden hazard occurs due to the failure to fulfill safety responsibilities, the responsible parties will be held accountable according to relevant measures for management





Shandong Hi-speed actively implements all work safety requirements and continuously enhances the Company's capabilities in hidden hazard management. During the reporting period, significant achievements were made in hidden hazard management through the implementation of the "One Meeting, Two Lists, Two Maps, and Five Databases" major hidden hazard identification and management mechanism. This outstanding practice was highly recognized by the Group and was recommended to the Provincial Department of Transportation as a model for promotion.

Work Safety Training and Emergency Response Drills

To effectively respond to work safety accidents, the Company has developed detailed safety emergency response plans to ensure rapid and effective emergency response and handling in the event of an accident. Through systematic management and coordination, we aim to minimize the damage caused by accidents. We focus on enhancing the professional skills and capabilities of relevant personnel, regularly organizing safety management staff to participate in specialized training and emergency drills, and strengthening the ability of collaborative personnel to handle emergency situations.

Process of Safety Emergency Plan



- Receiving: A 24-hour emergency duty phone is set up at 0531-89260110. Responsible persons include Duty Officer and Duty Leader of the Operations Dispatch Center
- Reporting: After an accident occurs, the person in charge of the affected unit must report to relevant departments within 1 hour, including the basic information about the accident, number of casualties and economic losses
- Dissemination: Upon receiving the information, each affiliated unit must promptly disseminate the information to relevant units and personnel



- Early warning classification: Based on the severity of the accident, early warnings are divided into Level II, and Level III, including number of casualties and direct economic losses
- Information release: The Work Safety Emergency Management Office is responsible for promptly

 releasing early warning information and report such information to the Group Company and relevant government departments



- Training and drills: Regularly organize emergency plan training and drills to improve practical operational abilities
- Assessment and revision Assess the emergency plan at least once a year, and revise the plan promptly based on actual conditions, and ensure its effectiveness and applicability



- Communication support: Establish an emergency communication mechanism to ensure smooth and uninterrupted contact among all parties
- Personnel support: Organize dedicated and part-time emergency rescue teams to provide technical support
- Material support: Stockpile emergency supplies and equipment to ensure they are readily available when needed



- Post-incident handling: The unit involved in the incident is responsible for bearing expenses related to the incident, comforting the families of the casualties, and conducting accident investigation
- Lessons learned: After post-incident handling, carefully summarize the experience and lessons learned, propose improvement recommendations and submit to the Company



- On-site command: The on-site command center is responsible for emergency response operations, implementing security measures, conducting search and rescue operations, and providing medical assistance
- Preventive actions: Take effective measures to prevent secondary or derivative accidents and ensure on-site safety
- Expert guidance: Implement necessary emergency measures based on expert recommendations.



- Level I response: When an accident occurs without prior warning, the Work Safety Emergency
 Management Office notifies all members of the emergency response teams to immediately
 assemble, direct teams to rush to the scene, and make response efforts according to the
 instructions of the command center.
- Level II response: Organize an emergency meeting to brief all parties on the situation; the command center immediately allocates emergency resources based on actual needs, and ensure that on-site response operations are carried out effectively
- Level III response: Continuously monitor the situation for any developments. If the situation
 worsens, promptly report to the chief commander of the emergency response command center,
 and ensure a rapid response and prepare to escalate to Level I or Level II response if necessary.

Case

Desktop Drill for Comprehensive Emergency Plan for Work Safety Accidents

On the morning of December 27, 2024, the Company conducted a desktop drill for the comprehensive emergency plan for work safety accidents. The drill simulated a scenario where "a moving hanging basket operation at a highway bridge construction site fell, resulting in 4 fatalities and 1 injury among 5 workers". The exercise covered three stages: accident reporting, response initiation, and response termination, and included 3 incidents and 10 questions. Through interactive participation, the attendees deepened their understanding of the responsibilities and procedures outlined in the emergency plan.

The drill validated the scientific and practical nature of the emergency plan through comprehensive preparation. The Company emphasized the need for all relevant personnel to familiarize themselves with the emergency procedures and improve response speed to ensure rapid and effective handling of accidents, minimize impacts, and maintain stability for both the Company and society.



Scene of Desktop Drill for the Emergency Plan

Case

Safety Professional Qualification Training Initiative

To enhance the competency of safety management personnel, the Company conducted 2024 Annual Safety Professional Qualification Training from September 10 to 13. The training was attended by over 200 participants, including company leaders, heads of affiliated units, and relevant staff. The event featured lectures by the Deputy Directors of the Safety Supervision Division from the Provincial Department of Transport and the Municipal Transport Bureau, as well as insights shared by five senior experts on topics such as work safety laws and regulations and hidden hazard control.

This training aimed at promoting the concept of safety development, enhancing the safety management skills of participants, and providing a platform for exchange and learning among units. The Company continued to innovate training formats and enrich content to improve effectiveness, and focused on building a strong foundation of safety awareness and skills across all employees. After the training, the Company held a special scheduling meeting to review the progress of work safety initiatives, and outlined specific requirements for the next steps to ensure continuous improvement in safety practices, aiming to support the Company's high-quality development.





Safety Professional Qualification Training

Building a Better Society

Rural Revitalization

Poverty alleviation and rural revitalization are key ways for enterprises to demonstrate their social responsibility and give back to society. Shandong Hi-speed has actively participated in rural assistance initiatives, integrating efforts for rural revitalization and poverty alleviation, showcasing its commitment to responsibility and accountability.

During the reporting period, the Company was honored as an "Enterprise of Significant Contribution to Rural Revitalization". In addition, under the guidance of the Dezhou Municipal Party Committee and Government, Shandong Hi-speed Dezhou Operations Management Center initiated the "First Secretary" Rural Assistance Program in March 2013. This program has now been ongoing for 11 years.

Case

Beixiaogao Village Happiness Canteen Project in Yidukou Town, Lingcheng District, Dezhou City

In October 2024, based on thorough research, the Party Committee of Shandong Hi-speed Dezhou Operations Management Center actively responded to the national call to strengthen public cultural service systems and enhance residents' well-being. The Company invested RMB 225,000 to establish a Happiness Canteen in Beixiaogao Village, Yidukou Town, as part of a livelihood improvement project. The Happiness Canteen primarily serves elderly residents, those living alone, and individuals with limited mobility in the community, offers safe, hygienic, nutritious, and affordable meals to address the dining challenges faced by vulnerable groups, and serves as a community hub for social neighborhood interaction and emotional support, boosting community harmony and mutual care among residents. The implementation of this program will effectively enhance the public cultural service level in the region, strengthen residents' sense of belonging and happiness and community harmony and stability.



Beixiaogao Village Happiness Canteen Project in Yidukou Town, Lingcheng District, Dezhou City



Volunteer Activities and Social Welfare Initiatives

During the reporting period, the Company continued to demonstrate its social responsibility through concrete actions, including volunteer activities and social welfare initiatives, fulfilling the social responsibility and reflecting the Company's commitment to giving back to society.

Case

"Learn from Lei Feng" Thematic Education Activity

To thoroughly implement the important directives of the General Secretary Xi Jinping on promoting the spirit of Lei Feng and to deeply understand its contemporary significance, guide the youth in actively practicing the volunteer spirit of "dedication, friendship, mutual assistance, and progress" through volunteer service activities, the Lanshan Management Office organized a thematic education and lecture on spirit of Lei Feng for young employees on March 5, coinciding with the 61st anniversary of "Learn from Lei Feng Day".





Event of Learn from Lei Feng Day

Case

Traffic Courtesy Volunteer Activity

To further promote civilized travel and enhance public awareness of traffic safety, the Lanshan Management Office organized a volunteer activity titled "Civilized Traffic, Safe Travel" for its young employees.





Traffic Courtesy Volunteer Activity

Case

"Love for Exam Support" Volunteer Activity

After ten years of hard studying, now it's time to test your skills. It's that time of year again - the National College Entrance Examination (Gaokao) is approaching, and students are about to head to the examination halls to face the challenge. The Company's young volunteers launched the "Love for Exam Support: Escorting Dreams" volunteer activity On June 7, 2024, to provide practical support to students and their families during this critical time, ensuring a smooth and stress-free exam experience.





"Love for Exam Support" Volunteer Activity

Case

Shandong Hi-speed Equips AED Devices

During the reporting period, Shandong Hi-speed actively implemented corporate social responsibility as a state-owned enterprise, fully leveraging its public service function and proactively integrating into the local livelihood security system. The Company focused on participating in the Automated External Defibrillator (AED) emergency network layout in Linyi City. By deploying professional emergency device at transportation hubs and operational management locations, the Company worked to establish an emergency rescue system covering key areas, opening life-saving pathways for patients experiencing sudden heart conditions, significantly enhancing public health and safety protection capabilities. This effectively demonstrated the mission and responsibility of a state-owned enterprise in serving society and safeguarding people' s well-being.





Shandong Hi-speed Equips AED Devices

"Warm Sunset" Project Helping the Elderly

The Company actively responded to the Charity Federation of Shandong Province's "Warm Sunset" project to help the elderly since 2022, donating RMB 1 million every year for 4 consecutive years, with a total donation of RMB 4 million. The project will provide assistance to disabled elderly people with economic difficulties in 39 counties/districts/cities in the Yellow River Basin and 20 key counties for rural revitalization, with about 47,000 recipients. Donated funds will be used to provide home-based care services for disabled elderly people, subsidize disabled elderly people in difficult circumstances to afford nursing institution for the aged and provide other aspects of relief and assistance, effectively improving the living security levels of elderly people facing difficulties in both urban and rural areas.







Key Performance

2024 Key Indicators

Total Public Welfare Input 111.44_{RMB} 10.000

Village Revitalization Projects Completed 1 Item

Investment in Assistance Fund 24.755_{RMB} 10,000



ESG Data Sheet and Notes

Governance Indicators

Indicator	Unit	2024
Operating Income	RMB 100 million	284.94
Net Profit Attributable to Shareholders of the Listed Company	RMB 100 million	31.96
Earnings per Share	yuan/share	0.54

Environmental Indicators

Topics	Indicator	Unit	2024
<u> </u>	Direct (Scope 1) GHG emissions	tCO2e	13,913.78
Greenhouse Gas (GHG) Emissions	Indirect (Scope 2) GHG emissions	tCO₂e	89,687.15
ouse G	Total GHG emissions (Scopes 1 and 2)	tCO₂e	103,600.93
as ns	Total GHG emissions per million revenue (Scopes 1 and 2)	tCO2e/million yuan	3.64
	Waste lamp tube	Piece	570
	Waste printer cartridge	Unit	2,297
Manaç	Waste battery	Unit	4,712
Management of Wastes	Waste ink cartridge	Unit	1,281
t of W	Waste lamp cartridge	Unit	206
astes	Waste paper	Bag	7,200
	Domestic waste	Ton	783.447
	Kitchen waste	Ton	290.85
	Energy Management	Tce/million yuan	27,838.59
	Total Energy Consumption per Million Revenue	Tce/million yuan	0.98
Energy	Natural Gas Consumption	10,000 m³	216.07
Energy Management	Gasoline Consumption	Myrialiter	273.10
yement	Diesel Consumption	Myrialiter	116.88
	Liquefied petroleum gas	Ton	30.17
	Fuel oil	Ton	19.40

Topics	Indicator	Unit	2024
Ene	Liquefied natural gas	Ton	15.85
Energy Management	Total purchased electricity	10,000 kWh	16,713.97
nent	Total outsourced heat	GJ	0
Water Resou Manag	Total Water Resource Consumption	Ton	891,348.74
Water Resource Management	Total Water Resource Consumption per Million Revenue	Ton	31.28

Social Indicators

Topics	Indicator	Unit	2024
	Educational composition of R&D team		
	Doctoral degree	Person	1
	Master's degree	Person	231
	Bachelor's degree	Person	515
	Below bachelor's degree	Person	75
	Age structure of R&D team		
	Under 30 years old	Person	136
R&D Team	30-40 years old	Person	374
	40 years old or above	Person	312
	Cumulative number of software copyrights	ltem	261
	Cumulative number of trademarks	ltem	62
	Cumulative number of published papers	Piece	504
	Cumulative number of patents granted	ltem	1,076
	Including:		
	Invention patents granted	ltem	274
	Utility model patents granted	ltem	749
	Design patents granted	ltem	53



Topics	Indicator	Unit	2024	
Employee Composition	Total Number of Employees	Person	10,610	
	By gender		,	
	Male	Person	7,021	
	Female	Person	3,589	
	By age			
	30 years old and below	Person	1,217	
	31-50 years old	Person	7,744	
	50 years old and above	Person	1,649	
	By position			
	Production	Person	6,240	
	Sales	Person	151	
	Technology	Person	2,634	
	Finance	Person	209	
	Administration	Person	1,376	
	Employee turnover rate	%	2.70	
	Total number of recruits	Person	133	
Composition during the	Including:			
osition ng the	Recruitment through social channels	Person	42	
of ne repor	Recruitment through campus channels	Person	84	
of new employees reporting period	Recruitment through other channels	Person	7	
oloyees eriod	Female	Person	23	
o,	Male	Person	110	
	Welfare expenditure	RMB 10,000	77,708.11	
Em	Average paid annual leave days per employee	Days	11	
Employee Benefits	Employees on maternity leave	Person	187	
	Return rate from maternity leave	%	100	
	Coverage rate of physical examinations for employees	%	100	
	Social insurance coverage rate	%	100	

Benchmark Index Table

Primary Headings	Secondary Headings	Sustainability Reporting Standards of Global Sustainability Standards Board (GSSB) (GRIStandards)	General Framework of the China Corporate Sustainable Development Report Guide (CASS-ESG6.0)
Preface	Introduction of Report Preparation	2-1/2-2/2-3	P1.1/P1.2
Ргетасе	Message from the Chairman	2-22	P2.1
Focus: Zero-Carb Hi-speed Leading	on Road, Shandong I the Way	/	1
Shangxing	Company Profile	2-1//2-6	P3.1/P3.3
Shandong	Development Courset	/	1
Hi-speed, Connecting	Corporate Culture	1	1
the Future	Honors and Awards	1	1
Topics	Dual Materiality Analysis	3-1/3-2/3-3	G1.1
Materiality	Communications with Stakeholders	2-16/2-29	G1.3
Assessment	Sustainable Development Goals	2-22	G1.1
Robust	Strengthening ESG Framework	2-9/2-10/2-11/2-12/2-27	G1.1
Governance:	Deepening Compliance Governance	2-12/207-1/207-2/2-16/2-27/2-29	G1.1
Shandong Hi-speed's	Adherence to Business Ethics	2-23/2-27/206-1	G2.1/G2.2
Commitment	Development under the Guide of the Party Leadership	2-27/205-1/205-2	G2.1
Ecological	Response to Climate Change	201-2/305-5	E1
Protection: Shandong	Energy Resource Management	302-1/302-2/302-3/302-4/302-5/303-1/303- 3/303-5	E3.1/E3.2/E3.3
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Industrial	Service Quality Assurance	416-1/418-1	S3.3//S3.4
Collaboration: Shandong	Innovation-Driven Development	203-1	S2.1
Hi-speed's	Data Security Protection	418-1	S3.4
Energy Convergence	Responsible Supplier Chain	414-1/205-1/205-2/205-3/206-1	S3.1
Walking Together	Protection of Employees' Rights and Interests	2-7/2-19/2-20/401-1/401-2/405-1	S4.1/S4.3
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Commitment to Employee Welfare	Building a Better Society	1	S1.1/S1.2
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Independent Assurance Statement

Independent Assurance Statement

To Shandong Hi-speed Company Limited,

Shenzhen Value Online Information Technology Co., Ltd. ("Value Online" or "we"), has been commissioned by Shandong Hi-speed Company Limited (the "Company" or "Reporting Organization") to undertake independent and limited assurance engagement ("assurance engagement") on the information and data disclosed in the Company's 2024 Sustainability Report ("Report") concerning the Company's environmental, social and governance (ESG) performance. Now we disclose the results and conclusions of the assurance engagement to the users of the Report in the form of this independent assurance statement.

For any discrepancies or inconsistencies between the Chinese and English versions of this assurance statement, the Chinese version shall prevail.

I. Independence and Competence

Value Online and the Reporting Organization are entirely independent entities. All members of the Value Online assurance team have no commercial relationships with the Reporting Organization, its directors, executives, or department managers that would result in any conflict of interest. Our assurance team has performed this assurance engagement in an independent and impartial manner.

Value Online has been accredited by AccountAbility, and our assurance team is composed of professionals seasoned in the industry. The relevant personnel have received specialized training on sustainability standards and guidelines, including AccountAbility's AA1000 Assurance Standard v3 ("AA1000AS v3"), the Global Sustainability Standards Board's (GSSB) GRI Standards, the International Sustainability Standards Board's (ISSB) International Financial Reporting Standards - Sustainability Disclosure Standards, the Shanghai Stock Exchange's and the Shenzhen Stock Exchange's and the Beijing Stock Exchange's Sustainability Reporting Guidelines, and the Hong Kong Stock Exchange's ESG Reporting Code. Our team has in-depth research and practical experience regarding sustainability-related standards, evaluation frameworks, and verification criteria.

The Value Online assurance team has a comprehensive understanding of and practical experience in the application of AA1000AS v3 and performs sustainability related assurance in accordance with Value Online's internal assurance procedures.

II. Responsibilities of the Reporting Organization and the Assurance Provider

The Reporting Organization is responsible for preparing its *Report* in accordance with applicable laws, regulations and guidelines, and fully responsible for the content of the *Report*. It is also responsible for implementing relevant internal controls to ensure the preparation of the *Report* is free from any material misstatements or omissions. Any questions recording the content of this independent assurance statement or related matters will be addressed by the Reporting Organization.





 Value Online is responsible for performing an assurance engagement on the Reporting Organization's *Report* within the Assurance Scope according to the AA1000AS v3, and issuing an independent assurance statement to the Reporting Organization. This independent assurance statement serves solely as a conclusion regarding the matters in the Reporting Organization's *Report* within the Assurance Scope, and is not intended for any other purpose. All verification and certification review results are internally reviewed by professionals to ensure that our methods are rigorous and transparent.

III. Assurance Standard

Value Online has employed the "Type 1 Moderate" level of assurance in the AA1000AS v3 to assess the extent to which the Reporting Organization adheres to the Four Principles of the AA1000 Assurance Principles (2018) ("AA1000AP (2018)"): Inclusivity, Materiality, Responsiveness, and Impact ("Four Principles").



IV. Assurance Scope

Time scope:

The assurance is limited to the ESG related information and data disclosed by the Reporting Organization in the *Report* during the period from January 1, 2024 to December 31, 2024, and to the materiality assessment, management, and actions for the topics. Any data or information beyond this time period or not included in the *Report* is outside the scope of this assurance.

Information scope:

The assurance is limited to the information and data covered in the *Report* provided by the Reporting Organization, excluding data and information related to suppliers, contractors, and other third parties. This assurance is based on and limited to the materials provided by the Reporting Organization that are associated with the *Report*, and assesses the nature and extent of the Reporting Organization's adherence to the Four Principles (Inclusivity, Materiality, Responsiveness, and Impact) as outlined in the AA1000AS v3. The Reporting Organization is responsible for the accuracy and completeness of the information and data provided.

Physical scope

The on-site assurance sampling took place at the Shandong Hi-Speed Office Building, located at 5006 Aoti Middle Road, Lixia District, Jinan City, Shandong Province.

V. Assurance Approach

Value Online has conducted the assurance engagement solely for the Reporting Organization, with the following activities:

- Understanding the process by which the Reporting Organization adheres to the AA1000 Assurance Principles, and conducting interviews and sampling tests to assess the extent of the Reporting Organization's adherence to the Four Principles of the AA1000AS v3;
- Collecting and assessing evidence and management statements that support the Reporting Organization's adherence to the Four Principles of the AA1000AS v3;





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Independent Assurance Statement

- Reviewing and inspecting the Reporting Organization's management practices, business processes, and evidence collection procedures through interviews and sampling; Conducting management interviews regarding the effectiveness of processes that have an impact, with interviewees including senior management, department heads, and managers responsible for sustainability:
- Any other procedures deemed necessary by Value Online.

VI. Limitations

The limitations and mitigation methods of Value Online during the assurance engagement include as follows:

- Value Online performed no duplicate assurance of the financial data and information disclosed in the *Report* that have been audited by other independent third-party organizations. We only verified the related conclusionary data and information that were audited;
- Value Online performed no assurance on the sustainability performance indicators disclosed in the Report. Instead, our assurance was limited to confirming the existence of explicit data sources for the sustainability performance indicators through interviews and the verification of factual evidence;
- Value Online cannot provide an opinion on descriptive statements, beliefs, inferences, wishes, expectations, future plans, or any forward-looking information included in the *Report*. We only verified the factual evidence supporting such statements;
- In future assurance engagements, Value Online will continuously focus on the improvement in the Reporting Organization's sustainability information disclosure and management practices, in line with the purpose of continuous improvement.

VII. Conclusions

Our assurance conclusions concerning the Inclusivity, Materiality, Responsiveness, and Impact principles outlined in the AA1000AS v3 are as follows:

Inclusivity

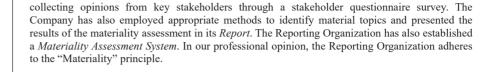
The Reporting Organization has identified key stakeholders and established a communication mechanism with them. By means of various methods, the Company continuously communicates with key stakeholders to understand their expectations and areas of concern. On this regard, the Reporting Organization has considered the expectations of key stakeholders and their impact on them when developing relevant policies. The Reporting Organization has also established a *Stakeholder Communication System*. In our professional opinion, the Reporting Organization adheres to the "Inclusivity" principle.

Materiality

The Reporting Organization has conducted a materiality assessment and analysis for its Report by







Responsiveness

The Reporting Organization has established relevant communication channels with its key stakeholders to collect concerns of interest, and has responded to material sustainability-related topics (e.g., response to climate change, innovation-driven development, occupational health and safety, etc.) raised by the key stakeholders. The *Stakeholder Communication System* established by the Reporting Organization also includes provisions for responsiveness. In our professional opinion, the Reporting Organization adheres to the "Responsiveness" principle.

Impact

The Reporting Organization has built a sustainable development management structure and operational mechanisms, identified significant impacts in its business operations, and developed relevant policies based on communication with stakeholders to improve the business's impact on society and the environment. The Company also regularly monitors sustainability performance indicators. The Reporting Organization has also established systems such as the ESG Work Manual. In our professional opinion, the Reporting Organization adheres to the "Impact" principle.









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