

2021

China TransInfo Technology Co., Ltd. Corporate Social Responsibility Report





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About the Report

This report is the second corporate social responsibility (CSR) report of China TransInfo. Under the principles of objectivity, standardization, transparency, and comprehensiveness, it discloses China TransInfo's CSR work and results in 2021 in detail, as a response to the expectations of stakeholders and a reminder for China TransInfo to better perform its social responsibilities.

Period

This report covers the period from January 1 to December 31, 2021. Some content and data in it may go beyond this period.

Scope

This report focuses on China TransInfo Technology Co., Ltd., including its branches, subsidiaries, and affiliates.

Basis

This report is prepared according to the *Self-regulatory Guidelines for the Companies Listed on the Shenzhen Stock Exchange No. 1: Standardized Operation of the Companies Listed on the Main Board*, the *Guidance on Social Responsibility Reporting (GB/T36001-2015)*, and the *GRI Standards* released by the Global Reporting Initiative (GRI).

References

For the convenience of presenting and reading, China TransInfo Technology Co., Ltd. is referred to as "China TransInfo," "the Company," and "us" in this report.

Data

All information and data cited in this report come from the Company's official documents, statistical reports, and financial statements. China TransInfo guarantees that this report contains no false records, misleading statements, or material omissions.

Contact

Telephone: 86-10-50821818

Address: Tower B, TransInfo Building, No. 27 Court of Zhongguancun Software Park, No. 8 Dongbeiwang West Road, Haidian District, Beijing

Website: www.ctfo.com

| Chairman's Message



Dear readers,

In ancient China, *jiaotong*, the Chinese word for transportation, carried the concept of “interacting with each other,” as written in *Guanzi*, “Mountain rivers will have either dried up or their water levels will have dropped. The vital force of Heaven descends and that of Earth rises. All living things interact with each other.” As time has passed, *jiaotong*, or transportation, has taken on new connotations. Today, transportation is a basic and leading strategic industry, a “pioneer of development”, the lifeline of the economy, and a connection with civilization. A well-functioning transportation system is fundamental to long-term economic and social development which is also the source of urban vitality.

In today's society, sustainable development is a common concern and how to achieve sustainable transportation is a critical question that is in each China TransInfo member's mind.

In our vision, the essence of future sustainable transportation should be safe, efficient, convenient, intelligent, and green, all of which are essential to the development of smart transportation.

Xia Shudong, Chairman

March 2022

China TransInfo's vision, “to make the world safer, more convenient, and more intelligent,” embodies the idea of sustainable development. For the past 21 years since its establishment, China TransInfo has been devoted to smart transportation, supported urban governance, improved people's livelihood, and green innovation. It has become a data-driven expert in transportation with advanced technology and has established a mature methodology for digital transportation governance. Moreover, it has had success in implementing sustainable development in numerous cases.

We believe in the power of technology. We integrate big data, artificial intelligence (AI), cloud computing, the Internet of Things (IoT), the digital twin, and many other modern technologies into transportation governance to facilitate the mobility of people and goods. Digitalization is accelerating in every corner of the world. A more digitalized transportation industry is beneficial to economic and social development and vitalize our cities and improve urban governance. Our smart transportation project, China TransInfo Omni-T transportation solution has been implemented in 24 provinces, cities, and districts in China. Our Big Data plus Omni Transportation Integrated Management solution has been used in a variety of settings, including hospitals, schools, industrial parks, metro station exits, shopping malls. Taking Hangzhou's Binjiang District as an example, one year after the implementation of our solution, the index for traffic congestion in Binjiang District in the morning rush hours has decreased by 7.12%, and 9.74% in the evening rush hour, with a 20% reduction in road accidents.

We are well aware that transportation is an important component of green and low-carbon development. We aspire to implement the green commuting idea through the construction, operation, and management

of transportation infrastructure. We use big data to improve traffic efficiency and reduce emissions by mitigating congestion across the board. In Lhasa, our urban intelligent management and control transportation system reduces the decreases the number of vehicles on main roads by 26.9% and the number of on-road stops by 67.2%, effectively lowering transportation carbon emission. Moreover, to screen high-emission vehicles, monitor crop straw burning, forest fire, and animal protection, we launched new products with artificial intelligence of things (AIoT) technologies to assist in protecting the environment we live in.

From social security to living areas and workplaces, we see improving people's well-being as a key aspect of our sustainable development. With the smart city safety management system, we assist municipal officials in locating missing children and solving cases. By using digital technologies in industry development pain points, we are able to reduce costs and increase efficiency for the manufacturing, catering, tourism, and construction industries. In the community, our smart water system, digital hospitals, and smart communities create better and safer communities for people to live in.

Through decades of transportation and infrastructure construction, Chinese people's transportation demands have shifted from the availability to the quality of transportation. High-quality transportation has always been China's TransInfo's cause and mission. We will devote greater resources to smart transportation and AIoT and serve as a pioneer in urban governance, improving people's livelihood, and green innovation. We will make the world safer, more convenient, and more intelligent with sustainable transportation and the Internet of Everything.



China TransInfo has successfully delivered over **6,000** medium and large intelligent transportation projects

China TransInfo has set business footprint in more than **200** countries and regions

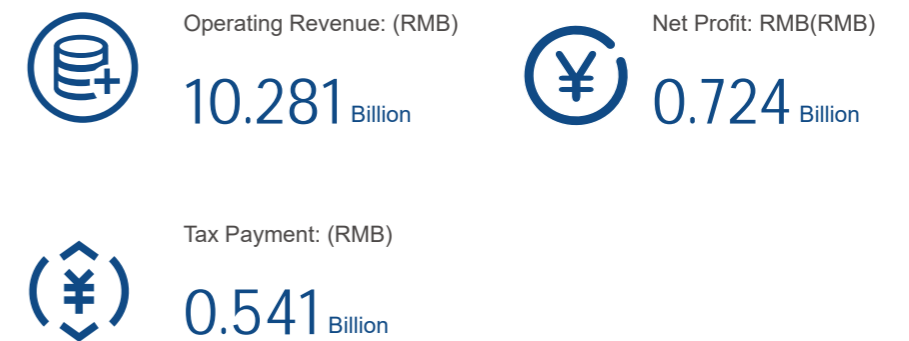
About Us

China TransInfo is a leading provider of digital solutions for the transportation industry in China, committed to bringing customers in the transportation industry into the digital world. The vision “to make the world safer, more convenient and smarter” drives the Company’s continuous efforts to innovate. The Company aims for the digital intelligent transformation and innovation of the transportation industry. Relying on its advantages in entire-value-chain and full-stack technology, total-factor data, and full-lifecycle services, it provides digital solutions for global transportation in the era of the Internet of Things (IoT), builds an industrial Internet platform for the transportation industry, and creates value for customers in the industry. The Company’s business covers intelligent transportation, intelligent traffic management, intelligent highway, intelligent road network, intelligent civil aviation, intelligent rail transit, intelligent parking, intelligent community, intelligent campus, and other core areas. It has successfully delivered over 6,000 medium and large intelligent transportation projects.

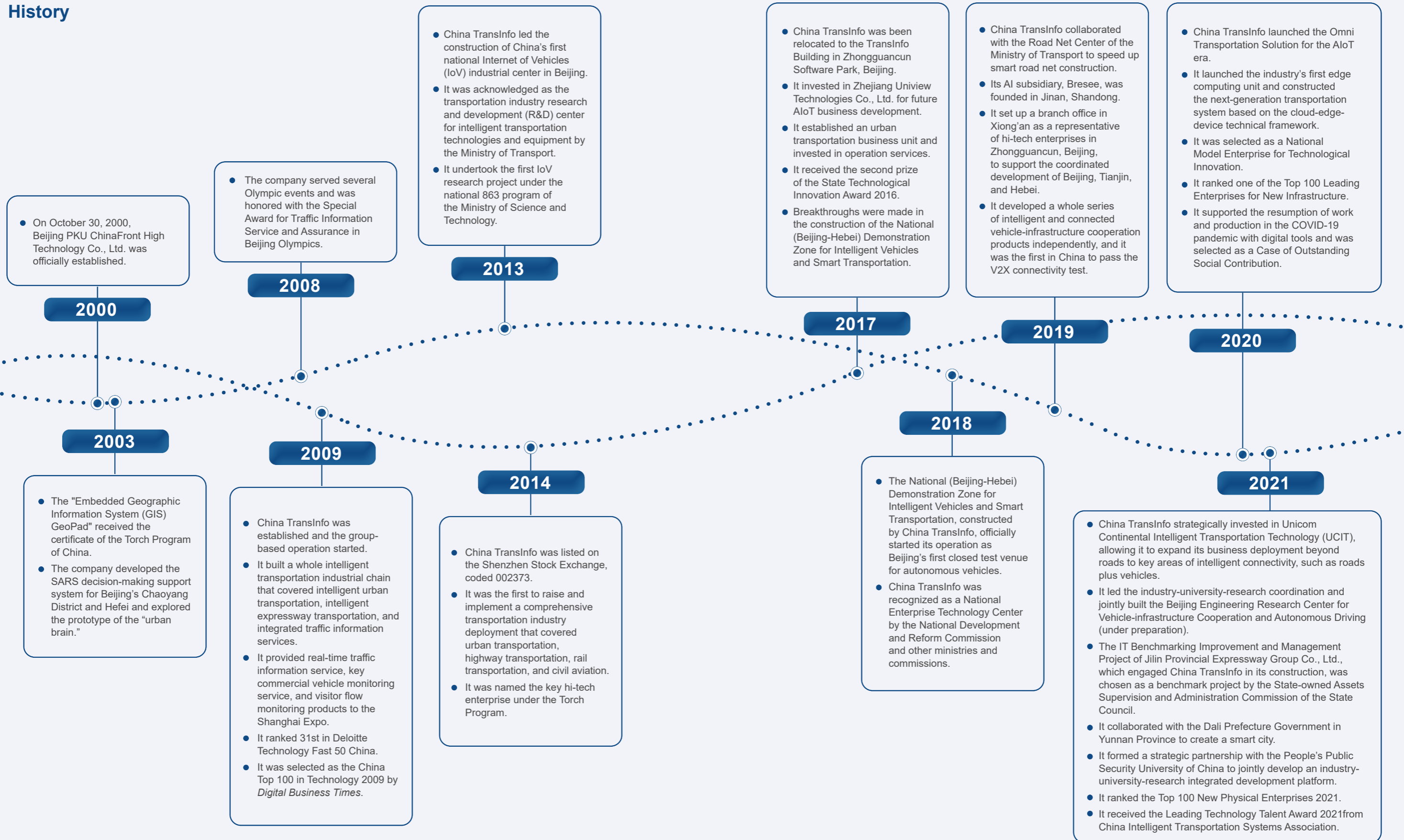
Furthermore, the Company has a profound presence in IoT sector. It is the world’s fourth largest provider of AIoT (Artificial Intelligence Internet of Things) products, solutions, and full-stack capabilities. With panoramic, digital, intelligent IoT products and technologies as its core, it keeps investing in the research and development of innovative technologies such as AI, enriches its AIoT product line, and extends its global strategic presence. It empowers the digital governance of government customers, the digital transformation of corporate customers, and the intelligent life style of individual consumers. At present, Uniview’s industrial camera products and cloud-edge-device integrated solutions have been successfully implemented in many business areas such as smart cities, smart transportation, and safety engineering, providing security services for major State events and important international summits.

After two decades of endeavor, China TransInfo has set business footprint in more than 200 countries and regions. It maintains technology and market leadership in the two major areas, intelligent transportation and IoT.

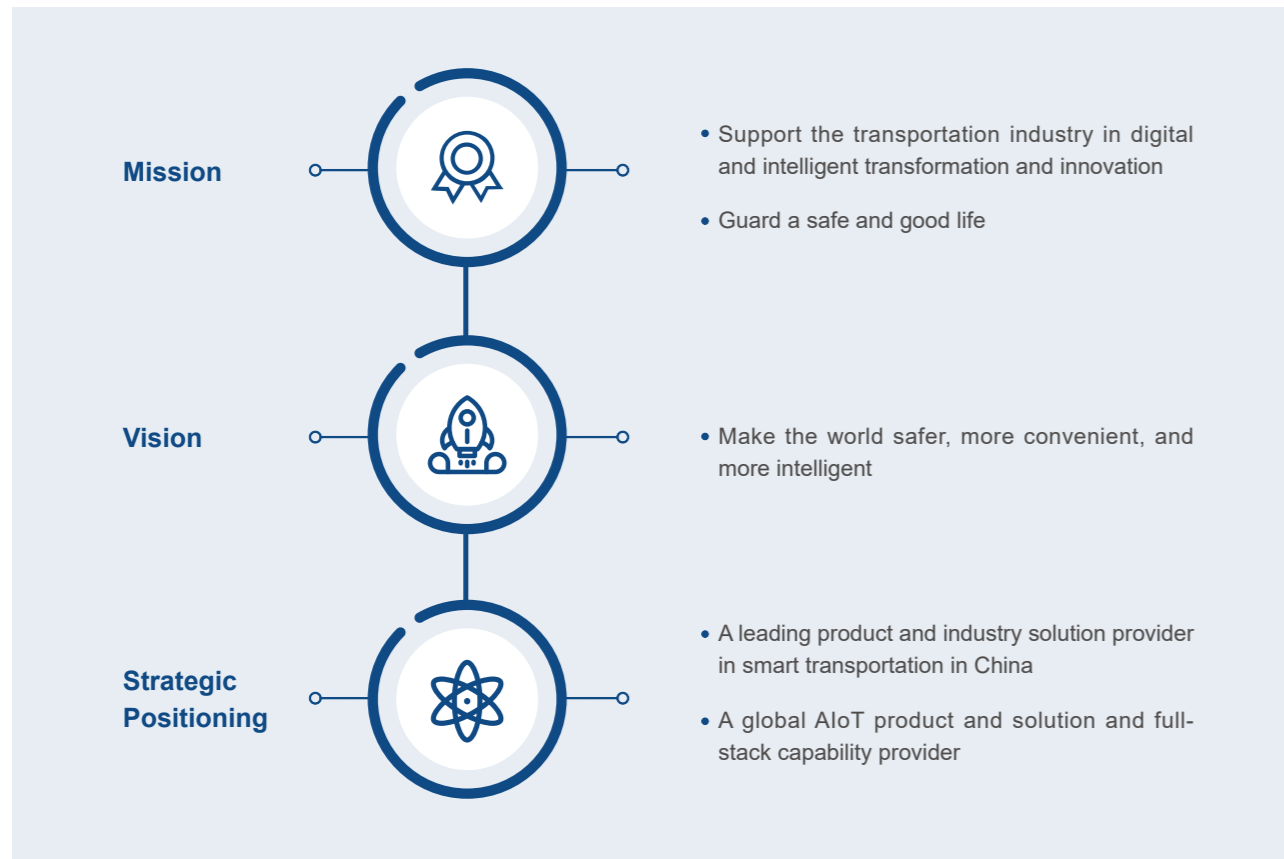
Operating Performance in 2021:



History



Business Philosophy



Recognitions of the Company



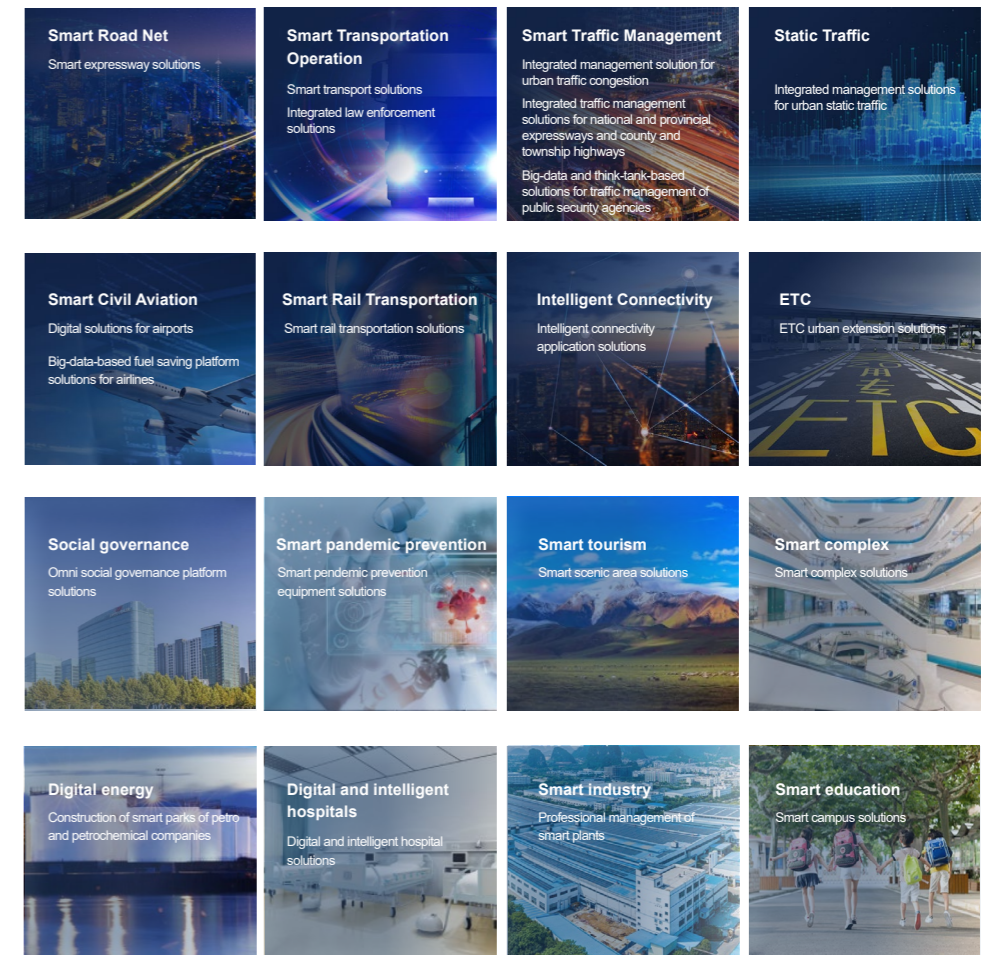
R&D Achievements

- As of December 31, 2021, the Company has filed 3,648 patent applications, including 2,829 invention patents and 1,395 software copyrights.
- In 2021, the Company filed for 584 patent applications, including 422 invention patents and 202 new software copyrights.
- As of December 31, 2021, the Company has won a total of 25 national and provincial science and technology awards and completed 60 major national and ministerial research projects.
- In 2021, the Company received three national and provincial science and technology awards (excluding brand recognition) and completed two major national and ministerial research projects.

Business Scenarios

China TransInfo is a leading industry digital solutions and big data services provider in China and is dedicated to smart transportation and AIoT.

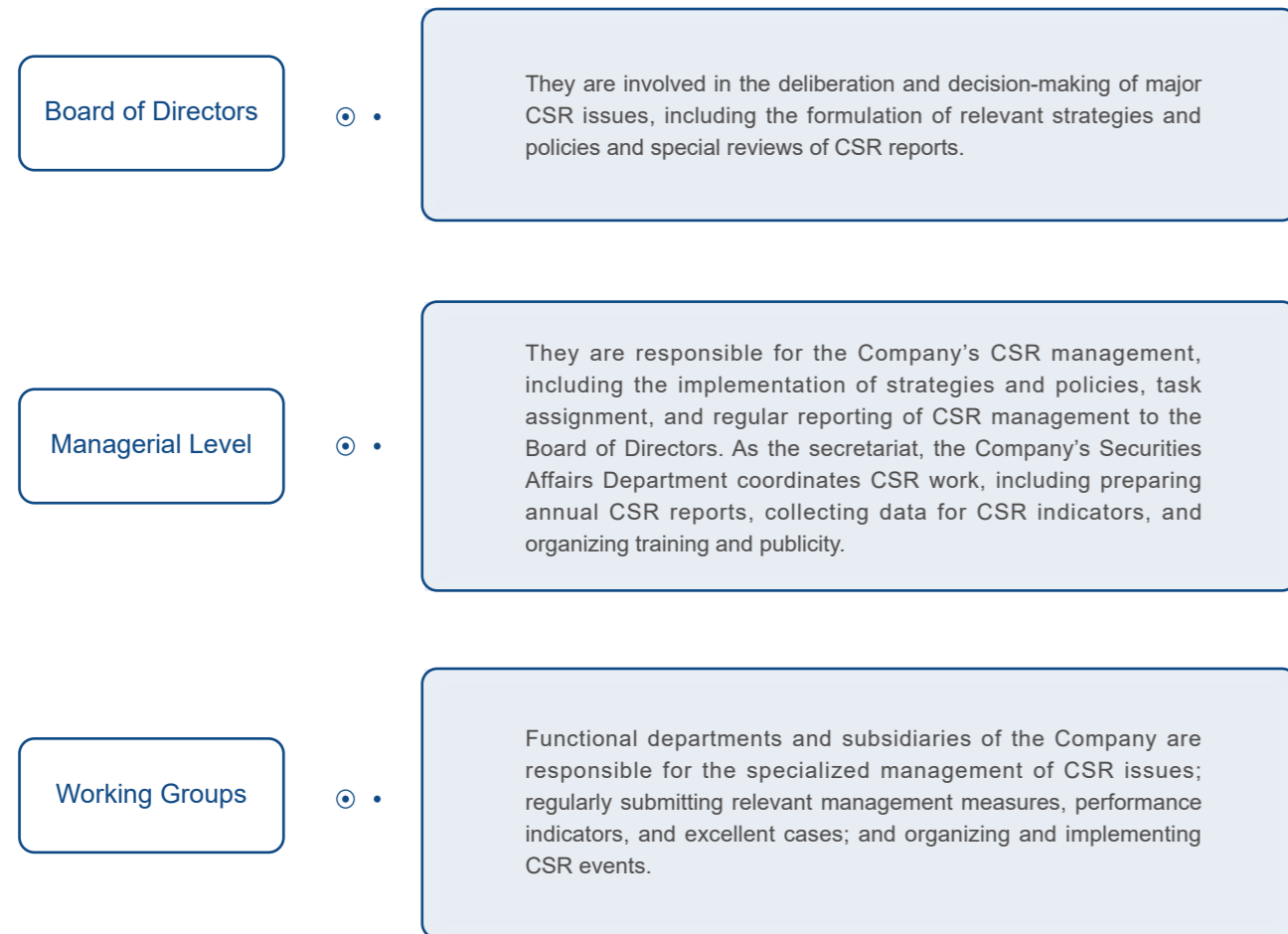
In terms of smart transportation, we have completed a comprehensive smart transportation business layout, which includes urban transportation, highway transportation, rail transportation, and civil aviation. Based on the Industrial Internet, we provide industry customers with products, solutions, and innovative services. We offer strong support in the management, decision-making, and social public services in the transportation industry. We are also proactive in improving the transportation systems operating efficiency, optimizing traffic management systems, ensuring the safety of transportation operations, and improving the efficiency and experience of public transit.



In terms of AIoT, we offer AIoT products and cloud-edge-device integrated solutions centered on video perception and applications. We assist governments in achieving digital governance reform, empower corporate customers with digital transformation and efficiency improvements, and deliver smart products and services to consumers. In this way, we create a safer and better life from the society, industries, to individuals.

Responsibility Management

China TransInfo fulfills its social responsibilities and promotes social and environmental sustainability with its operations and products. We firmly believe that smart transportation and AIoT can improve people's lives while supporting economic development. To fully practice sustainability and ensure the effective management of the Company's social responsibilities, the Company has established a CSR management system led by the Board of Directors, organized by the Securities Affairs Department, and implemented by relevant departments. The Company has also clearly delegated CSR tasks and obligations to specific entities.



Communication with Stakeholders

The impacts of China TransInfo operations on internal and external stakeholders are extremely important to the company. Through diversified communication channels, we communicate with six key stakeholders, including the government, shareholders/investors, employees, customers, partners, and the community and the public, to understand the demands of stakeholders. The opinions and suggestions of stakeholders are important in helping us identify material sustainable development issues and improve our sustainability work.

Stakeholder	Expectations and Demands	Communication Methods and Response
 Government	<ul style="list-style-type: none"> Compliance operation Paying taxes according to law Technological innovation Supporting the sustainable development of society 	<ul style="list-style-type: none"> Compliance management Paying tax as required Regular disclosure of business information Routine communication and reporting Field inspection and supervision
 Shareholders/ Investors	<ul style="list-style-type: none"> Compliance operation Return and growth Risk management Corporate governance 	<ul style="list-style-type: none"> General meeting of shareholders Periodic reports and announcements Diversified channels for investor communication
 Employees	<ul style="list-style-type: none"> Salary and welfare guarantee Health and safety unimpeded communication Fair promotion and development opportunities 	<ul style="list-style-type: none"> Paying salary and funding social insurance in full on time The management system for occupational health and safety Career promotion channels Employee training Employee representatives' meetings Daily communication exchanges
 Customers	<ul style="list-style-type: none"> Product quality guarantee Providing high-quality services 	<ul style="list-style-type: none"> The quality monitoring system Supervision and inspection Customer satisfaction surveys
 Partners	<ul style="list-style-type: none"> Keeping promises Open, impartial, and fair sourcing 	<ul style="list-style-type: none"> Legal performance of contracts Open bidding Project cooperation
 Community and the Public	<ul style="list-style-type: none"> Supporting social development Caring for vulnerable groups Energy conservation and emission reduction 	<ul style="list-style-type: none"> Targeted poverty alleviation Charity and public welfare Green transportation

Determination of Material Issues

Determination of material issues is an important means for China TransInfo to understand its operational impacts and stakeholder expectations. We determine the materiality of the issues and rank them based on the results of questionnaire surveys to ensure that the information disclosed in the report fully reflects the concerns of China TransInfo and its stakeholders. China TransInfo has determined the material CSR issues of 2021 through the following process:

1. Identifying Relevant Topics

Issue identification was carried out by an independent third-party consultant. A total of 16 social responsibility issues were assessed and collected, covering five aspects, namely, corporate governance, products and services, employees, the environment, and the community. These topics were collected from a wide range of data sources, including company policies and management strategies, and industry benchmarks.

2. Studying Stakeholders' Concern

The independent third-party consultant conducted a questionnaire survey of stakeholders, including employees, government agencies, investors, customers, community representatives, and suppliers. Stakeholders were invited to evaluate the materiality of each issue from their perspective. A total of 259 valid questionnaires were retrieved.

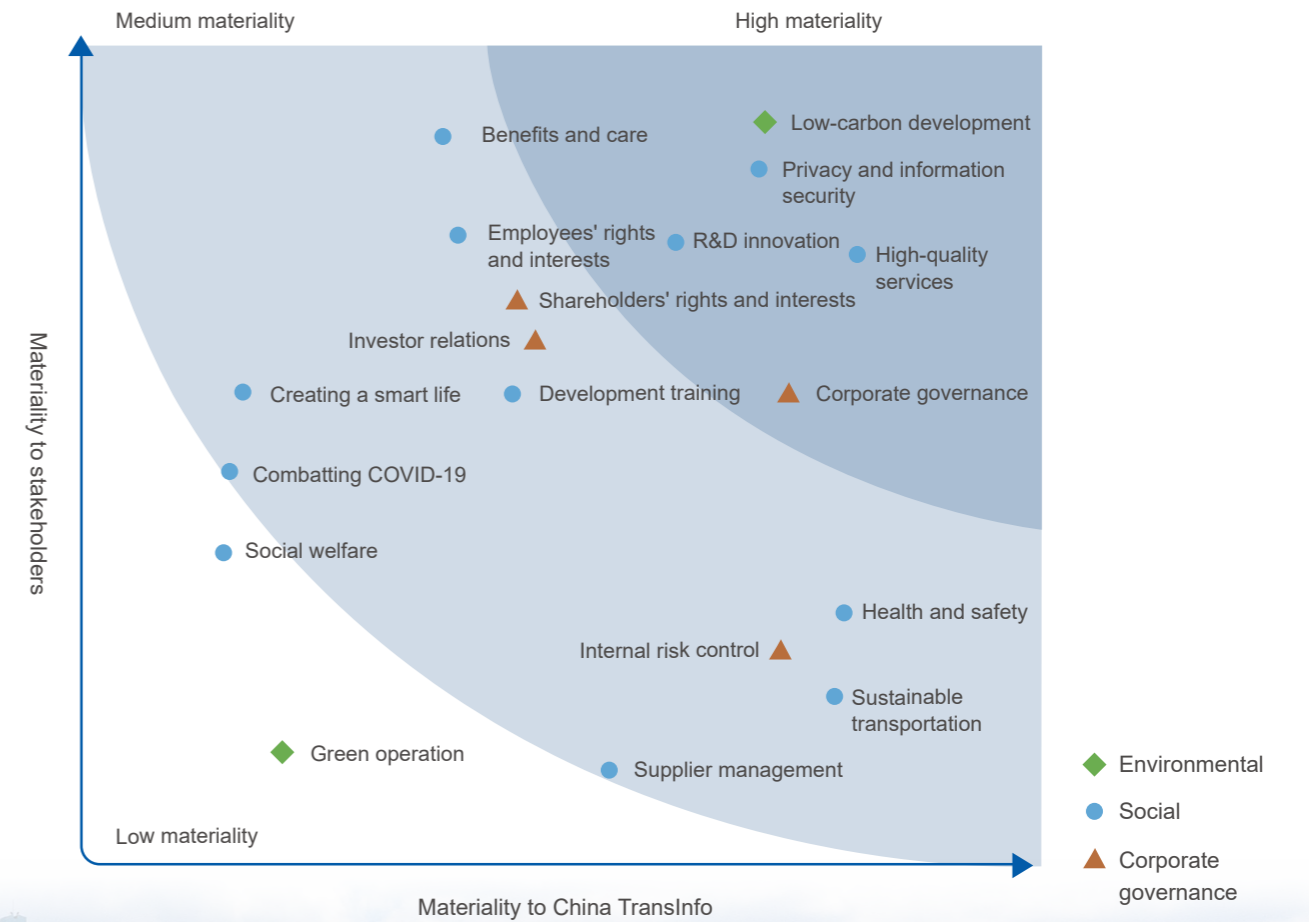
3. Analyzing the Impact on the Operation

The Company's management was asked to evaluate the materiality of the topics for ensuring significance to the corporate strategy and business development.

4. Prioritizing Issues

According to the significance of the topics to stakeholders and to the sustainable development of China TransInfo, the identified issues were organized and disclosed in a matrix structure.

China TransInfo's determined material CSR issues of 2021 are shown in the following matrix:



01

SUSTAINABLE DEVELOPMENT STRATEGY

Sustainable Development Strategy

Transportation is essential for a country's economic growth. For years, China's society and economy have evolved and grown, the demand for transportation has been increasing, and the consequent issues of resources, energy, and the environment have become prominent. Therefore, sustainable transportation is critical for the high-quality development of the industry and the economy, and society.

Since its establishment, China TransInfo's vision has always been to "make the world safer, more convenient, and more intelligent." We put great efforts into smart transportation and AIoT to empower many industries. We use technology to address transportation resources and efficiency problems, making transportation safer, more convenient, more efficient, greener, and more economical, and allowing long-term sustainable development. Moreover, with AIoT technology, we can empower other sectors, support green and low-carbon operations, improve urban management, and improve people's lives.

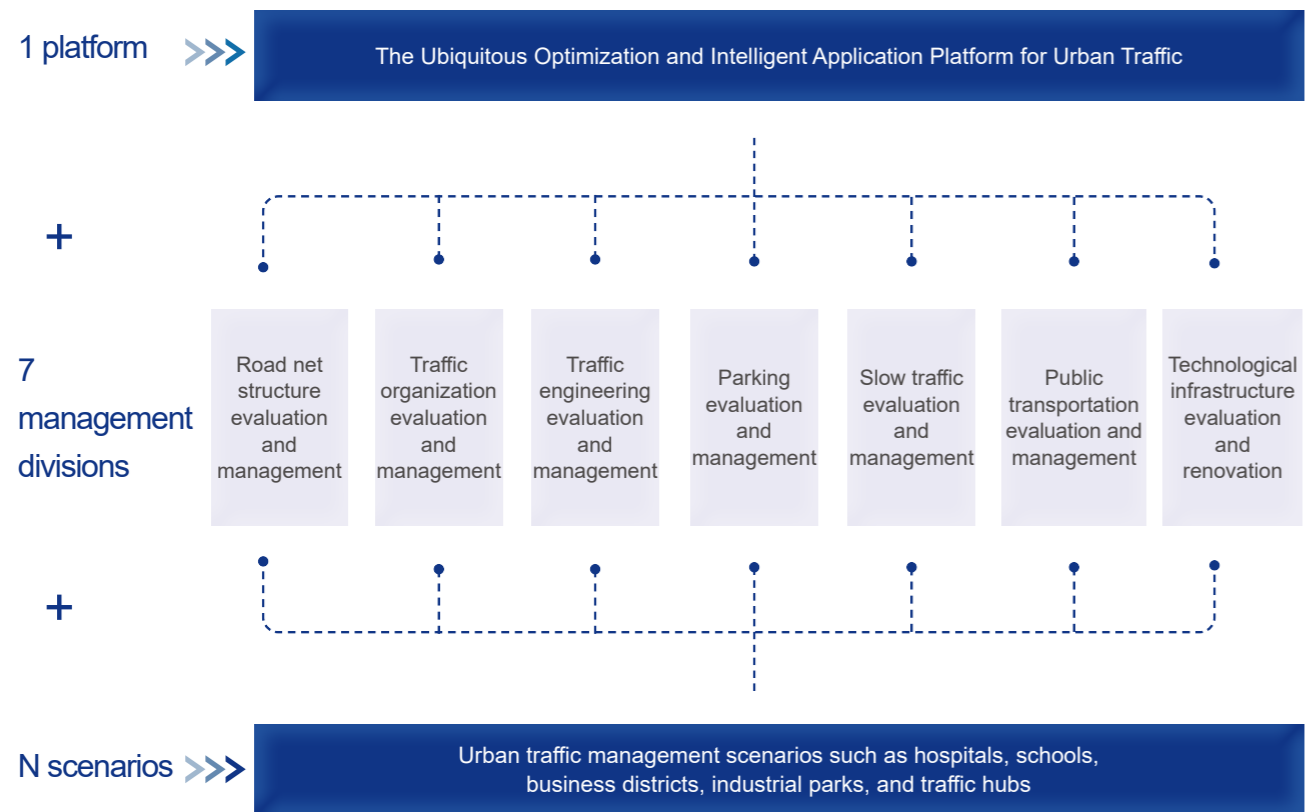
- Improving Traffic Efficiency
- Ensuring Traffic Safety
- Boosting Green and Low Carbon
- Innovative Urban Management
- Empowering the Development of Different Industries
- Co-Building Smart Communities

Improving Traffic Efficiency

Smart transportation is vital to a country with a well-developed transportation network and an important indicator of transportation modernization. Relying on the traffic big data plus AI-based decision-making, China TransInfo takes digital transformation to support and connect the “capillaries” of urban traffic and effectively relieve urban traffic congestion.

Urban Traffic Management

In response to the urban traffic congestion problem, China TransInfo proposes that the whole management process be oriented by traffic problems and empowered by big data. We adopt the 1 plus 7 plus N business structure during the implementation of comprehensive management measures to achieve sub-divided and intelligent mitigation of congestion and chaos. Moreover, we fulfill our customers' demand for future iterations in the design.



The 1 plus 7 plus N business structure

China TransInfo focuses on the implementation of integrated modern means such as transportation big data, AI, and cloud computing to typical scenarios. We use the "1+X" micro-governance methodology to develop a closed-loop data application service for the entire business chain to “identify problems, analyze causes, determine methods, and evaluate effects.” We have governance plans in place for different scenarios, which infuse new smart energy into the comprehensive management of urban traffic.

Industrial Parks

The rapid economic growth in Hangzhou Binjiang Internet Industrial Park has drawn a large number of professionals. Consequently, the traffic congestion in the industrial park became progressively problematic. In morning and evening rush hours, commuters struggled to get in or out of the park. China TransInfo assists in road optimization measures such as digital tidal flows and digital reversible lanes at intersections and has created a targeted co-management and co-governance model for traffic management in the park. We also developed a holographic optimization platform for traffic organization to achieve intelligent autonomous traffic control, which has significantly improved the traffic efficiency in the park.

With our comprehensive management, the congestion index in the park in the morning rush hours on weekdays has decreased by 7.12%, and the average speed has increased by 11.05%. The congestion index in the evening rush hours on weekdays has decreased by 9.74%, and the average speed increased by 13.99%. With more efficient commuting, workers are more productive and obtain a sense of fulfillment.



The industrial park before China TransInfo's management



The industrial park after China TransInfo's management

Traffic Hubs

Hangzhou Jiangling Road Metro Station is the intersection of Metro Lines 1 and 6, with up to 60,000 daily passenger flow. Moreover, many popular locations overlap here. The distribution effect of the station's accesses exacerbated the “last mile” congestion problem caused by the mismatch between heavy passenger flow and limited ground transportation service capacity during rush hours. China TransInfo focused on the problem, which was insufficient ground public transportation, and implemented “X” measures including building a connection and transfer system, improving nearby parking management, and coordinating cross-departmental co-management. We established a public transportation network based on ground public transportation and expanded public transportation coverage.

With our comprehensive management, the passenger flow of Jiangling Road Metro Station has increased by 15% to 69,000 passengers per day. The passenger flow of the nearby ground special shuttle line has increased to 1,300 passengers/day, and the regular bus passenger flow has increased to 600 passengers/day. Moreover, the transportation structure of nearby business parks has been optimized. Taking the Huanyu Business Center as an example, the proportion of public transportation commuters has increased from 5% to 35%. With the “capillaries” of urban traffic connected, the commuting time of citizens has been significantly reduced, and the “last mile” problem has been effectively solved.



Achievement of China TransInfo's traffic hub management

Business Districts

The SKP shopping mall in the Beijing CBD has seen huge passenger flow since its completion, causing major issues such as traffic congestion, difficulties in parking, and disorder in the surrounding areas. Using big data, China TransInfo accurately analyzed the traffic flow demands and patterns, and characteristics of the roads around SKP. With the analysis results, we reconstructed the surrounding road cross-sections and reduced the interweaving and conflict of buses, private cars, and non-motor vehicles, to improve the traffic capacity of road sections and intersections and the efficiency of passenger flow and mitigate road congestion.

With our comprehensive management, the roads around SKP now operate more smoothly, where pedestrians and vehicles can enjoy efficient traveling.



Road cross-sections were restricted and lanes were added around SKP.

After the renovation around SKP, the heart-shaped traffic lamps catch the attention of citizens.

Schools

At Hangzhou Olympic Primary School near Hangzhou Olympic Sports Center, the rapid traffic flow shortly before and after school hours generated significant traffic congestion around the school. China TransInfo targeted the crux and implemented “X” measures, including establishing a dedicated bus route, setting up a student pickup system, which encourages co-governance and sharing between family and school. With this approach, we have created a three-dimensional pick-up and drop-off system for students traveling to and from school with separated time and space and separated pedestrians and vehicles, forming an orderly and smooth traffic environment around the school.

With our comprehensive management, 62.6% of the trips around the school are by public transportation, and the number of driving parents (to pick up their children) has decreased significantly. During the morning and evening rush hours the average congestion index of roadways around the school has dropped below 1.45. This significant improvement in traffic efficiency makes it more convenient for students to go to and from school, effectively saves parents’ time, and makes parents more assured about their children’s travel.



Achievements of traffic management around Hangzhou Olympic Primary School

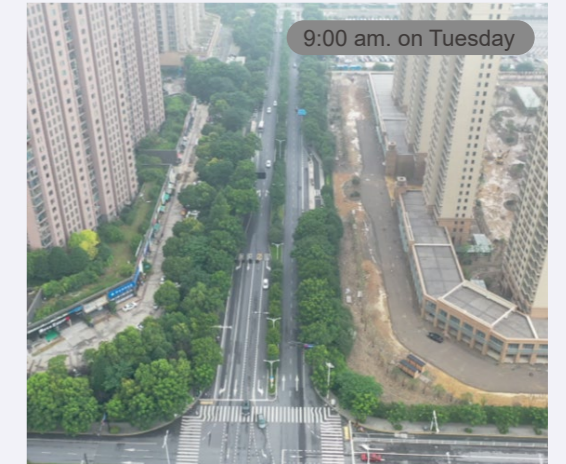
Hospitals

The Binjiang Division of the Children’s Hospital Affiliated to Zhejiang University School of Medicine is the largest Level-3 Grade-A comprehensive children’s hospital in Zhejiang Province. The surrounding roads are the primary commuting routes in Binjiang District. The traffic flow arriving at the hospital interfered with the traffic flow moving through. As a result, the hospital area is one of the most congested areas in the Binjiang District. To create an orderly and smooth traffic environment around the hospital, China TransInfo focused on the main problem which is parking difficulties near the hospital, and implemented “X” measures such as parking management, road management, public transportation management, traffic organization optimization, and co-management.

With our comprehensive management, the peak congestion index near the hospital has dropped from 1.9 to 1.4, a decrease of 25.8%. The parking index has reached 1.7, and the turnover rate has increased by 6.3%. Car queue has been eliminated basically, and the traffic congestion has been significantly mitigated, allowing more time for the treatment of patients.



Conditions around the hospital before traffic management (9:00 a.m. on Tuesday)



Conditions around the hospital after traffic management (9:00 a.m. on Tuesday)

Intercity Traffic Management

At present, the construction of expressways in China is slowing down, while the number of cars on road is rising. The daily traffic flow on expressways reaches 30 million vehicles. It is critical to improve the efficiency of intercity traffic and strengthen its governance. For this practical demand, China TransInfo proposes the idea of “AIoT assisting intelligent expressway construction” and a model for the digital transformation of expressway management. We advocate creating a scientific management and control system that strongly supports traffic management, transportation, and public travel, to improve the efficiency of intercity transportation.

Smart Roads	Traffic incident detection	Traffic dynamic sensing	Through monitoring	Traffic converging warning
Smart Tunnels	Traffic incident detection	Holographic tunnel management	High temperature warning and detection	Side slope safety detection
Smart Rest Areas	Available parking space guidance	Data operation analysis	Refueling safety management and control	AR guidance

At the moment, the all-factor road net operation monitoring system created by China TransInfo can detect toll stations queues based on mobile location data and integrate toll data to monitor the traffic efficiency of toll stations. Moreover, by relying on networked video data, we have accomplished the seamless connection of expressway net videos, providing useful data for traffic flow regulation, traffic organization optimization, traffic resource allocation, and other traffic management scenarios. In this way, we have achieved the “one diagram” for the national highway industry, assisting the authorities in improving digital management.

What is the “One Diagram” for the National Highway Industry



The road net monitoring and guidance and dispatch system

Based on basic map data, the “one diagram” integrates all kinds of operation data of the highway industry. It satisfies the industry’s need for integrating application system functions such as basic information presentation, operation monitoring, emergency management, and integrated analysis.

Case The Intelligent Expressway Demonstration Project of Jilin Province

Jilin Province considers intelligent transportation as a key focus of transportation in the 14th Five-Year Plan period. It collaborates with China TransInfo on intelligent expressway demonstration projects and video cloud networking projects to speed up digital transportation development.

In response to Jilin Provincial Expressway Group’s needs for digital management, China TransInfo has developed a five-in-one integrated management and control platform for expressway construction, management, maintenance, operation, and services. Relying on China TransInfo’s intelligent integrated highway management and control platform, the authorities can centralize the management and control of toll operation data, road operation, equipment operation, and road maintenance of the entire Jilin with “one diagram”.

The smart expressways construction has achieved remarkable outcomes. The road network’s carry capacity has been significantly increased. The average vehicle speed has significantly increased compared to before the project’s execution. The number of congestions on the road net and the number of congestions per 10 kilometers have been reduced drastically. The authorities’ management and control capabilities have been effectively improved. The number of accidents per 10,000 vehicles per kilometer has been effectively reduced by 40.2%, and the time it takes to handle an incident has been lowered by 29.2%. The authorities can better ensure smooth traffic flow in emergency situations, and their ability to detect traffic incidents has been significantly improved.



The Jilin Expressway Operation Monitoring Platform

Ensuring Traffic Safety

Traffic safety is an important goal of current and future traffic governance. With the rapid development of China’s economy, great progress has been achieved in the transportation network development. However, with the increase in car ownership and transportation demand, road safety faces a grim situation. The high number of accidents and deaths seriously affects the safety of people’s lives and properties and hinders economic and social development. With the help of science and technology, China TransInfo fully utilizes big data in traffic management and develops a 1 plus 2 governance system. We are also working to improve our unique traffic safety evaluation system and strengthen our operational safety and emergency handling capabilities.

“1” Refers to the Big-Data-Based Road Safety Warning Platform

Based on big data plus AI, traffic safety big data resources are integrated and aggregated, and a traffic safety risk evaluation index and labeling system are established, which involves five responsible subjects, including, people, vehicles, roads, companies, and streets and towns (village communities). Big data and multi-dimensional risk research and judgment are used to develop a closed-loop data application service for the entire business chain to “identify problems, analyze causes, determine methods, and evaluate effects,” and provide traffic safety authorities with technological aids for sub-divided, precise, and scientific traffic management.



The big-data-based traffic safety warning, management, and control platform

“2” Refers to Two Major Projects

→ The basic traffic safety improvement project

To improve traffic infrastructure, such as building cliff and waterside protection facilities, reflective facilities, and yielding signs; improve unreasonable road design; and improve the basic prevention and control capabilities of roads.

→ The traffic safety technology management and control improvement project

To implement road blind-spot warning, severe weather warning, and branch and side road warning, to remind travelers and the authorities in time.

Urban Traffic Safety Management

By now, China TransInfo has developed a business think-tank system with nearly 300 models organized into three clusters, including the indicator system integral model cluster, the traffic safety business model cluster, and the traffic safety machine-learning algorithm cluster. We have thoroughly implemented the traffic evaluation concepts and methods in projects such as integrated traffic management in Binjiang District, Hangzhou.

By now, China TransInfo has developed a business think-tank system with nearly **300** models

Achievements of the integrated omni-traffic management project in Binjiang District, Hangzhou:

In the Internet Industrial Park Demonstration Zone, the average daily number of traffic accidents has dropped by 31.7%, from 15.2 to 10.4. The number of illegally parked vehicles per day has dropped from a maximum of 1,000 to a minimum of 18.

The number of traffic safety incidents in Binjiang District has gradually decreased. The four indicators of vehicle accidents have declined across the board, including a 20% decrease in the number of accidents, a 25% decrease in accident fatalities, a 25% decrease in accident injuries, and a 35% decrease in property damage.

Case Ensuring Traffic Safety for the Beijing Winter Olympics

The 2022 Beijing Winter Olympics are held during the Chinese New Year, transportation services and safety assurance across the competition venues have become a top priority.

In response to the special needs of the Winter Olympics, China TransInfo perceived the planning and construction around the Winter Olympics in multiple dimensions, gathered data on people, vehicles, traffic flow, and traffic incidents, and integrated overall transportation data on public security, community, accommodation, and parking. With our digital and intelligent strengths in our AIoT products and solutions, we built a traffic safety “mastermind,” and implemented applications such as the Winter Olympics traffic safety cockpit and the mobile connected command for competent departments, providing technological support for the safety assurance of the Winter Olympics.

China TransInfo developed a solid inspection and emergency response plan for the Yanqing Winter Olympics security platform in advance, to ensure the smooth operation of more than 10 key system services such as server clusters and the Winter Olympics dynamics display system.

During the opening ceremony and the events of the Winter Olympics, China TransInfo secured dozens of special service lines through the Chaoyang Winter Olympics traffic command and dispatch platform which was built by the Company. We used effective command and dispatch to scientifically deploy hundreds of police posts, handled a number of traffic accidents, and ensure traffic order and safety in the Beijing competition venues during the Winter Olympics.



China TransInfo guarding the venues in Guyangshu, Chongli

In the western section of Beijing Metro Line 11, the Winter Olympics branch, China TransInfo provided a CCTV network-wide solution and implemented it according to the GB35114 national standard to facilitate travel during the Winter Olympics. It served as a model for video information security practices in public transportation.



China TransInfo guarding the Beijing Metro Winter Olympics branch

In the Winter Olympics venues in Guyangshu, Chongli, China TransInfo installed more than 300 surveillance camera locations and high-level panoramic cameras to secure the perimeter security of the Guyangshu venues. In the Ice Ring air corridor and key accesses, we used vehicle snapping and identification to effectively prevent accidents.

Rural Traffic Safety Management

In recent years, rural areas have grown rapidly. However, there are still many issues in terms of transportation, including inadequate road infrastructure, non-motor vehicles carrying passengers, not wearing a helmet, safe driving of motor vehicles, and road safety. Traffic accidents fatalities in rural areas are much higher than those in urban areas. Rural traffic safety remains a priority. China TransInfo investigated the most prevalent traffic safety risks in the current rural settings and developed a smart rural traffic safety algorithm. In addition to the 1 plus 2 safety management system, we use AI algorithms to strengthen safety monitoring.

Person-Carrying Detection

- On rural roads, non-motor vehicles and agricultural vehicles carrying passengers cause extensive traffic safety issues, due to villagers' lack of safety awareness. In case of illegal acts of non-motor vehicles and agricultural vehicles carrying passengers, the passengers-carrying detection algorithm can immediately warn drivers, record and provide data to subsequent law enforcement.

Helmet Detection

- The helmet is mandatory protective equipment when driving non-motor vehicles, especially fast electrical bicycles and motorcycles. The helmet detection algorithm can provide real-time warnings and statistics when drivers are not wearing a helmet to assist traffic management.

Intersection Blind Spot Detection

- With the rapid development of rural areas, the number of motor vehicles has greatly increased. However, the intersections of rural roads are frequently blocked by buildings, trees, and other objects, creating blind spots, and becoming a major driving safety hazard. Moreover, many drivers do not slow down to observe and even speed at intersections. The intersection safety algorithm scheme can identify the targeted locations, send out collision risk warning signals, and display instant reminders on LED screens and other warning devices to avoid accidents.

Case Traffic Safety Management on the Nanchang Section of the National Expressway G105

The section of Expressway National G105 to the south the Silver Triangle of Nanchang County, with a length of about 27 kilometers, runs through one town and 25 villages. It is an important logistics and commuter passage in Nanchang County. Due to changeable cross-sections and inadequate safety facilities on this road section, traffic accidents are increasing year by year. To this end, China TransInfo adopted a “refined plus intelligent” governance method to analyze the causes of traffic accidents from the perspective of people, vehicles, roads, and the environment. At accident hot spots and sections, we carried out trials of comprehensive management of national and provincial expressway traffic safety, which features three major projects, namely, the transportation infrastructure improvement project, the technology management and control improvement project, and the big-data-based early warning safety management and control platform.

We ensured traffic safety by improving traffic safety infrastructure and investigating and managing potential traffic safety hazards. At the same time, through traffic safety publicity and education, we strengthened the safe travel and safe driving awareness of key groups such as the elderly, children, freight drivers, and drivers with criminal records, to regulate traffic order. With our urbanized management of roads in rural areas, the traffic safety of this section has been significantly improved.



A demonstration case of rural road management

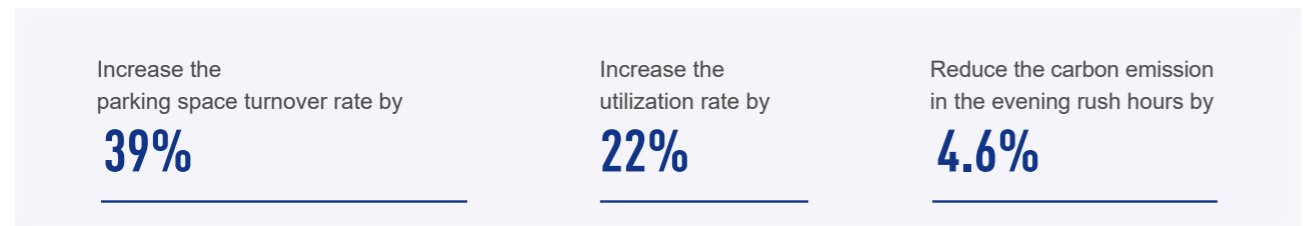
Boosting Green and Low Carbon

In September 2020, China made a solemn commitment to the world that it will strive to peak carbon dioxide emissions by 2030 and achieve carbon neutrality by 2060. The transportation industry is responsible for 15% of the country's total carbon emissions. Out of the total transportation industry carbon emissions, road transportation accounts for 84%, which makes it a key area for emission reduction. To peak carbon dioxide emissions of the transportation industry as quickly as possible, China TransInfo is leveraging its technological advantages such as big data and AI to provide better solutions for green and low-carbon transportation and use technology to protect the ecosystem.

Reducing Transportation Emissions

Congestion mitigation and energy saving are areas that China TransInfo can help to reduce transportation emissions. We use big data to comprehensively mitigate congestion by improving traffic efficiency to effectively reduce emissions. We also use new technologies such as energy-saving and smart control and distributed smart power supply to maximize the energy-saving and consumption reduction of devices, which has significantly decreased emissions.

Moreover, China TransInfo has independently developed a static traffic cloud platform. Supported by big data, cloud services, and edge computing, the platform can generate parking big data analysis reports and time-staggered and shared parking solutions, provide regional real-time parking guidance, and serve for regional dynamic and static traffic organization optimization and analysis of human and vehicle behavior trajectories. The platform has been placed in Shanghai Hongqiao Hub, Hainan Meilan Airport, and Sanya Fenghuang Airport. It is practically proven that the static traffic cloud platform can increase the parking space turnover rate by 39% and the utilization rate by 22%, and reduce the carbon emission in the evening rush hours by 4.6%.



Case The Green Wave Coordination and Optimization Scheme in Lhasa

Most of the main roads in Lhasa span from east to west. The densely populated central area is easy to get traffic congestion during peak hours. China TransInfo uses big data and AI to drive the intelligent management and control of the urban transportation system. After the implementation of the project, the average travel time of vehicles on the five main roads in Lhasa decreased by 26.9%, and the number of stops decreased by 67.2%. Road congestion has been effectively alleviated, and traffic operation efficiency has been greatly improved, thereby reducing the overall carbon dioxide emissions of motor vehicles and achieving carbon emission reductions in transportation.

Guarding the Blue Sky

We have innovatively implemented the remote sensing monitoring technology and developed a Remote Detection and Law Enforcement Testing Station for High Emission Diesel Vehicles. It can intelligently monitor exhaust emissions with remote sensing detection devices to filter high-emission vehicles and improve the overall efficiency of environmental protection monitoring.

Case Management of Heavily-Polluting Diesel Vehicles

In an expressway project, we applied a forensic and law enforcement system for heavily-polluting diesel vehicles. The system supports video collection, vehicle detection, black exhaust snapshot and recording, GPS positioning, and intelligent analysis. According to statistics, more than 1,000 heavily-polluting diesel vehicles have been captured and punished accordingly. By now, the heavily-polluting diesel vehicles on this expressway section have been greatly reduced.

In response to the air pollution problem of straw burning, we created a Smart Environmental Protection Smoke Management System based on the AIoT solution. We have addressed air pollution at 7,530 locations since the system was in operation. The system supports front-end and back-end-integrated secondary algorithm detection, real-time warning, and accurate notification for social workers to handle. It has targeted open straw burning, raised people's awareness of the impact of this practice, and effectively alleviated air pollution.

Nature Conservation

We leverage cutting-edge technologies such as the IoT, big data, and AI to share information and integrate data and use technology to empower the conservation of the ecological environment and biodiversity.

Smart Fishery

The 10-year fishing ban in the Yangtze River and its basin is a critical step in promoting the construction of ecological civilization, ecological environment management, and green development of the Yangtze River Economic Belt. Our smart fishery scheme adopts the strategy of "protection by personnel plus technology." A new model of law enforcement supervision has been implemented with advanced technologies, such as video perception, AI, big data, and thermal imaging recognition, which includes seamless coverage of regulated waters, intelligent identification of illegal conducts, accurate push of early warning information, grid-based inspection and handling, and centralized dispatch of protection by personnel and technology. As a result, fishery law enforcement and supervision have been improved.

Smart Forest Fire Control

Forestry is the most important sector in ecological construction and it is indispensable to economic and social development. Forest fires are unpredictable, destructive, and difficult to contain and extinguish. They are one of the most devastating natural disasters and abrupt public crises in the world today. To prevent forest fire, we have built a smart forest fire prevention system. It is equipped with advanced video surveillance and alarm technologies, as well as video analysis, infrared detection, intelligent management and control, GIS maps, and decision-making and command modules. It supports forest fire prevention, fighting, and security systems, and achieves forest fire whole-process control.

Case Forest and Grassland Fire Prevention in Hainan Prefecture, Qinghai Province

Hainan Prefecture, Qinghai Province in the northeastern part of the Qinghai-Tibet Plateau in China has a complex topography and extreme climate. To manage forest fire more efficiently and accurately, we use a dual-spectrum high-precision spherical turntable. With the advanced pyrotechnic identification algorithm, we intelligently detect smoke and high-temperature heat sources from the data collected by the visible light and thermal imaging dual-spectral lenses and conduct around-the-clock remote monitoring of the site and surrounding areas. Our system in Qinghai Province has assisted provincial, municipal, and county departments in providing early fire warning and monitoring of forests and grasslands remotely, eliminating forest fires in the bud. We have protected more than 6,666.67 km² of forest and more than 700 species of wildlife.

Animal Protection

For poaching activities, we utilize camera deep recognition technology. AI-algorithm-based cameras can identify poachers and promptly warn the security personnel in charge of monitoring after the poachers break into the park. Compared with traditional cameras, AI cameras can tell the difference between humans and machines, reducing false alarms, identifying intruders more precisely, and better-protecting wildlife.

Case Protecting the Lion Park

The Chameleon Village Lion Park is a popular wildlife park in Hartbeespoort, South Africa. Here, visitors can get up close with lions, tigers, and caracals. Because of loopholes in the park's surveillance network, the authorities were unable to identify poachers, and many lions were poached. To this end, we provided a CCTV solution for the Lion Park to accurately identify poachers and better protect wild animals.



Wild animals in the Chameleon Village Lion Park Wild animals in the Chameleon Village Lion Park

Innovative Urban Management

Good social management is an important component of people's life. China TransInfo uses cutting-edge technologies such as the IoT, big data, and AI to share information, integrate data, and sync business, to help city managers improve their performance.

Maintaining Social Order

For municipal social governance, with our core technologies, we have developed a smart governance system. It enables the rapid integration of excellent algorithm technologies and practical system operations, increasing the governance capabilities of competent departments.

The Smart Urban Security Management System

To maintain social order more effectively, China TransInfo has developed a smart urban security management system. Our core technology ReID (Re-identification) serves as an important complement in the face recognition system, effectively enhancing the spatiotemporal continuity of video data. After the system was launched, the effective lead rate was increased to 62%, and the solution rate of minor and micro cases was increased by 50%.

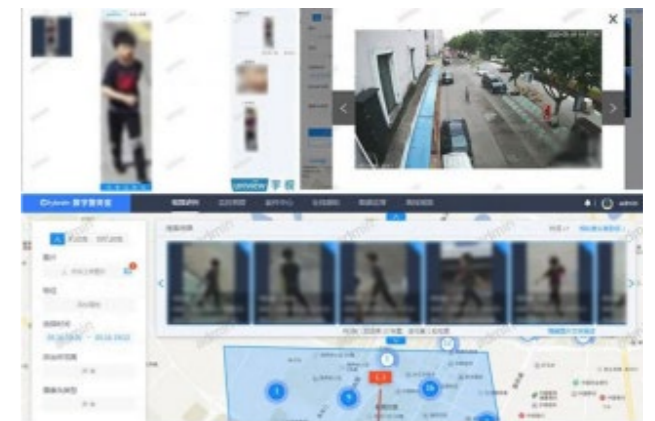
the effective lead rate was increased to **62%**

the solution rate of minor and micro cases was increased by **50%**

Case The Smart Urban Security Management System Assisting in Finding Missing Children

Time is of the essence when it comes to finding missing children. In 2020, we used the smart urban security management system to successfully assist relevant departments in finding a missing 7-year-old boy within 30 minutes, effectively maintaining social order.

Based on the missing boy's clothing, posture, photos, and other information, our smart system completed retrieval in massive video data within seconds, identified more than 10 traces of the boy at the first time, and quickly located the boy.



The smart urban security management system quickly located the trace of the missing child.

Case The Smart Urban Security Management System Assisting in Solving a Serious Drug Case

China is the earliest and most resolute country in the world in drug control. In 2020, we employed technical means to assist drug control departments to detect drug-related cases and crack down on drug production and drug trafficking crimes.

In the process of solving cases, our smart urban security management system conducted progressive search based on visual research and judgment. It quickly located the suspects' foothold and the places where the drugs were hidden, effectively facilitating the fixation of evidence and smooth investigation. In the end, we assisted in the arrest of 17 suspects, and 2.8 kilograms of heroin was seized on the site.



The smart urban security management system quickly located the traces of drug-case suspects.

Empowering the Development of Different Industries

In recent years, China TransInfo has invested digital capabilities and resources to provide digital assistance to industries that are closely related to the national economy and people's livelihood, such as manufacturing, construction, catering, and tourism, empowering high-quality development in these sectors.

Manufacturing

China's manufacturing industry has a vast range of categories and a sizable market. However, AI technology has a low penetration rate in China's industry, with an average of only 8.6% in 2019. China TransInfo is making efforts in the field of intelligent manufacturing. We develop professional industrial AI platforms and provide innovative products and solutions to manufacturing enterprises to help them reduce costs and increase efficiency. For example, in the production line transformation for a grain and oil group, we provided a comprehensive machine vision solution with an AI visual product inspection system. The system automatically detects issues such as damaged packaging and printing defects, lowering the client's defective piece refund rate by about 50%. The system has improved the yield rate and enhanced the reputation and brand influence for our clients.

Construction

On construction sites, production and operation environment and personnel are complex. Moreover, the sites may be scattered, making construction site management is a difficult task. To digitally transform construction site management, we introduced site solutions. Through various sensing devices installed on construction sites, we designed intelligent monitoring and prevention systems to effectively compensate for the deficiencies of traditional supervision technology. Moreover, we introduced new concepts for safety production supervision and management, embodying the work safety principles of "giving first place to safety, laying stress on prevention and taking comprehensive measures in this regard." We have successfully accomplished the digital display and management of all elements and processes on the construction site, effectively reducing management costs, preventing construction hazards in a timely manner, and supporting the digital transformation of construction site management.

Catering

In the catering industry, we introduced the See-through Kitchen program to clearly display food processing and improve the transparency of catering production with videos and algorithms. We installed AIBOX smart analysis boxes in restaurant kitchens to provide algorithms for chef hat detection, chef uniform detection, smoking detection, mask detection, and rodent detection. The detection results are transmitted to the regulatory system through the Internet.

Tourism

Transportation is the foundation of tourism development. In 2021, we developed a smart transportation and tourism management platform that can monitor the road network in tourist areas and predict and guide the flow of visitors. It boosted the integrated development of transportation and tourism in every aspect. Moreover, we launched smart scenic spot solutions and developed application systems for intelligent monitoring, perimeter security, personnel positioning, one-click reporting, and emergency command. They provide an effective guarantee for the safe operation of scenic spots and enhance their visual intelligent management services.



The smart transportation and tourism management platform

Co-Building Smart Communities

The development of smart communities is of importance to people's health and well-being. China TransInfo cooperates with a variety of social organizations to offer support in different segments such as public services and community construction, striving to build sustainable and beautiful communities.

Smart Water

For the goal of creating a new era of the intelligent application of water in 2035, we launched smart water conservation solutions. The solutions employ next-generation information technologies including the use of the IoT, AI, and digital twins to build a "digital twin watershed." We utilize forecast, early warning, drills, and pre-planning to improve water forecasts and water security capabilities.

Digital and Intelligent Hospitals

In recent years, the National Health Commission, the Ministry of Public Security, the Ministry of Finance, and other departments have all given instruction to improve hospital security. To prevent and control the pandemic, and to ensure a safe and stable order of diagnosis and treatment is the core and foundation for the development of smart hospitals. We developed digital and intelligent hospital solutions, including systems for pandemic prevention and temperature measurement, intelligent monitoring, intelligent security inspection, and one-click reporting. They have realized the digital empowerment of hospitals, built high-tech smart hospitals, and protected doctors and patients.

Case Digital and Intelligent Applications in Beijing Tiantan Hospital, Capital Medical University

Beijing Tiantan Hospital is a large general hospital receiving a huge number of patients every day. To better ensure a safe and stable diagnosis and treatment order, we provided the hospital with a digital and intelligent construction solution. We integrated 3D maps, face recognition, intelligent analysis, and other systems into the operation and maintenance management of the hospital, and set up 5,030 high-definition cameras to efficiently protect doctors and patients.

| Smart Communities

Relying on data empowerment, we launched smart community solutions. The solutions have a unified database, open data interfaces, and a visualized data dashboard to improve the travel experience of residents and created smart and safe communities.

Convenient Travelling

- Our smart channel products provide a convenient and safe passage experience based on certification for all age groups.
- Simultaneous temperature measurement plus QR code is the most effective digital means in the context of on-going community pandemic prevention and control.

Intelligent Application

- It aims at the major community issues of high-altitude littering and electric motorcycle control and realizes community safety management.
- It intelligently detects the leaving and sleeping of on-duty security personnel to empower the efficient management of smart property management services.

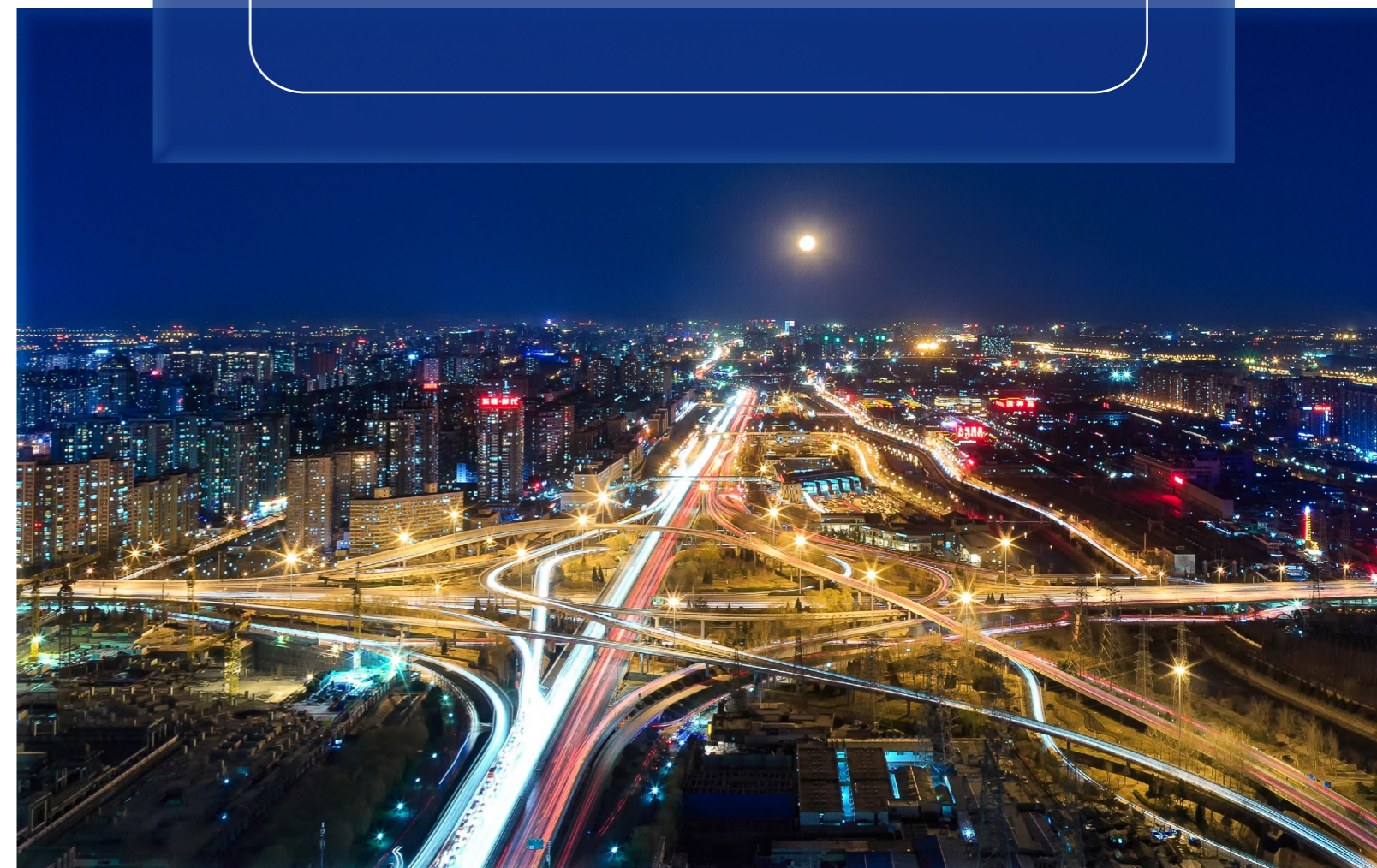
Personnel Management

- With three models (pass, access control, and integrated), property management data and IoT perception data are aggregated. A sustainable collection mechanism has been established to reduce the burden and increase the efficiency of community policing.

Case Smart Community Construction in Nan'an, Chongqing

To better ensure community security, China TransInfo's smart community solution was piloted in Nan'an District, Chongqing. We set up a security system that meets the requirements of intelligent public security video images, and accessed data such as portrait databases. We took one file for one person as the operation basis to build portraits of community residents in Nan'an District and empowered community population management.

Our system was launched in more than 300 residential blocks on Nan'an, Chongqing. The system associated more than 6,000 people with their files, with an identification rate of 70.6%. The accuracy rate of early warning of migrants moving in and out was over 70%. A residential block population database with image files with increasing accuracy and fresh data has been built.



02

SOUND HUMAN CAPITAL SYSTEM

CHINA TRANSINFO

Sound Human Capital System

China TransInfo regards its employees as the Company's most valuable resource. We believe that employees from different backgrounds and outlooks can better stimulate the creativity of China TransInfo and help the Company develop more sustainably and progressively.

- Recruitment, Rights and Benefits
- Promotion and Development
- Safety and Health
- Communication and Care

Recruitment, Rights and Benefits

China TransInfo places equal emphasis on equal opportunity and procedural justice. We have developed and implemented comprehensive rules for recruiting, selection, promotion, training, appraisal, and remuneration of people. We strictly abide by the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, and other relevant laws and regulations and firmly ensure that our recruitment is legal and compliant. We do not discriminate against anyone based on race, religion, gender, sexual orientation, national origin, age, or physical condition. We banned the use of child labor and coerced or disguised forced labor.

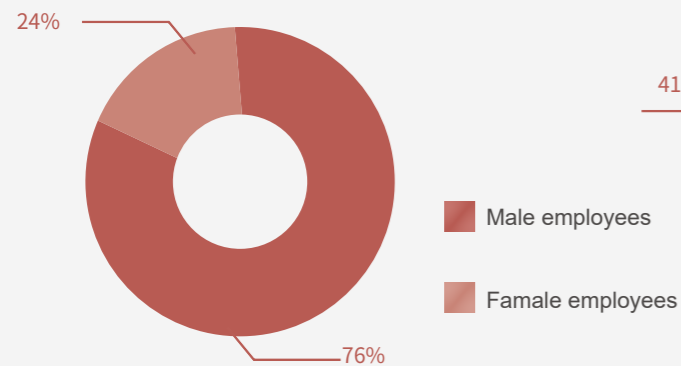
The Company puts a focus on compensation and benefits management. We provide employees with statutory benefits according to state requirements, insure employees in five mandatory insurance plans, and pay the housing provident fund for them. Apart from statutory benefits, the Company offers a variety of supplemental benefits to its employees, including vacation pay, birthday pay, meal allowances, wedding allowances, pensions for the dependents of deceased employees, accident insurance, additional medical care, and health examinations.

By the end of 2021, the Company has a total of **7,105** employees

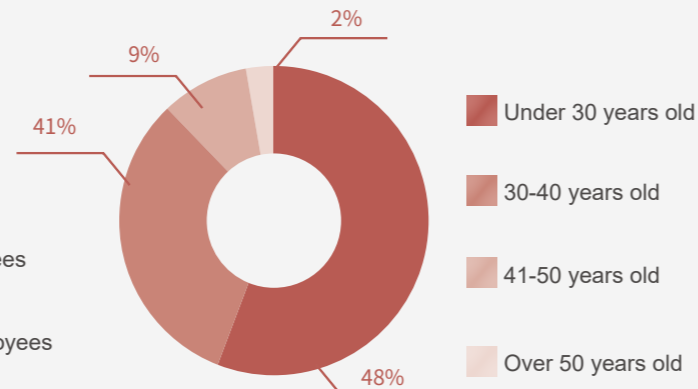
including **2,425** new employees

100% of employees have signed labor contracts

Gender proportion of employees



Age proportion of employees



Talent Introduction

China TransInfo improved its talent introduction policies and procedures in 2021, recruiting talents via online events such as cloud campus job fairs. We have also established long-term cooperation systems with the Renmin University of China, Tsinghua University, Beijing Jiaotong University, and Beihang University in scientific research, personnel training, laboratory construction, and the application of scientific results. We have built a platform for the industry-university-research integration. We explore forms of university activities and project collaboration, conducting academic research, and achieving scientific and technological breakthroughs, we have built a platform for merging industry, university, and research. This way, we can attract a steady stream of next generation talents.

Case Gansu Demonstration Center for the Joint Training of Graduate Students

In April 2021, Gansu Ziguang Intelligent Transportation and Control Technology Co., Ltd., a subsidiary of China TransInfo, cooperated with Lanzhou University of Technology to establish the Gansu Demonstration Center for the Joint Training of Graduate Students. The center aims to make full use of the Company's advantageous resources, cultivate inter-disciplinary and innovative talents that meet the needs of the society, and further explore the joint personnel training mechanism.



Establishment of the Gansu Demonstration Center for the Joint Training of Graduate Students

Democratic Management

The Company had its first Employees' Representative Conference in September 2021, at which members of the first labor union, Fund Review Committee, and Female Employees' Committee were elected. By the end of 2021, the Company's labor union had 207 registered members. Its mission is to collaborate with other departments, work with employees, and promote a positive development environment, harmonious labor relations, production and operation, and social welfare events.



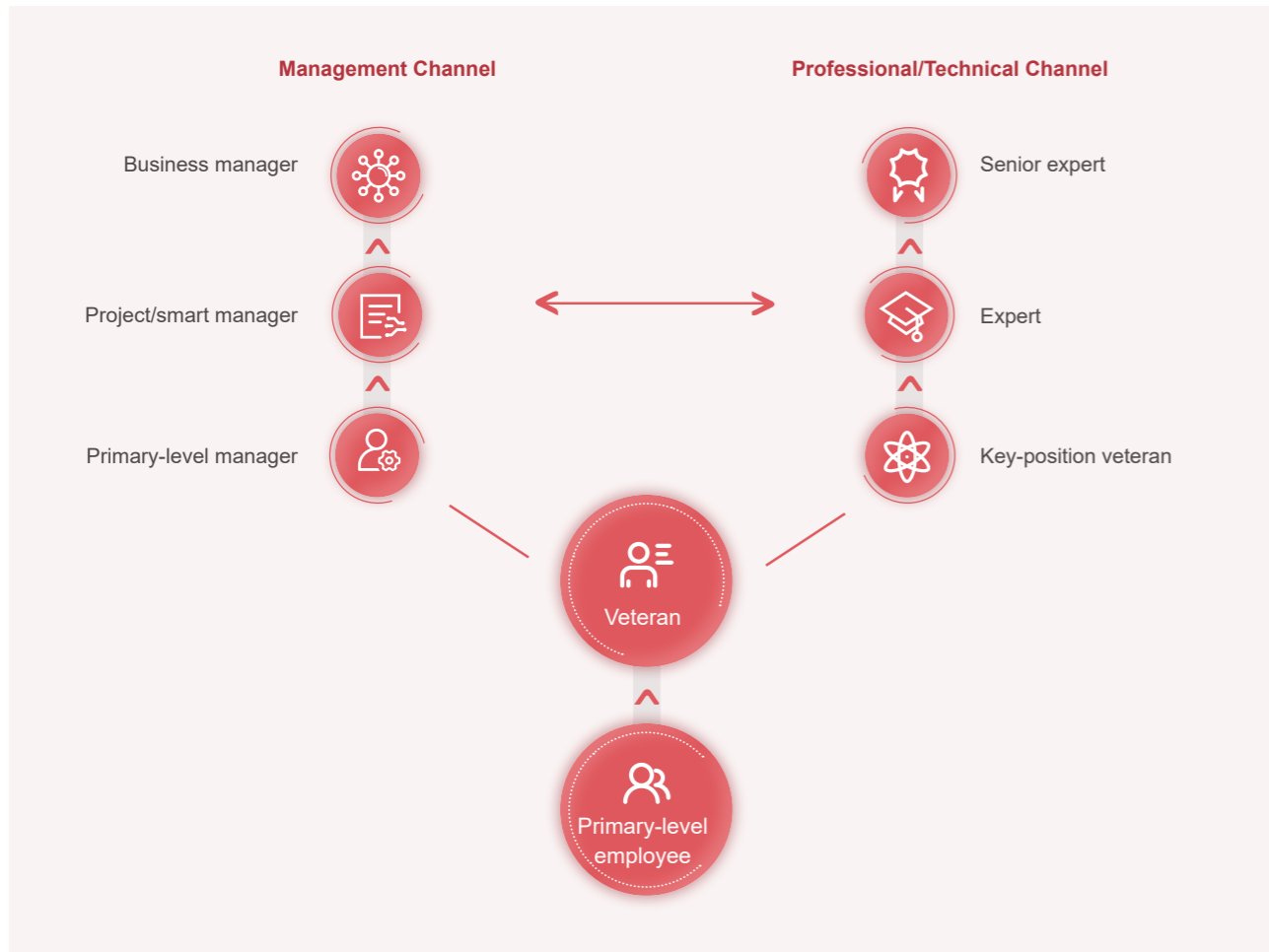
China TransInfo held the first Employees' Representative Conference.

Promotion and Development

China TransInfo is committed to employee development. We've established a clear promotion path for employees and developed a diverse and individualized training platform to assist each employee in improving their performance.

Promotion System

We are constantly improving the position and rank management system to create a framework for fair, just, and open competition. The Company carries out appraisals regularly. We have formulated the *China TransInfo Technology Co., Ltd. Management Measures for Performance Appraisal*. We conduct semi-annual and annual comprehensive assessments of employees according to their job responsibilities and adjust employee compensation and incentives based on performance results. In this way, we have established a solid promotion system.



Employee Training

China TransInfo's employee training program is continually adjusted and upgraded to promote long-term, efficient, and systematic employee training, continuously increasing employees' professional skills and competency and establishing a learning organization.

The Company provides a range of training to its workers, including onboarding, management trainee programs, leadership development through external organizations, and anti-corruption training. Training is classified into three categories: knowledge, skills, and competence.

- Knowledge Training** Educate people in their specialty and related specialties about the fundamental knowledge required to perform the job and the new knowledge needed to adapt to future work.
- Skill Development** Develop professional skills following employees' job obligations and professional qualification standards to apply theories freely and continue to progress.
- Competence Training** Develop the employee's overall competence to meet the employee's self-improvement needs.

Case Starship Program: An Onboarding Training Series

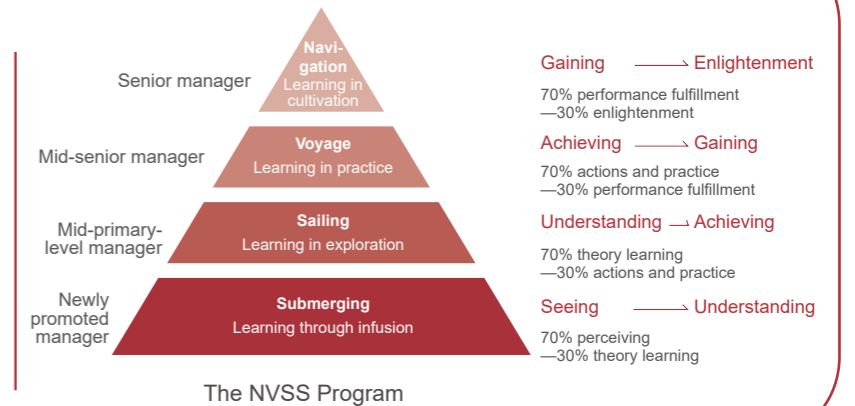
The Starship Program is a series of onboarding training projects for the Company's business development needs. From one year before the employee's entry to one year after the employee's entry, it runs through the learning and development of prospective employees and new employees. The whole onboarding training system is divided into seven stages:



After all these projects for about 2 years, the trainee will have an in-depth understanding of the Company and integrate into the Company, gain cultural recognition, business awareness, and ability improvement, and finally become a management or professional talent that meet the Company's requirements.

Case The NVSS Program: A management Training Series

The NVSS Program is a series of management training programs carried out by the company based on management employment channels and qualification standards. It has formulated personalized training programs for managers at different levels, combining learning and practice to help employees open up management promotion channels.



Safety and Health

China TransInfo attaches great importance to managing employees' health and safety. We have established a complete assurance system for employees' health and safety.



China TransInfo's assurance system for employees' health and safety

The Company strictly abides by the *Environmental Protection Law of the People's Republic of China*, the *Law of the People's Republic of China on Work Safety*, and other relevant laws, regulations, requirements, and standards. We have formulated and implemented policies such as the *Environmental and Occupational Health and Safety Management Manual*, the *EHS Laws and Regulations Management Process*, and the *Occupational Health Management*. The Company has a Work Safety Office responsible for responding to emergency work safety incidents.

The Company achieved all environmental, safety, and occupational health goals during the reporting period. 100% of the hazardous waste was properly disposed. There were no fires, serious injuries, or above-average accidents, nor were there hazardous chemical leaks or pressure vessel explosions. Every piece of equipment and facility is in good working order. 100% of employees received workplace safety training and education. We conducted ten fire drills, with 3,346 people participating.

The Company regularly arranges physical examinations for employees in terms of occupational health. In 2021, 100% of the Company's employees underwent physical examinations, with no new occupational disorders diagnosed. The Company also provides medical and health care consulting services and supplementary medical insurance for employees, which effectively guarantees the regular health management of employees and facilitates the medical treatment of employees and their children.

In 2021, the COVID-19 pandemic was still affecting society. For the health of employees and a safe workplace, the Company has formulated the *Pandemic Prevention Measures and Emergency Plan* and the *Pandemic Prevention and Control Guidebook for Overseas Business Travel* to regulate the international pandemic handling process and emergency plan. We communicated and supported those who were quarantined or restricted from entering the office building and leaving their residence because of business trips. The Company conducted six pandemic prevention training sessions for overseas business travels, two Q&A COVID-19 vaccination sessions, four collective COVID-19 booster doses, and one door-to-door nucleic acid test during the reporting period, serving a total of over 1,000 people.

100% of employees received workplace safety training and education

We conducted **10** fire drills

100% of the Company's employees underwent physical examinations

Communication and Care

We adhere to the work-life balance idea to create a relaxed environment for employees to work efficiently, cheer them up, and strengthen their sense of belonging.

Employee Care

The Company has physiotherapy rooms, hair salons, laundries, restaurants, cafes, gyms, reading rooms, outdoor basketball venues, and other convenient leisure facilities for employees. We also regularly organize leisure events for employees with other companies.



Team building of China TransInfo Beijing Institute



Mid-autumn Festival Mooncake DIY event at TransInfo Building



Uniview Employee Badminton Match



Uniview Employee Basketball Match

Concerning female employees' care, the Company carefully enforces and protects their lawful rights and interests in employment, labor protection, rest and vacation, and remuneration, and provides pregnancy, childbirth, postpartum, and other maternity leaves. The Company's labor union has set up a Female Employees' Committee. With a multi-departmental coordinative management system, the Committee carries out a variety of activities to enrich female employees' life and development, provide them with education resources, and protect their rights and interests. Female employees can select activities that interest them, such as lectures on women's health, free medical consultations, seminars on parent-child communication skills, parent-child reading days, etc. The Company has a Good Mood psychological consultation hotline. Female employees can get a "psychological massage" through the hotline to relieve pressure from the workplace and family.

Equal Dialogues

We advocate a team culture of frankness, sincerity, mutual trust, and mutual support. A multi-channel, multi-level, and overall communication system was created to build an equal dialogue platform for employees. The Company has an Internal Audit Department, which supervises the implementation of the Company's plans and procedures and receives employees' reports. For special work reports and complaints, the Company has a particular mailbox to receive emails to protect employees' rights and interests and their channels to voice. In addition, employees can communicate with managers at all levels of the Company and put forward opinions and suggestions via internal emails, unique mailboxes, employees' forums, employees' satisfaction surveys, and democratic forums.



03

RESPONSIBLE CORPORATE CITIZEN

CHINA TRANSINFO

Responsible Corporate Citizen

China TransInfo cares for the community where it operates and creates value for other communities across the country by leveraging its advantages. In 2021, the Company actively responded to the national combat against the COVID-19 pandemic and used the power of science and technology to fight the pandemic intelligently. The Company organizes public welfare and charity events with government organizations, joining strengths to help the poor, serve the community, and bring positive value to society.

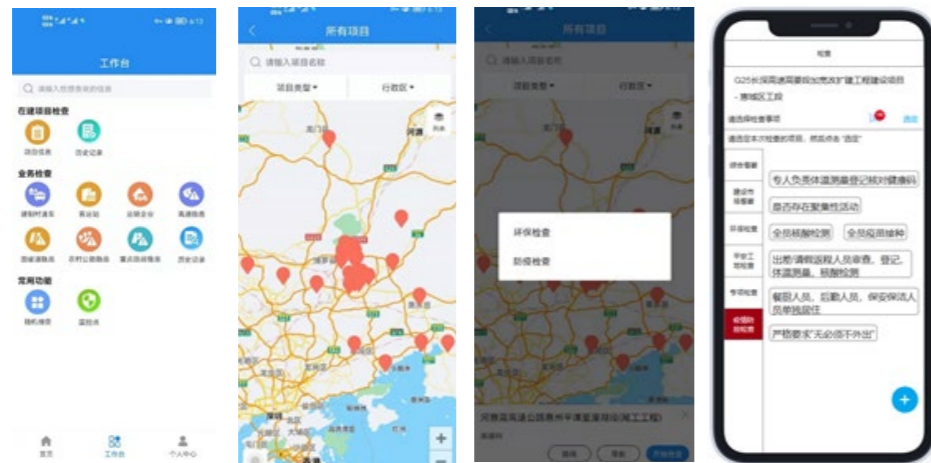
- Doing Utmost in the Mass Combat Against COVID-19
- Support for Community Pandemic Prevention
- Ongoing Public Welfare Cause

Doing Utmost in the Mass Combat Against COVID-19

The transportation industry is the guardian of the “passage of life” for the transport of anti-pandemic supplies, the patients against death, and the transport of people’s necessities. In 2021, China TransInfo harnessed technology to support local pandemic prevention. We provided powerful tools to ensure work safety management of transportation in the pandemic prevention and control and facilitate the investigation of virus spread in passenger and cargo transportation.

Case Huizhou TOCC

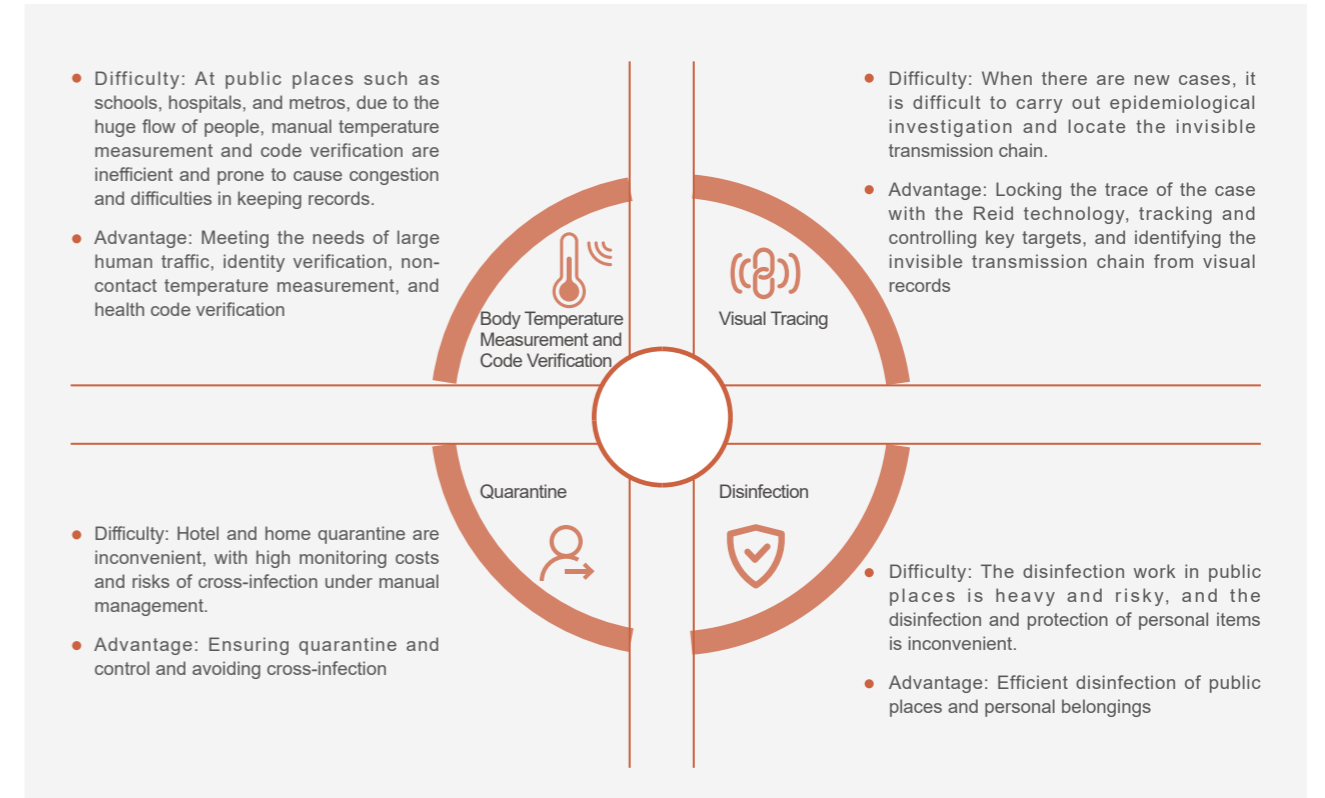
In 2021, in response to the pandemic prevention and control needs of the transportation industry in Huizhou, Guangdong Province, the China TransInfo Huizhou Transportation Operations and Communication Center (TOCC) project urgently developed and launched the functional module of pandemic preventive inspection in the APP for transportation affairs to support pandemic prevention and control. The APP significantly promoted the work efficiency of pandemic inspection. The staff of the transportation authorities can conduct pandemic prevention and control inspections on transportation entities and their transportation projects under construction on the APP. Problems found in the assessment were reported to the inspected entity for prompt rectification and reviewed in the follow-up inspection, which ensured the smooth implementation of the pandemic prevention and control.



The functional module of pandemic inspection on the APP for transportation affairs

Support for Community Pandemic Prevention

In 2021, the COVID-19 pandemic in China spread in asymptomatic cases and scattered outbreaks. Different scenarios across the country required ongoing pandemic control. Following the current state general control policy of active zero infection, the Company provided innovative pandemic prevention solutions to all sectors to help realize the transformation of pandemic prevention and control from closed management to precise, intelligent control. We assisted in scientific and targeted integrated prevention and control of access control, personnel tracking, quarantine control, protection, and disinfection. We have built a solid pandemic prevention and control network in airports, metros, schools, hospitals, supermarkets, and scenic spots using intelligent pandemic prevention equipment. We also formed a new information-based and intelligent pandemic prevention and control model, improving ongoing pandemic prevention and control capabilities.



Ongoing Public Welfare Cause

China TransInfo keeps giving back to the community through volunteering and donation. In 2021, the Company invested RMB 3.98 million in public welfare.

The Company established a volunteer service team on March 4, 2021, with over 30 employee volunteers. The group focuses on pandemic prevention and control and garbage sorting. To serve the youth and the society, the team vigorously promotes the volunteer spirit of “science and technology for all, volunteering by us, serving the masses.” Their continuous services for the community won them the Outstanding Volunteer Service Team title.



China TransInfo’s volunteer service team serving the community

04

RIGOROUS CORPORATE GOVERNANCE

CHINA TRANSINFO

Rigorous Corporate Governance

China TransInfo has built and upgraded the listed company governance structure in strict accordance with the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, the *Code of Corporate Governance for Listed Companies*, the *Self-regulatory Guidelines for the Companies Listed on the Shenzhen Stock Exchange No. 1: Standardized Operation of the Companies Listed on the Main Board*, the *Rules Governing the Listing of Shares on Shenzhen Stock Exchange (Amended in 2022)*, and relevant regulations of the China Securities Regulatory Commission. We periodically optimize the Company's internal management and control systems and adhere to anti-corruption and integrity standards. We strengthen data security and privacy protection, boost supplier control, and prioritize low-carbon operations.

- Construction of the Meeting and Boards
- Internal Risk Control
- Anti-Corruption and Integrity
- Privacy Security
- Supplier Management
- Green Operation

Board and Committees

The Company's Board of Directors comprised

9 directors

China TransInfo has established a corporate governance, decision-making, and operation management structure with the General Meeting of Shareholders, Board of Directors, Board of Supervisors, and senior management as the main body. These bodies, with rights and responsibilities assigned, operate effectively.

The Company's Board of Directors held

8 meetings in total

China TransInfo convenes and holds the General Meeting of Shareholders strictly according to the *Articles of Association* and the *Rules of Procedure for the General Meeting of Shareholders*. We hire lawyers to attend the meetings and issue legal opinions on the results and procedures of proposal deliberation, to ensure that all shareholders, predominantly minority shareholders, enjoy equal status. During the reporting period, the Company held two General Meetings of Shareholders.

The Company's Board of Supervisors held

7 meetings in total

The Company elects directors according to the selection procedures stipulated in the *Articles of Association*. The Board of Directors conducts its work based on the *Rules of Procedure for the Board of Directors*, the *Annual Reporting System of Independent Directors*, and the *Work System for Independent Directors*. By December 31, 2021, the Company's Board of Directors comprised nine directors, including three independent directors. Independent directors keep abreast of the Company's operating conditions, financial conditions, internal control construction, and progress of significant issues from meetings of the Company's Board of Directors, special committees, and on-site interviews and inspections, and make suggestions to safeguard the interests of the Company's shareholders, predominantly minority and medium shareholders.

The Company's Board of Directors has four specialized committees: the Strategy Committee, the Audit Committee, the Nomination Committee, and the Remuneration and Appraisal Committee. All committee members report for duty. During the reporting period, the Company's Board of Directors held eight meetings in total.

The Company elects supervisors in strict accordance with the *Articles of Association*. By December 31, 2021, the Company's Board of Supervisors comprised three supervisors (including one female supervisor), and one of them was the employee supervisor. The Company's supervisors carry out their work based on the *Rules of Procedure of the Board of Supervisors* and perform their duties conscientiously. Being responsible to shareholders, they supervise and inspect the conduct of directors and all senior management personnel and the Company's financial status and offer independent opinions.

During the reporting period, the Company's Board of Supervisors held seven meetings in total.

Internal Risk Control

China TransInfo keeps enhancing its internal control system to prevent operational risks. The Company abides by the *Basic Norms for Enterprise Internal Controls*, the *Guidelines for Application of Enterprise Internal Controls*, the *Guidelines for Evaluation of Enterprise Internal Controls*, the *Guidelines for Auditing of Enterprise Internal Controls* and the *Guidelines of Shenzhen Stock Exchange for the Internal Control of Listed Companies*, to ensure compliance in the Company's regular operations and production.

The Company has created a comprehensive internal control system encompassing financial, operational, compliance, and information disclosure controls. We engage an independent third-party agency to assess the effectiveness of our internal controls. The Company is constantly upgrading its risk management and control system and has built a risk prevention mechanism comprising three components: prevention, control, and remediation. We conduct regular comprehensive risk assessments across the Company, prepare comprehensive risk assessment reports, and review the effectiveness of the Company's risk response measures.

Anti-Corruption and Integrity

China TransInfo advocates the professional ethics of honesty and integrity. The Company strictly abides by relevant domestic and foreign laws and regulations, including the *Guidelines of the Shenzhen Stock Exchange for Standardized Operation of Listed Companies* and the *Foreign Corrupt Practices Act of the United States*. It has planned some internal rules and regulations, including the *Management Measures for Anti-fraud Reporting* and the *Anti-corruption Business Code*. Management, business units, and the Internal Audit Department contribute to a three-tiered structure of professional ethics management. It improved the supervision system across the board to ensure the Company's clean and efficient functioning. In 2021, China TransInfo was involved in no corruption lawsuit.

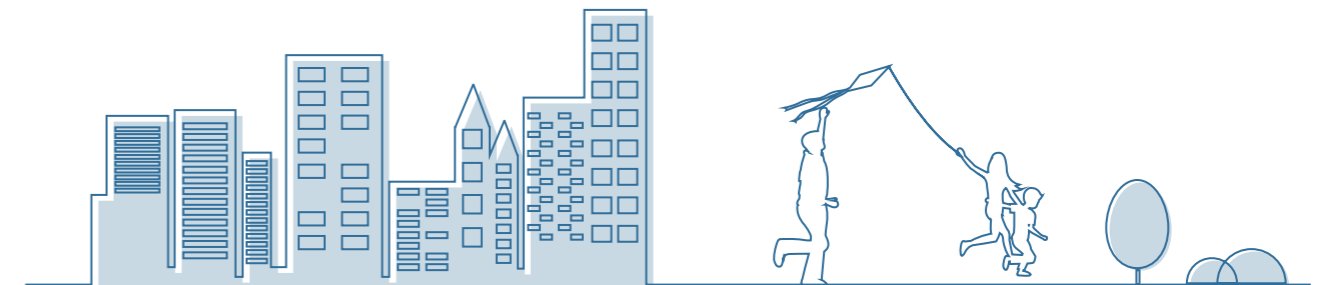
The Company requires all employees to participate in regular training on the anti-corruption policy. Senior executives must participate in anti-corruption and compliance training for executives once a year. The compliance and governance performance of China TransInfo's subsidiaries are regularly reviewed and evaluated, and the results are reported to the Company's Board of Directors. Employees who fail to abide by relevant laws and regulations will be subject to disciplinary measures such as retention, suspension without pay, salary reduction, termination of labor relations and claims for compensation, and even civil liability, criminal fines, and imprisonment.

The Company emphasizes the blocked reporting channels and the confidentiality of reporting information. We encourage employees, suppliers, customers, investors, creditors, insurers, competitors, and external auditors to report violations of professional ethics by employees according to the *China TransInfo Management Measures for Anti-fraud Reporting* and the *China TransInfo Anti-Corruption Business Code*. We have four reporting methods: e-mail, face-to-face reporting, telephone calls, and letters. The Company strictly protects whistleblowers to ensure that the whistleblower is not retaliated against for reporting, the person in charge shall not divulge or spread the reported content to anybody unrelated. In the event of retaliation, responsible persons will be disciplined. We also have a whistleblower reward mechanism, which provides corresponding material rewards to whistleblowers who help the Company recover significant losses.

Privacy Security

China TransInfo understands protecting data security and user privacy is vital. We strictly abide by the *Cybersecurity Law of the People's Republic of China*, the *Personal Information Protection Law of the People's Republic of China*, and other domestic and foreign laws and regulations. We have prepared and improved internal rules such as the *System Security Specifications of China TransInfo* and the *Information Security Policy of China TransInfo*. We have obtained the certifications of ISO27017 cloud security management system, ISO27018 cloud privacy management system, ISO27701 privacy management system. In cloud platform security and personal privacy protection, we have reached internationally-recognized security compliance standards and achieved standardized, well-regulated, and systematic management.

China TransInfo has established a security framework and continued to improve it, realizing all-around security protection of boundaries, endpoints, networks, access, and the coordination of devices. China TransInfo has also established a data leakage prevention framework to achieve centralized identity management and control, terminal security access, transparent encryption of documents, and boundary security isolation. In addition, China TransInfo has developed the R&D cloud protection and established an overarching whole-process security system comprised of prevention, control, and remediation.





Supplier Management

As required by the ISO9001 and ISO14001 quality management systems, the Company has formulated and improved several systems, including the *Estimation of Early Project Costs*, the *Project Sourcing Schedule*, the *Process of Sourcing Negotiation*, the *Process of Sourced Product Acceptance*, the *New Supplier Management*, and the *Supplier Evaluation*. As a result, we've formed a management standard system covering the entire procurement process. We emphasize a clean and self-disciplined sourcing process and prohibit bribery and benefits transfer strictly. Moreover, we adhere to the principle of fair price comparison and independent sourcing and strictly prohibit anyone from designating suppliers, purchase prices, payment methods, or after-sales services at their discretion. In 2021, the Company had 6,642 suppliers, including 6,529 suppliers in mainland China, 75 from Hong Kong, Macao, and Taiwan, and 38 foreign suppliers.

We have strict supplier access, examination, and screening system and keep updating and upgrading the List of Qualified Suppliers. We gain the knowledge of a supplier from various sources. We check the qualifications provided by the supplier, including the supplier's scale, main products, technical capabilities, quality management system, environmental management system, business direction, and credit and risk review. Every year, we conduct regular inspections on existing suppliers, compile the Annual Supplier Review (Form), conduct a comprehensive evaluation based on the internal review results, and set the List of Unqualified Suppliers in the Annual Review.

We keep improving our regular management of suppliers. We learn about suppliers' environmental performance, occupational health, and the EHS system through communication with suppliers and on-site inspections. After that, we prepare a Supplier Inspection Report and a Supplier Information Inquiry Form and sign an Environmental Safety Notice to Stakeholder with the supplier. We incorporate the environment, occupational health, and the EHS system into the Supplier Performance Appraisal at the end of each year as appraisal items for comprehensive management. For suppliers that may cause severe pollution or have caused significant environmental pollution accidents, injuries to employees, or damage to employees' rights and interests, the Company will reduce orders and change suppliers to exert influence on them.

In 2021, the Company had **6,642** suppliers worldwide

6,529 suppliers in mainland China

75 from Hong Kong, Macao, and Taiwan

38 foreign suppliers

Green Operation

China TransInfo insists on green and low-carbon operations. The Company advocates saving water and electricity and using renewable energy and encourages employees to travel with low carbon. In 2021, China TransInfo had no environmental incidents and received no administrative penalties for environmental incidents.

The Company encourages employees to practice green office, including using e-mail instead of paper printing; recycling and reusing single-sided paper; using recycled paper, replaceable refill pens, toner cartridges, rechargeable batteries, and other recyclable items to minimize waste of resources.

TransInfo Building has signed waste clearing, collection, and transportation agreements with a professional service organization. The domestic waste in TransInfo Building is under centralized management. Moreover, the Company puts efforts in improving employees' awareness of garbage classification. We introduce the knowledge of garbage classification to employees and guide them to consciously and scientifically carry out garbage classification in many ways and form environmental protection habits in the end.

China TransInfo promotes environmentally friendly traveling. Around the building, charging piles are constructed. The Company continues to improve its office vehicle management. We developed and enhanced the Vehicle Management Measures and other management systems to enhance the Company's vehicle management process. We apply for standardized fuel cards, which impose restrictions on fuel products and vehicle models to reduce transportation-related greenhouse gas emissions.

China's TransInfo's Environmental Performance in 2021

Direct greenhouse gas emissions
649.55
tonne of CO₂ equivalent

Indirect greenhouse gas emissions
5,513.00
tonne of CO₂ equivalent

Office waste
49
tonne

Office paper consumption
260,000
piece

Gas consumption
124,388
m³

Gasoline consumption
121.04
tonne

Domestic waste
98.6
tonne

Kitchen waste
29
tonne

Fresh water consumption
49,484
tonne

Purchased heat
1955.2
GJ

Total energy consumption
1,492.71
tonne of standard coal

Electricity consumption
8,515,995
kWh



Charging piles around TransInfo Building

Envisioning the Future

Transportation boosts prosperity.

From the extensive ground transportation to the interconnected underground transportation,

Transportation methods are undergoing drastic changes with rapid economic growth.

Let's envision 2050!

From mobile devices to industrial probes, intelligent vehicles, to smart home appliances,

More than 100 billion devices will be interconnected through the Internet, on a conservative estimation. The exponentially growing data devices place higher structured data processing capabilities and efficiency requirements.

Business models are upgrading, and AI is penetrating and reshaping all sectors.

The value created and data shared in these settings will usher in a new revolution of interaction and information for work and life.

China TransInfo takes steady strides and envisions the future. We continue to push the boundaries of technology and applications by leveraging cloud computing, big data, the Internet of Things, a full-spectrum multi-band perception system, AI algorithm, knowledge maps, and digital twin technology capabilities, all built on our self-developed industry operating system and IoT platform. We strive to develop more intelligent, innovative transportation solutions for our customers and create a more convenient living space for people to connect everything in work, life, and travel. We will make the world safer, more convenient, and more intelligent.

Convenient Travel

Mr. Zhang is a corporate worker living in 20X0. Every morning, he goes to the office in a shared auto-piloting vehicle reserved in advance. With the UWB positioning link technology provided by UCIT, a subsidiary of China TransInfo, the auto-piloting car turns on the air conditioning/seat heating and other functions in advance, providing a comfortable environment for Mr. Zhang's upcoming ride. When Mr. Zhang is about three meters away from the vehicle, it will automatically open the door to welcome him.

The autopiloting vehicle uses China TransInfo's traffic big data to plan its route and predict in real-time when Mr. Zhang gets into the car, listens to morning news and weather forecast, and checks his work schedule to prepare to start today's work. Mr. Zhang will arrive at the company. The V2X, OBU installed in the vehicle interacts with the V2X, RSU set up by China TransInfo on the roadside and transmits the holographic road condition structured data collected and processed by China TransInfo roadside through a series of sensing devices and edge computing units to the autopiloting vehicle in real-time. Moreover, China TransInfo's signal controllers at smart intersections transmit 100% accurate traffic light countdown information to the car in real-time through the self-developed RSU, making driving safer and smoother.

After delivering Mr. Zhang to his destination, the autopiloting vehicle will serve other travelers based on the reservation information. After completing all reservation orders, the car will park autonomously according to the surrounding parking information provided by China TransInfo's Static Transportation Department. China TransInfo's roadside high-pole video parking solution or ETC road toll solution gives instant charging to vehicle parking and charges, calculates, and optimizes through China TransInfo's parking cloud platform.

Efficient Work

Mr. Zhang enters the office area and goes through the face recognition fast-access gate supported by Uniview with accurate face recognition and fast access without delay. The fast-access gate can identify and record body temperature data, securing Mr. Zhang's working environment during the flu season.

In the conference room, Mr. Zhang uses the video-conferencing system provided by Uniview with a multilingual interactive system to talk to foreign customers and discuss business opportunities. These technologies allow him to make global decisions in the office.

After the meeting, Mr. Zhang used the remote monitoring system provided by Uniview to check the quality inspection and implementation alarm system of a factory assembly line controlled by the AI algorithm of Bresee, a subsidiary of China TransInfo. This system can detect non-conforming products in real-time and dispose of them automatically. Bresee's AI algorithm also performs real-time calculations for the factory's assembly efficiency and logistics planning and keeps optimizing and improving production efficiency.

Cozy Life

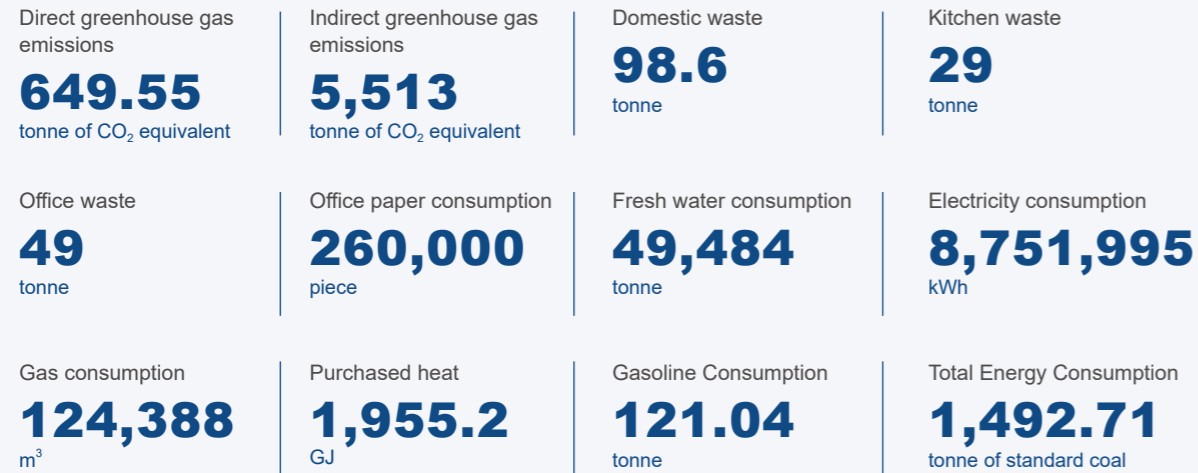
When Mr. Zhang returns home from work, he uses the smart face/fingerprint recognition lock provided by Uniview to open the door with a single button or contactless (Uniview smart door locks employ synchronized dynamic password TOTP technology to avoid security risks associated with network vulnerabilities. This makes it convenient and practical while also providing significant security protection.).

Mr. Zhang invites a friend to his house for dinner today. In the house, the doorbell rings. The intelligent peephole accurately confirms the visitor with an appointment and immediately opens the door to welcome them.



List of Key Performance

Environmental Performance

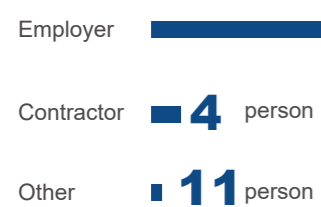


Social Performance

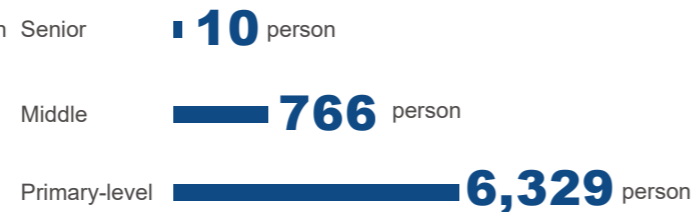
Total number of employees **7,105** person



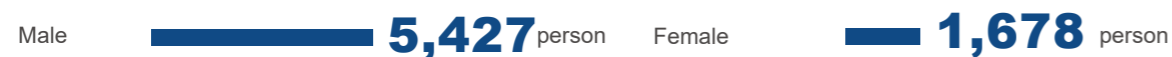
Employees divided by employment type



Employees divided by rank



Employees divided by gender



Employees divided by age



Deaths in work accidents **0** person

Trainees divided by gender



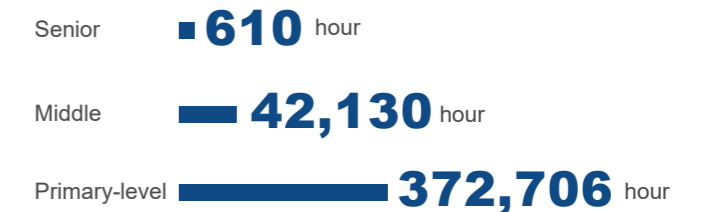
Trainees divided by rank



Training hours divided by gender



Training hours divided by rank



GRI Indicator Index

Indicator Serial Number	Disclosure Item	Chapter of the Report
102-1	Organization name	About the Report
102-2	Operation, brand, products, and services	About Us
102-4	Business location	About the Report
102-5	Ownership and legal form	About Us
102-6	Market at service	About Us: Business scenarios
102-7	Organizational scale	About Us
102-8	Information about employees and other workers	Sound Personnel System
102-9	Supply chain	Rigorous Corporate Governance: Supply chain management
102-14	Statement by senior decision makers	Chairman's Message
102-16	Values, principles, standards, and code of conduct	About Us: Business philosophy and Responsibility management
102-18	Governance structure	Rigorous Corporate Governance: Construction of the meeting and boards
102-40	List of stakeholders	About Us: Responsibility management
102-42	Identifying and selecting stakeholders	About Us: Responsibility management
102-43	Guiding policy for stakeholder engagement	About Us: Responsibility management
102-44	Material issues and questions of concern raised	About Us: Responsibility management
102-46	Determining content of the report and the boundary of the issues	About Us: Responsibility management
102-47	List of substantial issues	About Us: Responsibility management
102-50	Reporting period	About the Report
102-51	Latest reporting period	About the Report
102-53	Contact information for questions about this report	About the Report
102-54	Statement on reporting against the GRI standard	About the Report
102-55	GRI index	GRI Indicator Index

GRI Indicator Index

Indicator Serial Number	Disclosure Item	Chapter of the Report
203-2	Material indirect economic impact	Responsible Corporate Citizen
205-1	Operation locations through corruption evaluation	Rigorous Corporate Governance: Anti-corruption and integrity
205-2	Communication of and training on anti-corruption policy and procedures	Rigorous Corporate Governance: Anti-corruption and integrity
205-3	Confirmed corruption incidents and response	Rigorous Corporate Governance: Anti-corruption and integrity
302-1	Internal energy consumption	Rigorous Corporate Governance: Green operation
302-4	Reduced energy consumption	Rigorous Corporate Governance: Green operation
303-5	Water consumption	Rigorous Corporate Governance: Green operation
305-1	Direct greenhouse gas emission (Scope 1)	Rigorous Corporate Governance: Green operation
305-2	Indirect greenhouse gas emission (Scope 2)	Rigorous Corporate Governance: Green operation
306-3	Waste	Rigorous Corporate Governance: Green operation
308-1	New suppliers selected against environmental standard	Rigorous Corporate Governance: Supplier management
401-1	New employees and employee turnover	Sound Personnel System: Recruitment, rights and benefits
401-2	Benefits for full-time employees (not including casual or part-time employees)	Sound Personnel System: Communication and care
403-1	Occupational health and safety management system	Sound Personnel System: Safety and health
403-5	Occupational health and safety training for workers	Sound Personnel System: Safety and health
403-6	Promoting workers' health	Sound Personnel System: Safety and health
403-7	Preventing and mitigating the impact on occupational health and safety directly caused by business relations	Sound Personnel System: Safety and health
403-9	Work injuries	Sound Personnel System: Safety and health
404-1	Average training hours of each employee	Sound Personnel System: Promotion and Development
404-2	Skill improvement scheme and transition assistance scheme for employees	Sound Personnel System: Promotion and Development
406-1	Discrimination and correction measures	Sound Personnel System: Recruitment, rights and benefits
413-1	Operation locations with local community engagement, impact evaluation, and development plan	Responsible Corporate Citizen

Reader's Comment

Dear reader,

Thank you very much for spending time in reading the *China TransInfo Technology Co., Ltd. CSR Report 2021*. We look forward to your comments and suggestions on the report and our work. You may fill out the questionnaire and send it back to us by mailing or emailing the scanning copy. Your valuable comments will be much appreciated!

Address: Tower B, TransInfo Building, No. 27 Court of Zhongguancun Software Park, No. 8 Dongbeiwang West Road, Haidian District, Beijing

Email: securities@ctfo.com



You may also scan the QR code below and fill out the online questionnaire.

1. Which category of China TransInfo's stakeholders does your entity belong to?

- Shareholder Investor Employee Supplier Customer Government Community
 Academic institutions NPO Other (please specify)

2. Does the report cover the information of your concern?

- Yes Some No

3. What is your overall review on the *CSR Report 2021*?

•Readability (The presentation is easy to understand, beautifully designed, engaging and easy to find the information you need.)

- 3 (Good) 2 (Average) 1 (Bad)

•Credibility (The information in the report is true and credible.)

- 3 (Good) 2 (Average) 1 (Bad)

•Information integrity (It covers both positive and negative information and satisfies your information demand.)

- 3 (Good) 2 (Average) 1 (Bad)

4. Is it easy for you to locate the information of your concern?

- Yes Sometimes No

5. Apart from the disclosed information in the report, what else information will interest you?

March 2022



Address: Tower B, TransInfo Building, No. 27 Court of Zhongguancun Software Park, No. 8
Dongbeiwang West Road, Haidian District, Beijing

Post code: 100085

Telephone: 86-10-50821818

Fax: 86-010-5082 2000