



Go Extra Mile

Taiwan High Speed Rail  
Sustainability Report  
**2022**

Be There



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## About this Report

In 2009, Taiwan High Speed Rail Corporation (hereinafter referred to as “THSRC”) released the first ever “THSRC Corporate Social Responsibility White Paper” to disclose its performance and actions in social responsibility. In response to international trends and compliance with non-financial information disclosure standards in Taiwan, the report has been officially renamed as “THSRC Corporate Social Responsibility Report” since 2015. In 2022, it was renamed as “THSRC Sustainability Report” again in accordance with the “Corporate Governance 3.0 - Sustainable Development Roadmap” issued by the Financial Supervisory Commission. This report is the tenth sustainability report issued by THSRC, the last of which was issued in June 2022. THSRC continues to enhance its operational capabilities by demonstrating its efforts locally and expectations internationally through the 2022 Sustainability Report. In the future, the Sustainability Reports will be published periodically every year.

Current version: Issued in June 2023

## Reporting Period

This report discloses the corporate sustainability results and performance of THSRC in 2022 (from January 1, 2022 to December 31, 2022). However, part of the content involves trend comparison, and so historical data will be revealed at the same time.

## Basis of Preparation, Scope and Boundary

This report complies with the requirements of the requirements of Global Reporting Initiative Sustainability Reporting Standards (referred to as “GRI Standards”) of the Global Sustainability Standards Board (GSSB), the “Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies,” the “Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies,” and indicators issued by the Sustainability Accounting Standards Board (SASB) for the Rail Transportation industry, and disclose based on the four core elements of the Task Force on Climate-related Financial Disclosures (TCFD). In addition, it has been verified by a third-party certification body, the British Standards Institute (BSI) that this report meets the core options of the GRI Standard and complies the AA1000AS Version 3 Type 2 high-level assurance. In order to continuously improve the disclosure quality of sustainable information, this report has also been verified by the—British Standards Institution (BSI), a third-party certification body, to confirm that this report follows the 15 criteria of the Sustainable Accounting Standards Board (SASB) Announcement Rail Transportation and complies the AA1000AS Version 3 Type 2 moderate-level assurance, both of which are included in the appendix to this report. Based on the requirements of the GRI Standards, this report discloses THSRC’s responses to material topics in economic, environmental, and social aspects, as well.

The scope of this report is consistent with the financial statements. There is no significant difference between this report and the previous edition in terms of scope and quantitative data measurement methods. Any difference in terms of scope or data measurement from the previous edition will be indicated in the particular paragraph. All the statistical data disclosed in this report were compiled and provided by our internal first-level units. Financial performance data were information published publicly upon attestation by certified public accountants (CPAs) and were consistent with data in THSRC’s annual reports. The basis for calculating and estimating environmental data was derived from public data provided by the government and was calculated by THSRC. All the data related to the amount in this report are calculated in New Taiwan Dollars.



If you have any suggestions or questions about this report, please feel free to contact us at:



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Website



ESG Section



## Letter from the Chairman



Looking back at the first half of 2022, Taiwan is still affected by the epidemic, but in the second half of the year, driven by the epidemic ease and domestic revitalization policies, THSRC, as the transportation backbone of the western corridor, in addition to continuing to protect the health and safety of passengers and partners with high standards of epidemic prevention, and actively cooperating with the government to launch different travel plans to drive the recovery of the industry and urban and rural economic recovery. Looking forward to 2023, as THSRC enters its 25th year, it looks forward to bringing more convenient services to passengers and business partners through more sophisticated operational safety quality and combining digital innovation and technology.

In response to the importance of sustainability issues in Taiwan and the industry, THSRC has set medium and long-term strategic goals for the next five years (2023-2027): I. Reducing Disaster Risk in Response to Climate Change. II. Accelerating Digital Optimization to Digital Transformation. III. Improving Service and Operation Management in Response to Changes in Population and Technology. IV. Creating Demand and Enhancing Revenue after the End of the Pandemic. V. Strengthening Supplier Management and Reinforce partnerships. VI. Implementing Energy Conservation, Carbon Reduction, and Social Responsibilities. These echo the United Nations Sustainable Development Goals (SDGs) with specific policies.

At the same time, THSRC has made continuous efforts to drive the completeness of Taiwan's railway transportation industry chain. Following the launch of self-developed and manufactured Overhead Catenary System maintenance vehicles in 2021, in 2022, together with local partners, we invest resources to create a "Diesel-Hydraulic Locomotive", which can greatly decrease the rescue time when the train encounters failure or loses power, to promote operational safety of THSRC. We have also continued to increase the local procurement ratio of equipment parts, and the procurement expenses of local suppliers have been over 37%, striving to realize the vision of localizing railway industrial technology.

Our efforts on sustainability issues have also been encouraged and affirmed by external parties. For example, we have been selected as a constituent stock of the "FTSE4Good TIP Taiwan ESG Index" and have been ranked among the top 5% in the "Corporate Governance Evaluation" for six consecutive years from 2018 to 2023. In January 2023, it was selected as the "Top 100 Sustainable Companies in the World" by Corporate Knights of Canada for the first time, ranking the ninth in the world and the first in Asia-Pacific area. Affirmations from stakeholders in Taiwan and abroad drive our continued pursuit of a higher standard of sustainability vision.

Faced with the challenges of various emerging situations, THSRC is sincerely grateful to the travelers and partners who accompanied and continued to encourage us. We will share the results of various sustainability issues with multiple related parties through the annual sustainability report. THSRC will keep pace with the times, implement our commitments from governance, environment, society and other aspects, and continue to create more forward-looking, inclusive, and sustainable green transportation.

Chairman *Y. C. Chiang*



## Letter from the President



When the epidemic is still impacted, THSRC has always implemented the highest standards of station and train epidemic prevention, and maintained a safe and secure riding environment by circular ventilation system in the train and improving the sanitization quality in the station. As the epidemic situation gradually eased, THSRC has launched a national tourism revitalization program to plan attractive tourism package products by linking up domestic unique attractions and itineraries, encouraging the public to fully understand the beauty of Taiwan, effectively driving the recovery of the tourism transportation market, and bringing new life into the tourism industry and economic development of various counties and cities.

"Transportation safety" is the cornerstone and core value of THSRC. The Miaoli slope slide incident in August 2021 and the collapse incident of Southeast Cement Corporation in April 2022 prompted us to comprehensively review the safety of the operation route, carry out general safety inspections of the track slope, and conduct drills for emergency response to strengthen passenger transfer. In the future, THSRC will accelerate the upgrading of automated monitoring systems, implement on-site emergency handling training and drills, strengthen the resilience of operating facilities and effectively grasp the potential impact caused by climate change.

In addition, in response to the trend of personalization and digitalization, THSRC leverages the power of innovative technology to provide passengers with diversified and considerate services. Among them, the personalized mobile ticket service "T-EX App" has accumulated more than 13.04 million downloads since the launch date, and "TGo" membership program has accumulated more than 201 million members by the end of 2022. In March 2023, a new service of intelligence voice reservation has launched. Passengers can complete reservation process through conversation step by step. The function of showing QR code by a smart watch to ride trains has been enabled in May 2023. THSRC has been continuously strengthened TEx function to satisfy passengers' diversity need.

THSRC upholds the corporate vision of "To be the platform for Advancement and Enjoyment", implements the five core values of "discipline, integrity, efficiency, innovation and reasonableness", and provides Taiwanese people with secure and caring travel services at all times. Looking forward to the future, THSRC will take the United Nations Sustainable Development Goals (SDGs) as the future sustainable development roadmap. THSRC will take digital transformation, climate risk response, scientific and technological innovation, strengthened supplier management and other strategies as the main axis of sustainable development, and actively fulfill the promise of sustainable development, and look forward to cooperating with value chain partners and stakeholders to achieve a sustainable transport future.

President

A handwritten signature in black ink, appearing to read "James Hsu".

## Performance Highlights for 2022



### Transportation Professional Transportation

The punctuality rate is **99.47%**, and the average delay time is only about **0.243** minutes.

Since the commencement of operations to the end of 2022, the number of casualties among passengers due to traffic accidents is **0**.

A total of **1,800** sets of turnout inspections were completed, with **8,241** km of routine track inspections and track irregularity inspections completed.

**98** disaster prevention and rescue drills (training) were completed.



### Taiwan Enhancing Local Connection

The "Be There in Your Way" project successfully generated nearly **247,000** tourist visits, with an achievement rate of **113%**.

THSRC participated in the Taipei International Travel Fair and won the "Best Pavilion Award".

The proportion of local services purchased exceeded **90.94%**, and the financial procurement exceeded **73.98%**.

For two consecutive years, THSRC won the first prize of the "Buying Power Social Innovation Products and Services Procurement Award" sponsored by the Ministry of Economy, and generated more than NT\$ 15 million in procurement in **2022**.

From **2011** to **2022**, THSRC worked with a total of **132** alternative material development suppliers, saving a total amount of nearly NT\$**3.4** billion.

THSRC entrusted China Steel Corporation to develop and manufacture the "Overhead Catenary System Maintenance Vehicle", and the proportion of localized components reached **60%**.

Cooperated with Taiwan Vehicle Co., Ltd. to develop the "Diesel-Hydraulic Locomotive" to strengthen the train operation incident response capacity, and completed the delivery in December **2022**.

Promote the "**Programmable Logic Controller Turnout Control Cabinet**" replacement plan, which is independently designed, developed and produced by THSRC to demonstrate its technical independence.

Supported **74** to **80** service sales staff and yielded the local business revenue of more than NT\$**105** million.



### Technology Innovative Technology

The THSRC T-EX mobile ticketing **app** has accumulated more than **13.04** million downloads.

The THSRC's Facebook Fan Page garnered **420,000** fans cumulatively, and the posts on THSRC's Facebook Page reached **30** million throughout the year, with **930,000** interactions on these posts.

The average accuracy of Artificial Intelligent Customer Service was **95%**.

No personal information leakage in **2022**.

THSRC continued to be selected as a constituent stock of the "FTSE4Good TIP Taiwan ESG Index", and ranked among the top **5%** of listed companies in the "Corporate Governance Evaluation" for five consecutive years.

THSRC first issued **NT\$1** billion of sustainability bonds in **2021**, and all the funds raised will be used for green investment and social benefit investment plans.

Based on the calculation of passenger-kilometer, THSRC significantly reduced carbon dioxide emissions by **775,059** metric tons compared to passenger cars, which is equivalent to the carbon uptake of **1,922** Da-An Forest Parks.

The annual solar power generation of the four maintenance depots and six stations reached **10,543.24** MWh.

Collaboration with the National Foundation for Culture and the Arts to create THSRC art programme "Formosa Walkman", including train broadcasts with Bunun pre-hunting gun songs as elements, the launch of a limited edition commemorative ticket inspired by retro cassettes, and the installation of a giant glowing Walkman art installation at the station, which is matched with the theme song "Slow and Happy" sung in Bunun Taiwanese and Hakka languages, and a total of around **38** million passengers have experienced various contents of the plan through various channels.

From **2015** to **2022**, a total of **588** performances under the "THSR ART Together Program" were held, with a total of **17,397** performers.

THSRC raised nearly **NT\$159** million under the "The High-Speed Educational Endowment Program".


From **2009** to **2022**, the "THSRC Smiling Train Program" provided assistance to **816** disadvantaged groups with a total of **145,479** participants.

A total of **3,297** people participated in the "Annual THSRC Winter Outreach Blood Drive" event, with **4,823** units of blood raised.

The "HSR Camp" held **12** phases throughout the year, with a total of **309** young students participating.

From **2017** to **2022**, the "THSR Museum" attracted a total of **164,505** visitors.

## Special Column – How we are responding to COVID-19

Since the outbreak of the international epidemic period, THSRC has actively followed the changes in domestic and international epidemic trends, formulated relevant epidemic prevention measures in accordance with the government's epidemic prevention policies and guidelines, and adjusted the company's epidemic prevention measures and intensity through the real-time epidemic situation. For details, please refer to the HSR's "Serious Special Infectious Pneumonia (COVID-19) Epidemic Prevention Zone" , continue to pay attention to the needs of passengers and employees, implement relevant services and measures, give passengers a better service experience, and create a safe and comfortable working environment for employees.

### Create a safe journey for travelers

► Since the outbreak of the epidemic in 2020, a total of 12 stations across the high-speed railway line have added infrared temperature measuring instruments to comprehensively measure the temperature of passengers taking rides at the station. At the same time, contactless hand alcohol sterilizers dispensers have been installed at each station to help passengers disinfect their hands and prevent epidemics. The station and waiting areas regularly disinfected to prevent the spread of the virus. The frequency of disinfection has increased from once a day to once an hour and train cleaning staffs also strengthen the disinfection of frequent contact area of passengers, such as buttons in the aisle, seat trays, armrests, and toilets. After the end of daily's service, the entire station is cleaned with 1,000 ppm bleach solution to ensure that there are no cleaning blind spot, providing a safe transportation environment for passengers.

► Besides implementing social distance seating arrangement, the trains are equipped with high-efficiency "circular ventilation devices", which can complete air replacement in the carriages every 6 to 8 minutes on average, so that passengers can ride with peace of mind. In addition to enhanced disinfection, THSRC uses digital tools to update customer FAQs in a timely manner, and provides epidemic prevention, ticketing, and benefit information to meet the needs of travelers' planning trips. Optimized Artificial Intelligent Customer Service reached a total of 207,535 services in 2022, with service satisfaction of 96%.

### Build a safe and healthy working environment for employees

► THSRC has developed a corresponding epidemic prevention policy, and colleagues sign in daily for body temperature measurement, and equipped with masks/gloves on duty to reduce the chance of exposure to infection. Through daily health reports, THSRC keeps track of the status of employees and provides timely care. Offices in the buildings or stations also provide a safe working environment for employees with high standards of disinfection. At the same time, the Human Resources Division assisted the colleagues to make a claim on legal epidemic insurance and apply for the home isolation subsidy. In order to stabilize the physical and mental condition of employees and timely assist employees who have problems, THSRC has specially set up employees psychological support and assistance measures for epidemic prevention, such as the establishment of an employee physical and mental care platform, and the introduction of the Employee Assistance Program (EAP) to provide 24-hour telephone and consulting services.

► In 2022, a total of 381 employees counseling services will be provided to track follow-up employees feedback, which can effectively stabilize and reduce negative emotions, and have significant results for improving work motivation and concentration. For employees who were infected with COVID-19, THSRC conducted letter and phone follow-up care to understand their recovery situation and assist them in stabilizing their emotions. In 2022, a total of 1,879 employees were cared for, and returned to work was tracked. All employees returned to their working positions and had a good recovery situation. In addition, lectures on mental health related to sleep and stress were held to reduce employees stress and anxiety, and a total of five lectures on physical and mental health were held in 2022, with a total of 699 employees participating.

### In the post-COVID era, the launch of domestic travel programs led to the recovery of tourism

► When the epidemic eased slowed down in the second half of 2022, the THSRC actively cooperated with the Forestry Bureau, COA (Council of Agriculture) to plan attractive tourism package products, encourage travelers to experience Taiwan's high-quality eco-tourism, and jointly promote Taiwan's tourism and rail tourism. THSRC has developed two travel package products: "Alishan Forest Railway and Fenqihu Walk 1-day Tour" and "Alishan Forest Railway and National Palace Museum Southern Branch 2-day Tour," consists of 12 trips, attended by nearly 900 travelers. By implementing the practical plan, the THSRC company carries the people in Taiwan and goes back to daily life after the epidemic.



THSRC and Forestry Bureau, COA launched double rail tourism programs






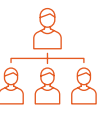
# Stakeholders and Material Topics


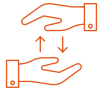


## Stakeholder Identification and Communication

THSRC refers to the AA1000 Stakeholder Identification Standard to identify eight types of important stakeholders. We ensure that we truthfully respond to the demands and expectations of different stakeholders in our daily operations through diverse communication channels on a regular and irregular basis.

In addition, regarding the communication between THSRC and various stakeholders and the handling of major disputes, a report of the board of directors will be regularly submitted every year. In 2022, communication with various stakeholders and the handling of major disputes have been submitted to the 27th session of the 9th Board of Directors on June 15, 2022 and the 31st session of the 9th Board of Directors on October 12, 2022.

### Performance of Communication with Important Stakeholders

Type	Top Three Priority Issues	Communication Channel (Frequency)	Communication Performance in 2022
 Passengers	<ul style="list-style-type: none"> <li>▶ Transportation safety management</li> <li>▶ Customer relationship and quality management</li> <li>▶ Traffic dispersion and transfer services</li> </ul>	<ul style="list-style-type: none"> <li>▶ Publications / Digital tools (Once a month / Non-periodic)</li> <li>▶ Company website / Dedicated page (Once a month / Non-periodic)</li> <li>▶ E-mail (Non-periodic)</li> </ul>	<ul style="list-style-type: none"> <li>▶ THSRC App has accumulated about 1.38 million downloads since the end of 2017 to the end of 2022.</li> <li>▶ THSRC's Facebook Fan Page garnered over 420,000 fans by the end of 2022.</li> <li>▶ The Company has published 156 issues of TLife magazine as of December 2022. The TLife website was launched in October 2021, which provides digital services. Users can read the current and past 24 issues of the magazine content anytime and anywhere outside the THSRC coverage area, and further search, bookmark, and share TLife content.</li> <li>▶ From January to December, 690,000 customer inquiries or opinions were received, and the response rate was 91% (via voice services) and 95% (via Chatbot).</li> </ul>
 Community Residents	<ul style="list-style-type: none"> <li>▶ Transportation safety management</li> <li>▶ Traffic dispersion and transfer services</li> <li>▶ Customer relationship and quality management</li> </ul>	<ul style="list-style-type: none"> <li>▶ Interviews / Exchange of ideas / Visits (Non-periodic)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Handle 17 sub-interviews of noise of residents along the route, and effectively communicate the principle of adopting noise control measures, of which only case in Wai-Pu District, Taichung City, is pending further assessment according to the monitoring results of the Environmental Protection Bureau.</li> <li>▶ Arranged telephone or in-person visits, or ad-hoc visits to schools, enterprises and community development associations affiliated to THSRC to interact with local opinion leaders so as to maintain good local relations.</li> <li>▶ THSRC gives full play to fulfill the spirit of corporate social responsibility, spreads love through blood donation, and appeals to the public to actively respond to blood donation to help others. In 2022, a total of 3,297 people participated, with 4,823 units of blood raised. Since its inception in 2012, over 17,000 people have participated, with a total of 22,743 units of blood raised.</li> </ul>
 Media	<ul style="list-style-type: none"> <li>▶ Transportation safety management</li> <li>▶ Privacy and Information Security Management</li> <li>▶ Corporate governance</li> </ul>	<ul style="list-style-type: none"> <li>▶ Media contacts (Non-periodic)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Issued 94 press releases and news bulletins, organized 10 press conferences and media events, clarified erroneous reports 10 times, handled 99 media inquiries, published 21 feature reports, and contacted the media 21 times throughout the year.</li> </ul>
 Employees	<ul style="list-style-type: none"> <li>▶ Transportation safety management</li> <li>▶ Operational strategies and performance</li> <li>▶ Employee care and labor protection</li> </ul>	<ul style="list-style-type: none"> <li>▶ Internal / External meetings (Once a month / Four times a year)</li> <li>▶ Publications / Digital tools (Once a month)</li> <li>▶ Internal / External activities (Once a year)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Conducted a total of about 38 Town Hall meetings internally at 12 HSR stations throughout the year.</li> <li>▶ Conducted a total of about 93 Town Hall meetings jointly at Train Operations Sections and Train Preparation Sections.</li> <li>▶ Business units and 18 business sites hold labor conferences every quarter in accordance with the law, and a total of 76 labor conferences are held throughout the year.</li> <li>▶ Issued 12 THSR High Speed Vision Newsletter, with a total of 103 topics and a total of 119,485 views.</li> <li>▶ Organizes Quality Month in November, including proposal improvement awards, two preliminary rounds and one final round in Quality Control Circle and four quality seminars.</li> <li>▶ Rolling Stock Maintenance Department participated in 2022 Taiwan Continuous Improvement Awards on behalf of the Company, and won the "Golden Tower Award" trophy, which was the highest honor and was the first to receive this honor in track industry in Taiwan.</li> </ul>

Type	Top Three Priority Issues	Communication Channel (Frequency)	Communication Performance in 2022
 Shareholders and Investors (Note)	<ul style="list-style-type: none"> <li>▶ Operational strategies and performance</li> <li>▶ Corporate governance</li> <li>▶ Regulatory compliance</li> </ul>	<ul style="list-style-type: none"> <li>▶ Shareholders' meeting / Investor conference (Non-periodic / Once a month / Once a year)</li> <li>▶ Internal / External Reports (Non-periodic/Once a year)</li> </ul>	<ul style="list-style-type: none"> <li>▶ General Meeting of Shareholders on May 26, 2022.</li> <li>▶ Investor Conference on March 21, 2022.</li> <li>▶ Investor Conference on May 24, 2022.</li> <li>▶ Investor Conference on September 2, 2022.</li> <li>▶ Investor Conference on December 6, 2022.</li> </ul>
 Partners (including Non-Governmental Organizations and Schools)	<ul style="list-style-type: none"> <li>▶ Transportation safety management</li> <li>▶ Climate change mitigation and adaptation</li> <li>▶ Regulatory compliance</li> </ul>	<ul style="list-style-type: none"> <li>▶ Internal / External activities (Non-periodic / Four times a year)</li> </ul>	<ul style="list-style-type: none"> <li>▶ The High-Speed Educational Endowment Program in 2022 cooperates with the Children Are Us Foundation, raising more than NT\$11 million.</li> <li>▶ In 2022, the HSR Camp handled 12 sessions, attracting 2,389 online registrations and a total of 309 students to participate in the event.</li> </ul>
 Suppliers and Contractors	<ul style="list-style-type: none"> <li>▶ Transportation safety management</li> <li>▶ Privacy and Information Security Management</li> <li>▶ Operational strategies and performance</li> </ul>	<ul style="list-style-type: none"> <li>▶ Internal / External meetings (Once a month / Non-periodic)</li> <li>▶ Inspection / Repair / Examination / Survey / Maintenance (Non-periodic / Once a Month / Twice a Month / Once a Year)</li> <li>▶ Internal / External activities (Once a year)</li> </ul>	<ul style="list-style-type: none"> <li>▶ System and equipment maintenance.</li> <li>▶ Suppliers / contractors completed 100% of the work according to the contract period.</li> <li>▶ Completed annual damage prevention and inspection survey.</li> <li>▶ Held insurance workshops and insurance claims conferences for four times each.</li> <li>▶ Passed ISO 9001:2015 quality management system verification.</li> <li>▶ Contractors submitted monthly manufacturer reports and held technical report meetings each month.</li> </ul>
 Government and Competent Authorities	<ul style="list-style-type: none"> <li>▶ Customer relationship and quality management</li> <li>▶ Transportation safety management</li> <li>▶ Traffic dispersion and transfer services</li> </ul>	<ul style="list-style-type: none"> <li>▶ Internal / External meetings (Once a month)</li> <li>▶ Internal / External reports (Four times a year)</li> <li>▶ Inspection / Repair / Examination / Survey / Maintenance (Once a year)</li> </ul>	<ul style="list-style-type: none"> <li>▶ In August 2022, at the invitation of the Railway Bureau of the Ministry of Transportation and Communications, "Worry-Free about Pregnancy, Childbirth, and Childcare" for CEDAW gender equality of THSRC were exchanged and shared, and met the target of the gender equality project of the competent authority.</li> <li>▶ The test reported that THSRC had a 100% completion rate in terms of matters to be cooperated according to laws and regulations (full score 100%).</li> <li>▶ Passed the annual regular THSRC operation inspection conducted by the Railway Bureau of the Ministry of Transportation and Communications.</li> <li>▶ In accordance with the regulations of Article 40 of the Railway Law, a total of 27 abnormal operation incidents were reported to the Railway Bureau of the Ministry of Transportation and Communications on a monthly basis in 2022.</li> </ul>

Note: THSRC was officially listed on the Taiwan Stock Exchange on October 27, 2016, and was the first rail transportation operated to be listed in Taiwan. As of March 27, 2023, the shareholding structure was as follows: Government agencies (45.13%), other juridical persons (17.4%), foreign institutions and foreigners (10.52%), individuals (14.86%), financial institutions (8.54%), and state-owned enterprises (3.55%).

## GRI G3 Materiality Assessment Process

The THSRC Sustainability Report follows the GRI General Guidelines 2021 issued by the Global Sustainability Standards Council, and carries out a major thematic analysis based on the following steps to assess the significance of the positive and negative impacts of Material Topics in terms of economy, environment and human rights, so as to confirm the scope of the report's disclosure and review the effectiveness of sustainable business.

### Process to determine material topics

Analysis Steps	Description	Stakeholder and Expert Opinion Considerations
Understand the organization's context	<ul style="list-style-type: none"><li>▶ In order to ensure the objective and complete identification of the results, it also covers the material topics of focus of the railway transportation industry. Based on the list of 19 sustainability issues identified in 2021, THSRC commissioned an external professional sustainability consultant to refer to the major themes of the railway transportation industry listed by the Sustainable Accounting Standards Board (SASB), the sustainability requirements of international sustainability evaluation such as the Dow Jones Sustainability Index (DJSI), domestic regulations and trends, and the major themes disclosed by international railway transportation benchmarking companies, and confirmed that these 19 sustainability issues are still in line with the industry and global sustainability trends.</li></ul>	<ul style="list-style-type: none"><li>▶ External expert sustainability consultants review sustainability issues and advise on how to define the economic, environmental and social impacts of the issues</li></ul>
Redefine and identify actual and potential impacts	<ul style="list-style-type: none"><li>▶ In response to the GRI (2021) G3 materiality topic identification revision, which emphasizes the impact of sustainability issues on the external economy, environment and society, we examined 19 topics and refocus each issue according to the potential positive and negative economic, environmental, population and social impacts. For example, the original issue of “climate change mitigation and adaptation” was redefined as “climate change adaptation and management” and “greenhouse gas emissions” based on their impact/impact price orientation, respectively, with positive/negative impacts.</li><li>▶ After refocusing, the list of 19 issues defined 12 positive influences and 10 negative ones, and 22 positive and negative ones were separately identified.</li></ul>	
Assess and prioritize the most significance of the impacts	<ul style="list-style-type: none"><li>▶ A total of 28 units within THSRC evaluated the impact and likelihood of 22 positive and negative impacts on the two axes, assessing the actual and potential positive and negative impacts of the issue and comprehensively considering the impact and likelihood of impacts on the economy, environment and population (including human rights).</li><li>▶ The degree of impact takes into account the magnitude of the impact of the issue, i.e., the value chain link of the impact (e.g., whether it involves multiple value chains), the significance of the impact and whether it can be comprehensively assessed through relevant management measures such as mitigation or remediation; the likelihood of occurrence takes into account the number and frequency of relevant shocks in the past.</li><li>▶ After considering the magnitude of the impact and the likelihood of occurrence, the quantitative data were compiled and ranked in order of importance, divided into key issues, important issues and issues of continuing concern.</li></ul>	<ul style="list-style-type: none"><li>▶ In assessing the likelihood of an issue occurring, relevant units must take full account of views communicated to stakeholders on a daily basis, including but not limited to:<ul style="list-style-type: none"><li>— Travelers: refer to their opinions and complaints to confirm whether related rights and interests, such as privacy or other customer rights and interests;</li><li>— Employees: refer to their opinions and complaints to confirm whether they have been involved in human rights violations in the workplace;</li><li>— Suppliers: Refer to their opinions and assessments to determine if corporate governance, environmental pollution and human rights violations are involved</li></ul></li><li>▶ When judging the impact of the value chain on related issues and correcting the evaluation results, due consideration is also given to the views of stakeholders, such as:<ul style="list-style-type: none"><li>— Regulator: Adjust the importance of the issue in light of its relevant assessment or sanctions, as well as policy intentions (such as committing to net-zero emissions by 2050, promoting local manufacturing of the railway transportation industry, local procurement, etc.)</li></ul></li></ul>
Adjust and determine material topics for reporting	<ul style="list-style-type: none"><li>▶ External sustainability consultants provided recommendations for adjusting the position distribution of issues make adjustments according to their recommendations.</li><li>▶ At the same time, the management of THSRC put forward corrective opinions on the perspective of its influence on the company's strategy and operational performance and the height of management.</li><li>▶ Based on the defined impacts and analysis results, a total of 13 Material Topics were selected. Among them, "key topics" and "important topics" form the scope of materiality disclosures in this report. On the other hand, items in “topics of continuous concern” are regarded as non-material topics, where in principle, these items will not be disclosed in this report. However, non-material topics which significantly impact material topics will still be properly explained and disclosed in this report.</li></ul>	
Approval and determined material topics	<ul style="list-style-type: none"><li>▶ Submit the results of the analysis to the Corporate Governance and Nomination Committee and, ultimately, to the Board of Directors to identify the key themes of this year's Sustainability Report.</li></ul>	



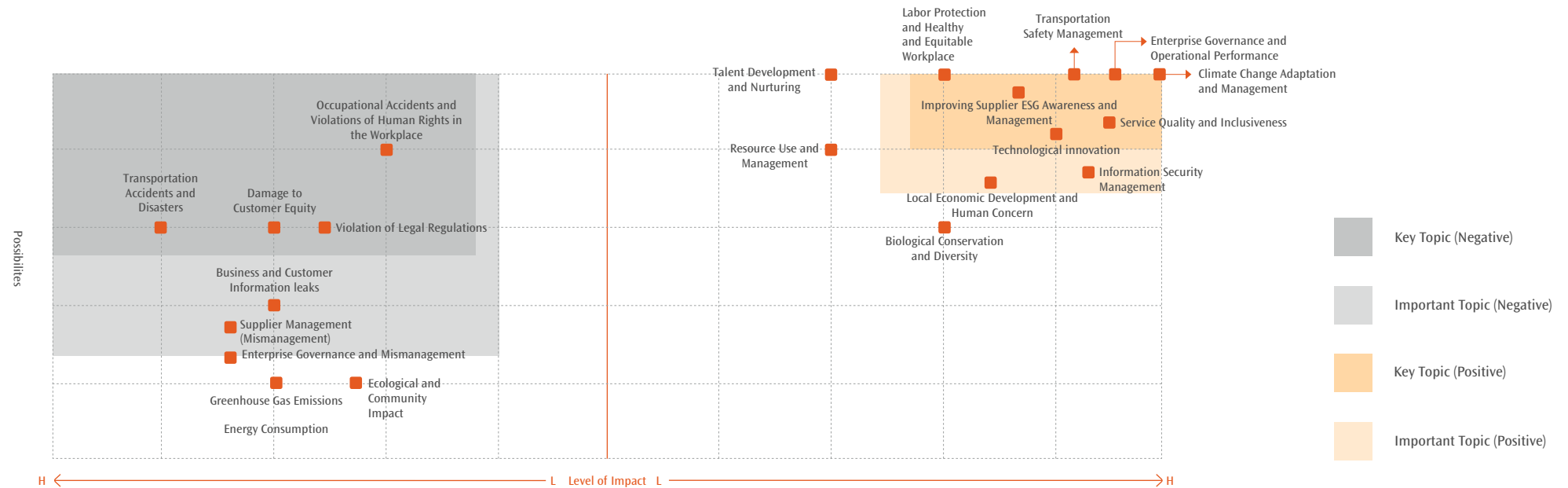
## Major analysis results and major thematic matrices

Based on the results of the 2022 assessment, a total of six positive impacts are key issues, three impacts are important issues and three impacts are rated as ongoing concerns; for negative impacts, a total of four are key issues, three are important issues and three are ongoing concerns. In the major theme analysis process, the THSRC has taken into account suggestions from stakeholders and external experts that the sustainable issues above the material topics (including) should be identified as the topics to be disclosed in this annual report. An explanation of the changes in the topic of sustainability compared to last year's analysis is given in the table below.

Aspects ▼ Governance (G)	Sustainability Theme	2022	2021	Description of the change
	Transportation safety management	Key Topic	Key Topic	▶ No change in analysis this year.
	Operational strategies and performance	Key Topic	Key Topic	▶ Consolidated as corporate governance and operating performance. No change in analysis this year.
	Customer relationship and quality management	Key Topic	Key Topic	▶ Consolidation for service quality and customer relationship management. No change in analysis this year.
	Corporate governance	Key Topic	Key Topic	▶ Consolidated as corporate governance and operating performance. No change in analysis this year.
	Technological innovation	Key Topic	Important Topic	▶ In response to the impact of the COVID-19 pandemic, contactless services are needed by society; coupled with the trend of personalized and intelligent services in recent years, considering that scientific and technological innovation will affect the value chain, it will be synchronized with the key theme.
	Traffic dispersion and transfer services	Key Topic	Important Topic	▶ It will be synchronized with the key theme to integrate it to the service quality and customer relationship management.
	Sustainable supply chain management	Key Topic	Important Topic	▶ In response to the trend of the global railway transportation industry and the practice of ESG, the first supplier of value chain management, comprehensively considering its impact on the environment and human rights, so it adjusted the sustainability supply chain management to the key theme.
	Privacy and information security management	Key Topic	Important Topic	▶ No change in analysis this year.
	Regulatory compliance	Key Topic	Important Topic	▶ Promote relevant laws and ordinances in line with the importance attached by supervisors to ESG issues, and raise this topic to key topics after comprehensive consideration.

Aspects ▼ Social (S)	Sustainability Theme	2022	2021	Description of the change
	Employee care and labor protection	Key Topic	Key Topic	▶ No change in analysis this year.
	Talent recruitment and development	Topics of Continuous Concern	Important Topic	▶ Because the issue focuses on the employees of the enterprise itself and considers the value chain link of its impact. It has been adjusted downwards to a moderate level.
	Transportation inclusion	Key Topic	Important Topic	▶ In response to social changes (e.g., aging/parent-child tourism/green tourism/international trends with a strong focus on human rights inclusiveness), the travel and tourism industry needs to cover this topic from hardware and service to staff training, so it has been elevated to a key theme.
	Local economic development	Important Topic	Topics of Continuous Concern	▶ In response to the slowdown of the epidemic, the tourism business has upgraded and driven the economic development of cities and towns, taking into account the value chain link of its impact, so it has been upgraded to an important theme.
	Railway culture promotion and human care	Important Topic	Topics of Continuous Concern	▶ Integrated into local economic development and human care, so the theme is synchronously adjusted to an important theme.
Aspects ▼ Environmental (E)	Climate change mitigation and adaptation	Key Topic	Key Topic	▶ No change in analysis this year.
	Noise and vibration management	Topics of Continuous Concern	Important Topic	▶ Integrated into ecological and community impact management, so synchronized adjustment of the topic to continue to focus on the topic.
	Energy use efficiency	Topics of Continuous Concern	Important Topic	▶ Because the issue focuses on the company's own operations and considers the value chain link of its impact, it is reduced to the theme of continuous attention.
	Resource management	Topics of Continuous Concern	Important Topic	▶ Because the issue focuses on the company's own operations and considers the value chain link of its impact. It has been adjusted downwards to the theme of continuous attention.
	Ecological impact management	Topics of Continuous Concern	Important Topic	▶ Integrated into ecological and community impact management. Because the issue has been regulated for a long time, considers its impact involves a small number of stakeholders. It has been adjusted downwards to the theme of continuous attention.

## Materiality Matrix ( integration of positive and negative impacts )



## List of Material Topics and Impact Description

This year's report focuses on 22 positive impacts and negative impact identification, 13 major themes, including "technological innovation", "customer relationship and quality management", "sustainable supply chain management", "compliance with regulations", "talent development and cultivation", "local economic development and human care", "ecological and community impact management", and "resource use and management". The main reasons for the change are:

- ▶ Science and technology innovation: In response to the impact of the COVID-19 pandemic, contactless services are needed by the society. Additionally, with the trend of personalized and intelligent services in recent years, it is considered that scientific and technological innovation will affect the value chain, it will be synchronized to the key theme
- ▶ Customer relationship and quality management: in response to social changes (such as aging/parent-child tourism/green tourism/international trend of high importance on human rights inclusiveness), the travel industry in the service of hardware and software and even personnel training are involved in this theme, so it has been upgraded to a key theme
- ▶ Sustainability supply chain management: In response to the trend of the global railway transportation industry and the practice of ESG, the first supplier of value chain management, comprehensively considering its impact on the environment and human rights, so it adjusted the sustainability supply chain management to the key theme.
- ▶ Regulatory compliance: In response to the importance attached by competent authorities to all aspects of ESG issues, actively promote relevant laws and regulations, and raise this topic to key topics after comprehensive consideration
- ▶ Talent development and cultivation: due to the issue of focusing on the employees of the enterprise itself and considering the value chain link of its impact, it was reduced to medium
- ▶ Local economic development and human care: In response to the easing of the epidemic, the tourism business has upgraded and driven the urban economic development, taking into account the value chain link of its impact, so it has been downgraded to an important theme
- ▶ Ecology and community impact management: Noise and vibration management and ecological impact management are integrated into ecology and community impact management. Because the issue has been regulated for a long time, the value chain link that comprehensively considers its impact involves a small number of stakeholders, so it is reduced to a topic of continuous concern.
- ▶ Resource use and management: Because the issue focuses on the company's own operations and considers the value chain link of its impact, it is reduced to the theme of continuous attention.

Material Topics	Redefine and the Impacts	Positive/Negative Impact	Impact description (Economy/Environment/People)	
Transportation Safety Management	Transportation Security and Management	Positive	People	▶ Passengers and the industry can enhance the convenience of their life travel business through THSR transportation services.
	Transportation Accidents and Disasters	Negative	Economy	▶ By continuing to provide safe transportation, the urban-rural/industrial gap can be reduced, contributing to rural economic/tourism development.
			People	▶ Passengers, community residents, employees, etc. are injured due to transportation accidents and influence their safety.
			Economy	▶ The economic activities of urbanand rural areas along the transportation routes are affected by the reduction of number of train services due to transportation accidents and disasters; the rights and interests of shareholders, employees and stakeholders are damaged by compensation or even loss of annual revenue due to transportation accidents and disasters.
			Environment	▶ Transportation accidents or disasters resulting in the destruction of the natural ecological environment or habitat of species along the route.
Corporate Governance and Operational Performance	Enterprise Governance and Operational Performance	Positive	Economy	▶ The company's good operating performance and continuous profitability can create higher economic value for shareholders, employees and other related parties.
	Enterprise Governance and Mismanagement	Negative	Economy	▶ Due to corporate mismanagement and gross negligence, or dishonesty, corruption, fraud or fraud, affecting the operation of the company, infringing the rights and interests of customers and other related parties.
Regulatory Compliance	Violation of Legal Regulations	Negative	People	▶ Cause damage to the rights and interests of customers, employees or other stakeholders by violating relevant social and labor laws and regulations.
			Economy	▶ Violation of the relevant laws and regulations of the regulator on corporate governance, resulting in moral integrity and other governance-related negligence, thereby affecting the rights and interests of stakeholders.
			Environment	▶ Environmental pollution or impact due to violation of environmental laws and regulations.
Quality of Service and Customer Relationship Management	Service Quality and Inclusiveness	Positive	People	▶ Improve and optimize the quality of software and hardware services, provide the travel services and quality required by disadvantaged, elderly and multi-ethnic passengers, and increase the utilization rate of all passengers.
			Economy	▶ Providing high-quality products and services, continuously optimizing the quality of software and hardware services, and improving transportation planning can create higher economic value for shareholders, employees and other related parties.
	Damage to Customer Equity	Negative	People	▶ Customer rights and interests are damaged or complaints are filed due to the failure to effectively implement fair hospitality, or due to poor service quality in the transportation process, station, and transfer system.
Technological Innovation	Technological Innovation	Positive	People	▶ Improve customer convenience in accessing and using transportation services by providing artificial intelligence services.
			Economy	▶ Improve the convenience and digitization of the entire rail transportation industry.
			Environment	▶ Reduce energy consumption by providing artificial intelligence services.
Privacy and Information Security Management	Information Security Management	Positive	People	▶ By implementing the security management systems and tools, together with upgrading software and hardware, the passengers and corporate sensitive data are prevented from leakage and equity of stakeholders are protected.
	Business and Customer Information Leaks	Negative	People	▶ Due to security breaches or hacking attacks, customer personal information or enterprise sensitive information is leaked, infringing the rights and interests of relevant stakeholders.
Employee Care and Labor Protection	Labor Protection and Healthy and Equitable Workplace	Positive	People	▶ Improve the quality of work by continuously optimizing the work environment and safety and health, and providing employees with a good and healthy work environment And, provide a friendly and good environment for women/disadvantaged/multi-ethnic groups to create jobs.
	Occupational Accidents and Violations of Human Rights in the Workplace	Negative	People	▶ Because of gender and other forms of discrimination, the rights and interests of employees at work are infringed; and due to labor rights and interests issues such as overtime and forced labor, as well as unblocked channels of labor consultation and communication, the rights and interests of employees at work are damaged.
People			▶ Failure to provide a safe and healthy work environment and safety, resulting in work accidents or occupational injuries, affecting employees' labor equity and interests, and causing damage to employees' physical and mental health.	
Talent Appointment and Development	Talent Development and Nurturing	Positive	People	▶ Provide employees with good work and development opportunities through comprehensive talent development and training planning.



Material Topics	Redefine and the Impacts	Positive/Negative Impact	Impact description (Economy/Environment/People)	
Climate Change Mitigation and Adaptation	Climate Change Adaptation and Management	Positive	Economy	▶ In response to climate change, we will disclose relevant financial information, identify climate-related risks and opportunities, and develop relevant strategies to meet the requirements of relevant authorities for corporate climate financial disclosure, comply with the government's Greenhouse Gas Reduction Management Law, reduce carbon fee expenditure, accelerate the global low-carbon transition, and move the entire industrial chain towards a zero-carbon economy.
			Environment	▶ Implementing climate governance and promoting strategies and management measures (such as introducing carbon inventories and carbon reduction plans or strengthening transportation systems to improve overall efficiency) will help reduce environmental impacts such as carbon emissions and waste in the overall industry.
	Greenhouse Gas Emissions	Negative	People Economy Environment	▶ The intensification of the greenhouse effect due to greenhouse gas emissions, resulting in climate-related disasters, which will have an impact on the economy, environment and people.
Ecological and Community Impact Management	Biological Conservation and Diversity	Positive	People	▶ Regular monitoring of the station's air quality, ecological status, prevention of pollutant release/slide, etc., to protect the health of the surrounding community.
			Environment	▶ Cooperating with local community members and non-profit organizations to promote various environmental protection projects and help restore/preserve biodiversity to create a more balanced and healthy environment.
	Ecological and Community Impact	Negative	People	▶ The health of local residents has been affected and the quality of the home environment has been degraded due to environmental noise along the route or other environmental impacts.
			Environment	▶ There is no clear formulation of air quality monitoring and management systems and plans or other local environmental impact plans along the route, which has an impact on the local ecosystem and may make it difficult to maintain habitats, biological aggregate levels and endemic species that provide habitat importance.
Resource Use and Management	Resource Use and Management	Positive	Economy	▶ Promoting the economic development of the renewable energy market by using renewable energy to meet the government's Renewable Energy Development regulations to reduce or eliminate the need for spending fees.
			Environment	▶ Import energy resource management system, or use renewable energy, increase its use ratio(such as: renewable energy investment, internal power generation, energy self-sufficiency and enterprise power purchase agreement, etc.), or improve energy use efficiency (such as: utilization storage battery, new vehicle type introduction and station equipment update), reduce enterprise carbon emissions to reduce the environmental impact.
	Energy Consumption	Negative	Environment	▶ Increased energy demand due to energy consumption, and Taiwan's current energy mix includes coal-fired and thermal power generation source, it causes greenhouse gas emissions and air pollution problems.
Sustainable Supply Chain Management	Improving Supplier ESG Awareness and Management	Positive	People	▶ Actions related to the joint promotion of the supply chain to improve workers' rights (such as regularly holding workplaces safety and health lectures to improve workplace health and safety).
			Economy	▶ Improve supplier ESG awareness and management through supplier conferences, lectures or other management methods to promote the overall economic resilience of the industrial chain.
			Environment	▶ Work with suppliers to promote green and low-carbon supply chains, continuously reduce carbon and waste emissions, and maximize energy efficiency to address the risks of climate change and resource depletion.
	Supplier Management (Mismanagement)	Negative	People	▶ Supplier ESG has been mismanaged, resulting in environmental pollution and labor/human rights abuses by suppliers.
			Environment	▶ Environmental and air pollution problems caused by waste generated and disposed of by operations and improper disposal (e.g., improper burial) by suppliers.
Local Economic Development and Human Concern	Local Economic Development and Human Concern	Positive	People Economy	▶ Helping the economically disadvantaged or other special groups increase employment opportunities or generate income through activities (public welfare/charity/local creation) or cooperation with various public welfare groups.

## Sustainability Value Chain Impact Management

Materiality	Material Topics	Corresponding to GRI Topic	Corresponding SDGs	Corresponding to Chapter or Subchapter	Page No	Value Chain Boundaries Impacted by Each Topic					
						Occur Directly in THSRC	Occur Through THSRC's Commercial Relationships		Occur Through THSRC's Other Direct Relationships		
						THSRC	Passengers	Suppliers and Contractors	Shareholders and Investors	Partners	Government and Competent Authorities
Key Topic	Climate change mitigation and adaptation	GRI 305: Emissions	SDG 13	Low-carbon Train Operation and Environmental Sustainability	54	●		●			
	Enterprise Governance and Operational Performance	GRI 201: Economic Performance GRI 205: Anti-corruption GRI 405: Employee Diversity and Equal Opportunity	SDG 8 SDG 16	Operational Performance Sustainable Governance and Integrity Management	20 50	●		●	●		●
	Transportation safety management	Customized material topic	SDG 9	Safety Services and Responsible Transportation	25	●		●			●
	Quality of Service and Customer Relationship Management	GRI 416: Customer Health and Safety	SDG 8 SDG 9 SDG 11	Convenience, Attentiveness, and Maintaining Relationships Smooth Travel in Adherence to Commitment	37 30	●	●	●			
	Sustainable supply chain management	GRI 204: Procurement Practices GRI 414: Supplier Social Assessment	SDG 8 SDG 17	Partner Relationship Management and Local Supply	44	●		●			●
	Technological innovation	Customized material topic	SDG 9	Sincere Services and Intelligent Transportation	35	●		●			
	Employee care and labor protection	GRI 401: Employment GRI 402: Labor/Management Relations GRI 403: Occupational Health and Safety ( 2018 ) GRI 407: Freedom of Association and Collective Bargaining	SDG 8	Operational Performance Nurturing Talent and Value Cultivation Protection of Rights and Considerate Care	20 66 70	●		●			●
Important Topic	Privacy and Information Security Management	GRI 418: Customer Privacy	SDG 9	Convenience, Attentiveness, and Maintaining Relationships	37	●					
	Local economic development and human concern	GRI 203: Indirect Economic Impacts	SDG 4 SDG 8 SDG 17	Partner Relationship Management and Local Supply Carrying for Society and Developing Local Area	44 44	●		●		●	
Topics of Continuous Concern	Talent appointment and development	GRI 202: Market Presence GRI 401: Employment GRI 402: Labor/Management Relations GRI 403: Occupational Safety GRI 404: Training and Education	SDG 4 SDG 8	Nurturing Talent and Value Cultivation	66	●					
	Ecological and Community Impact Management	GRI 305: Emissions GRI 413: Local Communities	SDG 9 SDG 11	Smooth Travel in Adherence to Commitment Carrying for Society and Developing Local Area	30 44	●				●	●
	Resource use and management	GRI 302: Energy GRI 303: Water and Effluents ( 2018 ) GRI 306: Wastewater and Waste	SDG 7 SDG 12	Low-carbon Train Operation and Environmental Sustainability	54	●					





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  - THSRC Sustainability Strategy Blueprint
- Operational Performance
  - Financial Performance
  - Economic Value Distribution
  - Government Subsidies
  - Operating Performance
  - 2022 Financial Results



## About THSRC

Subchapter Title	Material Topics	Management Purpose	Management Method	Assessment Mechanism	Management Performance in 2022
Operational Performance	Enterprise Governance and Operational Performance	<ul style="list-style-type: none"> <li>▶ Achieve the goals formulated by the organization and ensure that all relevant operations are carried out in order.</li> <li>▶ Manage and optimize THSRC's financial structure to lay the foundation for sustainable management, and seek maximum benefits for employees, shareholders, and creditors. At the same time, design a logo according to THSRC's corporate culture, philosophy, and spirit, demonstrate the corporate image of THSRC through visual communication, and "To be the Platform for Advancement and Enjoyment".</li> <li>▶ Develop product and marketing strategies, conduct expansion plans, and track them regularly based on consumer feedback and revenue targets to improve the operational performance of THSRC actively and effectively.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Adhere to the five core values of "Discipline, Integrity, Efficiency, Innovation, and Sensibility," and create the four attributes of "Real, Progressive, Passionate, and Premium" as we strive for sustainable management, in order to implement the vision and mission of THSRC.</li> <li>▶ Set out the dividend policy clearly in the Company's Articles of Incorporation according to laws and regulations, in line with THSRC's business development plan, the external investment environment, capital needs and industrial competition conditions, while distributing the profits to shareholders in a stable and balanced manner based on shareholders' interests.</li> <li>▶ Manage the status of assets and liabilities by having CPAs review first-, second-, and third-quarter financial statements, as well as audit and attest fourth-quarter financial statements every year. Plan the sources of capital in advance as per the changing trend in the financial market and environment with regard to the Company's future capital needs, so as to continuously reduce the debt ratio and develop sustainably.</li> <li>▶ Through the analysis of THSRC's source of railway revenue based on market demand and ridership, the overall target of annual passengers is set, and the annual strategy and promotional plans are set out. Non-railway revenue comes from diverse business models, including leasing of property to stores at stations, parking space services, sales of THSRC media products, as well as sales and promotion of souvenirs.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Develop four major sustainability strategies, draw up corresponding short-, medium-, and long-term goals and actions plans, and regularly track issue development and solution performance through the relevant assessment mechanisms.</li> <li>▶ Dividends are distributed according to the surplus distribution plan submitted by the Board of Directors and approved by the shareholders' meeting to meet the requirements of the dividend policy specified in the Articles of Incorporation.</li> <li>▶ The status of assets and liabilities disclosed in the financial statements attested or reviewed by CPAs serves as the basis for management.</li> <li>▶ Confirm the performance of each project through various project strategy discussions, closure reports, and departmental meetings.</li> </ul>	<ul style="list-style-type: none"> <li>▶ The Company's debt ratio (liabilities/assets) has dropped from 85.2% at the end of 2017 to 83.2% at the end of 2022. On March 15, 2023, the Board of Directors proposed to distribute cash dividends to shareholders for 2022 to seek the best interests of employees, shareholders, and creditors.</li> <li>▶ In 2022, railway revenue exceeded NT\$3.6 billion, and non-railway revenue was around NT\$1.49 billion.</li> </ul>

## Operating Bases and Services

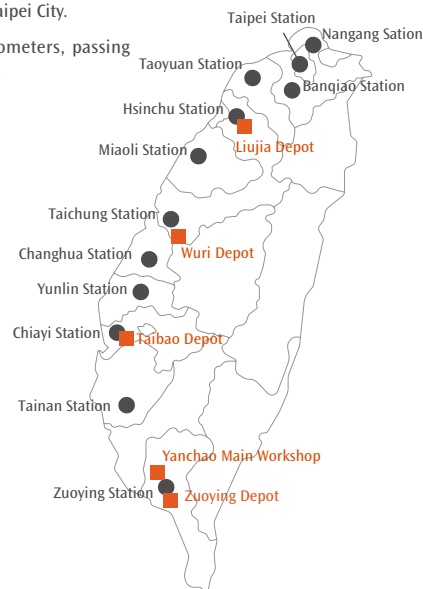
The THSRC began its operation in 2007, with Taiwan as an important operating base, and is headquartered in Nangang District, Taipei City.

The total length of the THSR operating route is 350 kilometers, passing through 11 counties and cities in the west and 76 townships.

 **Operating stations** (12 in total in Taiwan)

 **Maintenance depots** (5 in total in Taiwan)

Note: Depots have different functions from stations and can be subdivided into main workshop, marshalling yard, civil engineering base and electrical engineering base, and maintenance base. At present, the maintenance depots in service include Liujia/Hsinchu, Wuri/Taichung, Taibao/Chiayi, Zuoying/Kaohsiung, and Yanchao Main Workshop/Kaohsiung; while Xizhi Depot is currently being planned.



### Business Scope of THSRC

THSRC's upstream industries mainly provide train carriages, construction services, and manufacturers and maintenance industries for track-related service facilities and equipment. Midstream industries include the power supply industry, transport support related to train preparation, and operators related to the provision of transfer services, including the parking lot management industry, the freeway bus industry, the car rental industry, and the taxi industry. Downstream industries comprise THSRC passengers or travel agencies, which provide T Holiday packages in collaboration with THSRC.

#### ▶ High Speed Rail Passenger Services

Fast, convenient and comfortable rail transport services, while offering different types of train services, including direct train, semi-direct train, and stopping train to meet passengers' needs

#### ▶ Operation of Relevant Affiliated Services

Retail space leasing (e.g., convenience stores, food and beverage, and service counters), parking lots at stations, advertising sales (e.g., lightboxes, column space, wall space, product displays, and train decorations), retail, trolley sales, and others

Note: For details regarding rail transport services, please refer to the subchapter titled "Sincere Services and Intelligent Transportation". 

## Sustainability Strategies and Goals

### THSRC Spirit and Sustainability Mission

The THSRC promises to take the five core values of "Discipline, Integrity, Efficiency, Innovation and Sensibility" as the motto of enterprise operations, adhering to the belief of "Go Extra Mile" (with the intention of doing things better), continuously improving transportation safety and service quality, giving passengers a better service experience, and promising the vision and mission of sustainable operation, and looking forward to a faster and better future with the public.

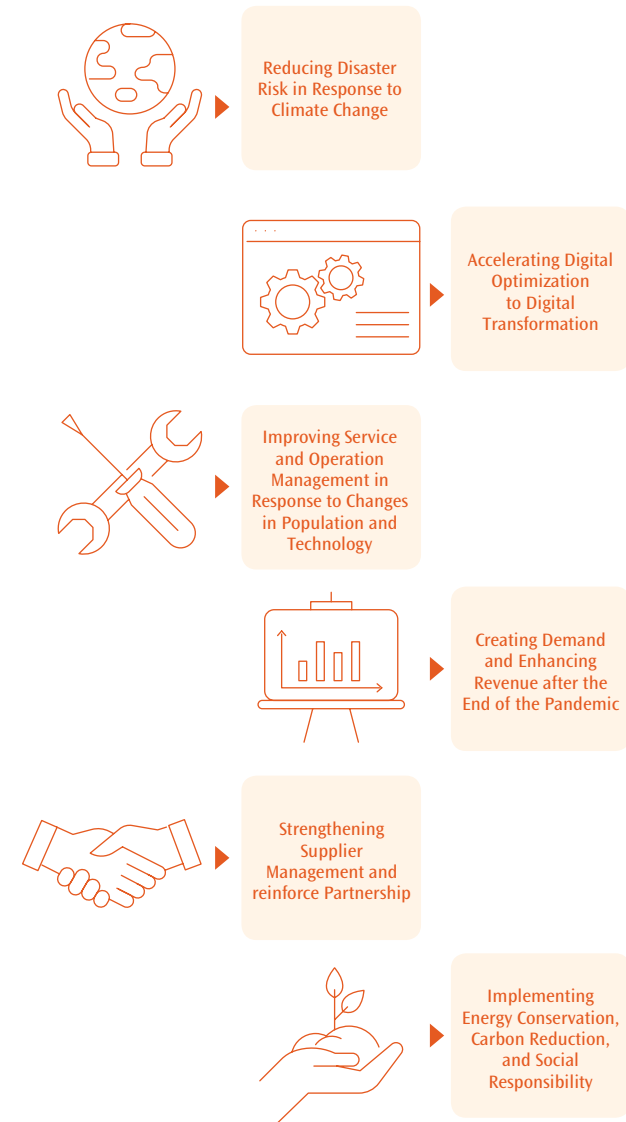
The THSRC actively responds to the concerns of different stakeholders on sustainability issues, and plans for the future sustainability strategy of THSRC in response to the development trend of international sustainability issues. The sustainability issues of THSRC can be divided into three major aspects of environment, society and governance: In the environmental aspect, high-speed rail trains have low carbon, low air pollution, high energy efficiency features, and also strengthen the environmental management around the operation route and add renewable energy devices at maintenance depots and major stations to mitigate the environmental impact during the operation process. In the social aspect, we attach importance to the safety and health of employees' working environment and career development, and not only cooperate with the local industry to help the development of the domestic rail transportation industry, but also combine the core industry to invest in caring actions to promote social integration. In the governance aspect, THSR abide by laws and regulations to create maximum value for stakeholders. With the principle of safety, THSR continuously leverages innovative technology to provide fast and convenient transportation services, and improves travel quality and customer satisfaction. Therefore, the continuous use of innovative technology to provide fast and convenient transportation services, and continuously improve the quality of transportation and customer satisfaction.

As Taiwan's first listed company in the railway transportation industry, the THSRC was favored by the FTSE Social Responsibility Emerging Market Index in 2018 and was continuously selected a constituent stock of the "FTSE4Good TIP Taiwan ESG Index" from 2018 to 2022. Moreover, it has been ranked in the top 5% of listed companies in the "Corporate Governance Assessment" for five consecutive years. It can be seen that high-speed rail companies have implemented E (environment), S (society) and G (corporate governance), which has been affirmed by all walks of life. In addition, THSRC has become one of the world's leading sustainable companies, and was first selected as one of the "Global 100 ranking of the world's most sustainable companies" by Corporate Knights, a Canadian sustainability assessment agency, and was selected as the ninth sustainable company in the world, and the best performing Asian company in this list; We also continued to participate in the 15th Taiwan Corporate Sustainability Award (TCSA), hosted by the Taiwan Sustainable Energy Research Foundation, won the Platinum Award of the Corporate Sustainability Reporting Award in 2022, and won the Outstanding Corporate Category, Best Popular Brand Category, and Best Product Category - First Prize of the 19th National Brand Yushan Award in the same year. The project shows the results of THSRC in terms of operational performance, corporate governance, environment and social care, which have been recognized by domestic and foreign investors and rating agencies.












### THSRC Sustainability Strategy Blueprint

Based on the THSRC sustainability mission, we drew up the "4T" sustainability strategy blueprint in 2017, with Transportation, Technology, Taiwan, and Touch as the four major sustainability topics, and respond to the eight UN Sustainable Development Goals (SDGs) to guide our efforts in achieving sustainability. Meanwhile, we have taken into account various policies and actions of Taiwan's sustainable development goals to contribute to Taiwan's sustainable development process. Looking ahead to the next five years, the sustainability vision of THSRC will be "Implement ESG and Strengthen Corporate Governance to Provide Safe, High Quality, and Innovative Service Toward a Better Life for Taiwan." THSRC will focus on the United Nations Sustainable Development Goals (SDGs) as the key direction for the future sustainable development of THSRC, and launch a new six-topic sustainability strategy, including: Reducing Disaster Risk in Response to Climate Change, Accelerating Digital Optimization to Digital Transformation, Improving Service and Operation Management in Response to Changes in Population and Technology, Creating Demand and Enhancing Revenue after the End of the Pandemic, Strengthening Supplier Management and Reinforce Partnership, and Implementing Energy Conservation, Carbon Reduction, and Social Responsibility as an action guide for THSRC to realize its sustainability vision.












The goals of each sustainability strategy and its implementation measures in 2022 are listed as follows. The relevant details are described in the following chapters and subchapters.



## THSRC Sustainability Strategies, Goals, Implementation Measures in 2022 and Corresponding SDGs

4T Component	Target	Implementation Measures in 2022	Corresponding SDGs	
			17 Goals	169 Detailed goals
 Transportation Professional Transportation	Continue to improve operational safety, actively face the impact of climate change on transportation, establish relevant early warning mechanisms, and develop relevant response measures in collaboration with the government, while actively interacting with residents along the HSR railway to create positive value.	<ul style="list-style-type: none"> <li>Continued to inspect the weather resistance of the stations, equipment, and routes to ensure that the train depot meets the high flood prevention and safety standards.</li> </ul>		9.1
		<ul style="list-style-type: none"> <li>Continuously improving services, hardware and software equipment, and supporting measures that enhance the convenience for specific groups, such as the installation of handrails in squat toilets at stations, the improvement of barrier-free urinal partitions and the adjustment of the location of barrier-free toilet facilities, the addition of mobile barrier-free ramp slabs in taxi passenger areas, and the improvement of barrier-free platforms at Tainan Station Bus Transfer Station.</li> </ul>		11.2
		<ul style="list-style-type: none"> <li>Continued to operate the disaster warning system and strengthen preventive measures for earthquakes, typhoons, heavy rain, landslide, and rock fall.</li> <li>In response to the incident of sliding slope caused by heavy rain in Miaoli section in August 2021, the "Taskforce of HSR Slope Safety Assessment" has been established to carry out the "High-speed Railway Slope Safety Overall Inspection", commissioning external professional consultants and technicians to handle the 389 slopes comprehensive overall inspections, and submit the Overall High-speed Railway Slope Safety Inspection Report to ensure that the high-speed railway operation area meets the operational safety standards.</li> </ul>		13.1
		<ul style="list-style-type: none"> <li>Sales executives at each station participated in activities from time to time, and continuously communicated with local opinion leaders and residents along the HSR line.</li> </ul>		17.17
 Technology Innovation and Technology	Actively innovate and enhance technical capabilities, adopt new technologies and promote smart transportation, continue to improve the efficiency and quality of operations, services, safety, and emergency response, as well as adopt big data and digitalization to optimize customer experience and create a more convenient life.	<ul style="list-style-type: none"> <li>Monitored train running status in real time via IoT facilities.</li> </ul>		9.1
		<ul style="list-style-type: none"> <li>Continuing to promote employee proposals to improve the system and quality control circle activities, from 2018 to 2020, it was awarded the Golden Tower Award of the Solidarity Group for three consecutive years, and in 2021, it was awarded the Double Material Silver Tower Award of the Solidarity Group. In 2022, it won the Golden Tower Award for the first time in the highest hall of the "Taiwan Continuous Improvement Award".</li> <li>The most outstanding cases for improving performance in 2021 are "Improving the reliability of core room air conditioning equipment and reducing maintenance costs" and "Chemical Management System CMS".</li> </ul>		8.3
		<ul style="list-style-type: none"> <li>Continuously provided ticket purchase services for senior and disabled concession tickets via each ticket sales channel to provide passengers with a diverse range of ticket purchase and pick-up channels.</li> </ul>		11.2
		<ul style="list-style-type: none"> <li>Continue to strengthen the use of e-wallet mobile payment ticket purchase, 2022 through the T-EX app to pay the number of tickets reached 19.67 million tickets paid through the T-EX app in 2021 reached 17.18 million tickets.</li> <li>In 2022, the percentage of using paperless tickets (including T-EX mobile ticketing app, periodic / multi-ride tickets, and co-branded cards with electronic ticketing function) was 39.8%.</li> </ul>		12.2 12.5
 Taiwan Enhancing Local Connection	Actively nurture local talents and establish industry-academia collaboration, strive to create opportunities for diverse products and different industries through our business model, become the platform for advancement and enjoyment locally. And promote the prosperity and development of local industries by fostering the development capabilities of the local railway industry. At the same time, establish a sustainable supply chain management mechanism, and become the leader which guides the railway industry to sustainability.	<ul style="list-style-type: none"> <li>Established collaboration with colleges and universities, and promoted talent cultivation in Taiwan's railway industry through industry-academia collaboration and internship programs, where a total of 54 students were accepted into our internship program for the academic year of 2022, providing a one-year station work internship opportunity.</li> </ul>		4.4

## THSRC Sustainability Strategies, Goals, Implementation Measures in 2022 and Corresponding SDGs

4T Component	Target	Implementation Measures in 2022	Corresponding SDGs	
			17 Goals	169 Detailed goals
 Taiwan Enhancing Local Connection	<p>Actively nurture local talents and establish industry-academia collaboration, strive to create opportunities for diverse products and different industries through our business model, become the platform for advancement and enjoyment locally. And promote the prosperity and development of local industries by fostering the development capabilities of the local railway industry. At the same time, establish a sustainable supply chain management mechanism, and become the leader which guides the railway industry to sustainability.</p>	<ul style="list-style-type: none"> <li>▶ Actively promoted local supply and enhanced the capabilities of local vendors.</li> <li>▶ Provided equal employment opportunities through talent recruitment and cultivation.</li> <li>▶ Enhanced the professional competencies of personnel based on assessment and training</li> <li>▶ Through cooperation with the government, travel agencies, hotels, metro and road passenger operators, exhibition organizers, etc., the "Journey with THSR, Discover Taiwan" series of products and promotions were launched, and the "Travel Pepi" revitalization project was launched in 2022 to provide a variety of preferential product packages.</li> <li>▶ Committed to creating local employment opportunities, and supporting local businesses with lower rents to set up THSRC markets or product museums, and supporting 74 to 80 service sales staff to promote the local materials produced goods.</li> </ul>		8.3 8.5 8.9
		<ul style="list-style-type: none"> <li>▶ Marketed various attractions in Taiwan through THSR to promote tourism benefits and the development of the local tourism industry, with the number of passengers reaching 2.913 million people throughout the year 2022.</li> </ul>		12.b
 Touch Sustainable Care	<p>Comprehensively improve the corporate social responsibility governance mechanism, and strengthen the integration of governance and sustainable development by incorporating the corporate social responsibility vision into the corporate culture. In addition, promote employee development, implement energy conservation and carbon reduction to create positive environmental benefits, and at the same time actively support charity events, arts, and ecological development as an important platform for strengthening the cohesion of Taiwan's society.</p>	<ul style="list-style-type: none"> <li>▶ In cooperation with the "Children Are Us Foundation", the "The High-Speed Educational Endowment Program" invites THSRC travelers and the public to help Happy Child move towards self-reliance and a better future through learning programs.</li> <li>▶ Organized "HSR Camps" to enhance the knowledge about railway of participants at all school ages so as to train potential excellent railway talents.</li> </ul>		4.5
		<ul style="list-style-type: none"> <li>▶ Leased out the rooftop of the maintenance depots, the detention basins, and the outdoor car parking spaces and their rooftop outside each station to energy suppliers for the installation of solar power equipment in line with the government's effort to promote renewable energy. The annual power generated reached 10,543.24 MWh in 2022.</li> </ul>		7.2 7.b
		<ul style="list-style-type: none"> <li>▶ Continued to promote the operation of the Corporate Governance Promotion Committee to develop strategies for optimizing corporate governance systems and functions, and review the corporate social responsibility policies.</li> </ul>		8.9
		<ul style="list-style-type: none"> <li>▶ Working with educational and charitable institutions to help disadvantaged people take free high-speed train rides, THSRC Smiling Train Program has helped 816 disadvantaged groups with a total of 145,479 rides by 2022.</li> </ul>		11.2
		<ul style="list-style-type: none"> <li>▶ Implemented relevant energy conservation programs and measures, and continued to optimize equipment to improve the effectiveness of energy management.</li> </ul>		9.1 9.4
		<ul style="list-style-type: none"> <li>▶ Monitored weather information in collaboration with the government and professional organizations.</li> </ul>		13.2
		<ul style="list-style-type: none"> <li>▶ Reduced the impact of public transportation on the environment through energy resource management and waste recycling mechanisms.</li> <li>▶ Increased the procurement of eco-friendly products to reduce the impact of supply chain on the environment.</li> </ul>		12.5 12.7

## Operational Performance

### Financial Performance

Items	Unit	2020	2021	2022
Sales Volume (Rail Transport)	Thousands of passenger-km	9,912,062	7,568,788	9,338,061
Sales Amount				
Railroad Transportation	NT\$ thousands	37,903,849	29,084,574	35,640,556
Goods	NT\$ thousands	132,516	72,463	121,227
Rental & Others	NT\$ thousands	1,100,840	1,070,850	1,371,450
Operating Ratios				
Railroad Transportation	%	96.85	96.22	95.98
Goods	%	0.34	0.24	0.33
Rental & Others	%	2.81	3.54	3.69
EBITDA and EBTDA				
EBITDA	NT\$ thousands	25,982,260	17,576,551	23,555,938
EBTDA	NT\$ thousands	20,197,897	11,914,740	17,529,119
Turnover and Profitability				
Operating Revenue	NT\$ thousands	39,137,205	30,227,887	37,133,233
Gross Profit	NT\$ thousands	13,042,151	4,525,557	11,243,130
Income from Operations	NT\$ thousands	11,806,685	3,317,882	9,920,408
Income Before Income Tax	NT\$ thousands	5,419,311	4,265,625	4,265,625
Net Income	NT\$ thousands	5,843,037	3,610,922	3,769,337
Assets, Liabilities and Equity				
Total Assets	NT\$ thousands	427,566,970	427,907,041	400,540,132
Total Liabilities	NT\$ thousands	357,480,314	360,129,070	333,250,065
Total Shareholders' Equity	NT\$ thousands	70,086,656	67,777,971	67,290,067

Notes: 1. EBITDA : Earnings Before Interest, Taxes, Depreciation and Amortization.

2. EBTDA : Earnings Before Taxes, Depreciation and Amortization.

### Economic Value Distribution

Unit: NT\$ thousands

Items			2020	2021	2022
Operating costs	Cash outlays that occur outside the organization for the purchase of raw materials, product parts, site facilities, and services	Operating costs (total)	26,095,054	25,702,330	25,890,103
		Operating expenses (total)	1,235,466	1,207,675	1,322,722
Employee Salaries and Benefits	Including total salary, as well as the amount paid to the government on behalf of employees, periodic contributions, and other employee subsidies		5,116,114	5,007,895	5,197,016
Dividend Distribution	Dividends paid to all shareholders (Note 1)		5,909,708	4,266,246	3,770,956
Interest Payment	Interests paid to lenders		5,919,211	5,757,241	6,231,824
Payments to the Government	All taxes and penalties paid by the organization at international, domestic, and regional levels	Taxes (Note 2)	1,430,888	1,194,405	1,140,324
		Profit Sharing Payments (Note 3)	777,511	541,931	8,049,281
		Rental Expenses (Note 3)	829,224	827,691	836,847
		Stabilization Reserve (Note 3)	6,084,658	—	885,959
Community Investment	Voluntary donations and investments whose target beneficiaries are non-organizational external units		1,990	15,071	8,141

Notes: 1. The distribution of earnings for each year shall be subject to the resolution of the annual shareholders' meeting held in the following year.



2. Government tax payments include business tax, profit-seeking enterprise income tax, and other taxes. Due to the impact of "Coronavirus disease 2019" (hereinafter referred to as COVID-19 ), the Company applied for deferred payment for profit-seeking enterprise income tax for 2019 and the tax on undistributed surplus earnings for 2018, both of which had been paid in 2021. The Company applied for deferred payment for profit-seeking enterprise income tax for 2020 and the tax on undistributed surplus earnings for 2019, both of which had been paid in 2022.

3. It is the amount paid by THSRC in accordance with the "Taiwan North-South High Speed Rail Construction and Operation Agreement" signed with the Ministry of Transportation and Communications (MOTC).



## Government Subsidies

Unit: NT\$ thousands

Type	Purpose / Description	2020	2021	2022
 Tax Deduction and Credit (Tax Amount)	Investment tax credits for construction of operating equipment or technology expenditures in Article 29 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects" (Note 1)	—	—	290,063
	Investment tax credits applicable to capital expenditures invested in personnel training specified in Article 29 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects"	3,829	2,326	—
	Investment tax credits applicable to capital expenditures invested in R&D specified in Article 29 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects"	16,484	2,702	—
	Five-year tax exemption specified in Article 28 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects" (Note 2)	3,119,694	391,045	—
	Investment tax credits applicable to investment in smart machinery specified in Article 10-1 of the "Statute for Industrial Innovation" (Note 3)	6,010	11,588	—
	Tax credit applicable to undistributed earnings as in the substantive investment specified in Article 23-3 of the "Statute for Industrial Innovation" (Note 3)	119,559	17,822	42,593
 Investment Subsidies, Research and Development Subsidies, and Other Related Subsidies	Subsidy program for Smart Urban and Rural Life Application (Innovative Service Program) - THSRC Wi-Fi Service Experience Improvement Project issued by the Industrial Development Bureau, Ministry of Economic Affairs	8,654	—	—
	Subsidy of Department of Economic Development, Taipei City Government for the replacement of energy-saving equipment and the replacement of smart energy-saving systems for the service industry in Taipei City	—	2,000	—
	Subsidy program for residential and commercial electricity saving in Taichung City issued by the Economic Development Bureau, Taichung City Government	—	508	—
	COVID-19 relief of bill payment assistance (Note 4)	190,095	94,331	4,611

Notes: 1. Pursuant to Article 29 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects" and the amended relevant provisions of the "Regulations Governing Application of Investment Credit to Private Participation in Transportation Infrastructure Projects", the Company applied for the issuance of Investment tax credits certificates for the entire high-speed railway construction and operation equipment purchased by the subsequent construction project. The investment deduction certificates were issued by the Ministry of Transportation and Communications on February 15, 2022.

2. The Company applied for a five-year exemption from profit-seeking enterprise income tax in accordance with Article 28 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects." On April 13, 2018, exemption from profit-seeking enterprise income tax for this case was approved by the Ministry of Finance, and the scope of tax exemption was determined in accordance with ticket fare income for passenger transport and transportation charge income for cargoes specified in Subparagraph 1, Paragraph 1, Article 3 of the "Regulations Governing Application of Profit-seeking Enterprise Income Tax Exemption to Private Institutions Participating in Transportation and Communication Infrastructure Projects." In addition, the Company has chosen to delay the commencement of tax exemption period to January 1, 2017 for exemption from profit-seeking enterprise income tax for five consecutive years within the scope of statutory tax exemption in accordance with Paragraph 2, Article 28 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects."

3. The Company applied the application for the tax incentives in accordance with Article 10-1 and Article 23-3 of the amended "Statute for Industrial Innovation."

4. The company applied to the government and obtained electricity payment reduction and rent concessions and other relief package.

## Operating Performance

Profile Disclosure	Unit	2020	2021	2022
 Number of Train Services	times	53,076	46,792	54,054
 Passenger Volume	thousands	57,239	43,460	54,162
 Punctuality Rate (Arrival Within Five Minutes of Scheduled Time, Excluding Delays Due to Force Majeure)	%	99.71	99.00	99.47
 Reliability Rate (Excluding Delays Due to Force Majeure)	%	100	100	99.99
 Average Delay Time for Arrival at Terminal Station	minutes	0.128	0.287	0.243

## 2022 Financial Results

In the first half of 2022, due to the impact of the epidemic, THSRC experienced a decline in operating income. In the second half of the year, with the government's epidemic coexistence policy, the public confidence in riding the high-speed railway has continued to increase, the number of tourists has steadily recovered, and the operating income has also increased, smoothly weathering the financial impact of the epidemic, demonstrating the company's resilience. On the basis of sustainable operation, THSRC continues to optimize its financial structure and corporate governance performance. Since it was listed on the stock market, it has been included in the MSCI Taiwan Index, the FTSE TWSE Taiwan 50 Index, the TWSE Corporate Governance 100 Index, and the TWSE RA Taiwan Employment Creation 99 Index, and the FTSE4Good Emerging Index as a constituent stock. In 2022, it was once again selected as a constituent stock of the "FTSE4Good TIP Taiwan ESG Index" and was awarded an exclusive badge certificate. This has demonstrated that THSRC is committed to improving its performance in sustainable development.

### Performance Highlights

- In 2022, THSRC's annual revenue was NT\$37.1 billion, with a net income after tax of NT\$3.77 billion. This year's growth in travelers is still affected by the COVID-19 pandemic, but the impact is not as severe as in 2021, with revenues and earnings increasing by 22.8% and 4.4% respectively compared to 2021.
- In the current year, the Company continued to take measures to reduce the cost of capital to cope with the trend of rising interest rates, and the annual interest expense was NT\$6.23 billion.



Station Passenger Information System Renovated

### Action Plan

- Early repaid the principal of Tranche A Facility under a syndicated loan project in the amounts of NT\$25 billion in May 2022 to save interest expenses.
- Issuance of a guaranteed commercial paper of NT\$7 billion in May 2022 linked to ESG indicators to provide stable and low-interest funds for the company, thereby creating greater benefits for shareholders.
- The Company issued 3-year unsecured corporate bonds in 2021. The bonds were recognized as sustainable development bonds, and the funds raised were invested in the green investment plan of "Construction of Automation Equipment of Yan Chao Main Workshop"; and the social benefit investment plan of "Station Passenger Information System Update".
- The "Station Passenger Information System Renovated" has completed all the projects of the eight stations of the high-speed railway in 2022, providing passengers with more real-time and convenient travel information while in the high-speed railway stations, and improving the safety and convenience of passengers' transportation when riding on the high-speed rail; "Construction of Automation Equipment of Yan Chao Main Workshop" is currently in the construction stage. The pollution prevention and control, affordable basic living facilities and other categories invested in this plan will support enterprises to implement sustainable business concepts and policies, and their projects will have a positive impact on environmental protection, the overall image of the company and long-term operation and development, and effectively promote and implement the sustainable concept of THSRC.





- Transportation
- Transportation
- Safety Services and Responsible Transportation
  - Safety Management and Culture
  - Station and Route Safety and Risk Management
- Disaster Prevention with Professional Response
  - Train Safety and Disaster Prevention and Response
- Smooth Travel in Adherence to Commitment
  - Traffic Dispersion and Transfer Services
  - Sustainability Commitment



# Transportation

## Professional Transportation

Subchapter Title	Material Topics (Positive)	Material Topics (Negative)	Management Purpose	Management Method	Evaluation Mechanism	Management Performance in 2022
Safety Services and Responsible Transportation	Transportation Security and Management	Transportation accidents and disasters	<ul style="list-style-type: none"> <li>▶ Ensure the travel safety of every passenger and other members of the public, and maintain THSRC's high-quality safety culture.</li> <li>▶ Effectively reduce the noise and vibration generated during operation, and mitigate the impact on the environment, residents and passengers through preventive measures.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Follow "Operation Safety Plan - Safety Management System" as the safety regulation at the highest level, and integrate the Plan-Do-Check-Act (P-D-C-A) circulation principles, thereby effectively achieving the policy goals of THSRC through the implementation and continuous improvement of 12 safety management elements.</li> <li>▶ Verify the implementation of safety management, etc., through the Safety Committee, which covers various levels and functions to manage issues such as reviewing safety performance.</li> <li>▶ Formulate the "High Speed Rail Noise Improvement Plan" and the "Work Plan for Noise Prevention and Improvement among Sporadic Households along the High Speed Rail Line".</li> <li>▶ Continue to carry out environmental monitoring operations according to the commitment of environmental assessment, and send the monitoring results to the Environmental Protection Administration for reference.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Perform regular audits to check whether the implementation of the safety management system meets specific standards, assess whether each unit has fulfilled its responsibilities and performs its functions in accordance with the relevant regulations, and confirm the effective and continuous operation of the system.</li> <li>▶ The relevant safety committee regularly reviews safety performance and the implementation of safety management.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Maintain "zero" train accident in 2022.</li> <li>▶ Passenger safety performance reached the set permissible target. The target value for fatalities and serious injuries was 0, and the actual value was 0; the target value of the passenger/public minor injuries with the responsibilities attributed to THSRC was 0.06 person per million trips, and the actual value was 0.055 (the lower the minor injury value, the better).</li> <li>▶ In 2022, no violation of noise standards was notified by the competent environmental regulator, and only one noise case occurred in Waipu District of Taichung City in October 2022, and the monitoring work is still to be completed by the Environmental Protection Bureau.</li> </ul>
Disaster Prevention with Professional Response	Service Quality and Inclusiveness	Damage to customer right	<ul style="list-style-type: none"> <li>▶ Ensure that the safety and quality of THSR train services are not affected by natural disasters and man-made disasters.</li> <li>▶ Optimize the quality of software and hardware services to meet the needs of minority or disadvantaged groups, especially elderly passengers.</li> <li>▶ Draw up traffic management measures in the station area and the plan to increase the number of transportation to maximize the capacity and efficiency of the transfer, so as to continue to provide passengers with fast and convenient transfer services.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Establish internal plans, regulations, and standard operating procedures for disaster responses in accordance with the laws and regulations related to disaster prevention and fire prevention, and formulate the "Taiwan High Speed Rail Overall Disaster Prevention and Response Plan" to establish an overall framework for natural disaster and man-made disaster management; and the Safety Committee regularly supervises, reviews, and manages abnormal events in train services caused by natural disasters.</li> <li>▶ Continue to follow up on the injuries of elderly passengers in THSR's service areas (such as stations and trains) from 2022, and conduct regular statistical analysis for review and improvement.</li> <li>▶ Transportation friendliness-related plans include: <ul style="list-style-type: none"> <li>— Set up accessible ticket counters/ticket gates/toilets and elevators, and other passenger-friendly facilities.</li> <li>— Provide guidance services to assist elderly or physically challenged passengers.</li> <li>— Car 7 is designed as an accessible car, and four seats are reserved for physically challenged passengers' companions to take care of the physically challenged passengers.</li> </ul> </li> <li>▶ Participate in central and local government traffic transfer coordination meetings to confirm that traffic management plans meet the needs of passengers and THSRC stations; and plan taxi scheduling and the increase the number of express bus services in advance to ensure flexible scheduling, and adjust the train maintenance schedule and frequency.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Formulate training programs every year to conduct drills regularly and without warning for various hypothetical scenarios, and assess how familiar our colleagues at all levels are with various emergency procedures and the effectiveness of related plans and regulations.</li> <li>▶ Establish the "High Speed Rail Noise Case Handling Process", set up a "Noise Prevention Project Team", and propose improvement plans according to the needs of the case to properly handle noise complaints.</li> <li>▶ Make further review and improvement based on customer feedback and satisfaction survey results.</li> <li>▶ By tracking and observing the passenger statistics from the express bus service, organizing the taxi meter records, and monitoring customer complaint cases, we can evaluate the demand and feasibility of adding more trips. After completing the transfer services, analyze the difference between the actual transportation volume and the estimated demand.</li> <li>▶ Review the passenger load (transportation volume, occupancy rate) during various time periods as a reference for subsequent transfer service planning.</li> </ul>	<ul style="list-style-type: none"> <li>▶ No passenger was injured due to natural disasters in 2022.</li> <li>▶ In 2022, a total of 98 disaster prevention drills (training) were completed at various stations, bases and routes, including one joint drill with foreign aid units and 12 station operation change drills, with the participation of the police, traffic bureaus, supervision offices and passenger transport operators in the jurisdiction.</li> <li>▶ In 2022, the station has completed the installation of handrails in squat toilets, the improvement of barrier-free urinal partitions and the adjustment of the location of barrier-free toilet facilities, the addition of movable barrier-free slope slabs in taxi passenger areas, and the improvement of barrier-free platforms in Tainan Station Bus Transfer Station.</li> <li>▶ A total of 68,497 passengers received the guidance services in 2022.</li> <li>▶ In 2022, the number of express bus departures totaled 306,968, including 1,486 additional trips during long-weekend holidays. Due to some express bus route adjustments, the number of express bus departures in the whole year was still 0.3% lower than in 2021.</li> <li>▶ The number of scheduled taxi trips exceeded 2.79 million in 2022.</li> </ul>

## Safety Services and Responsible Transportation

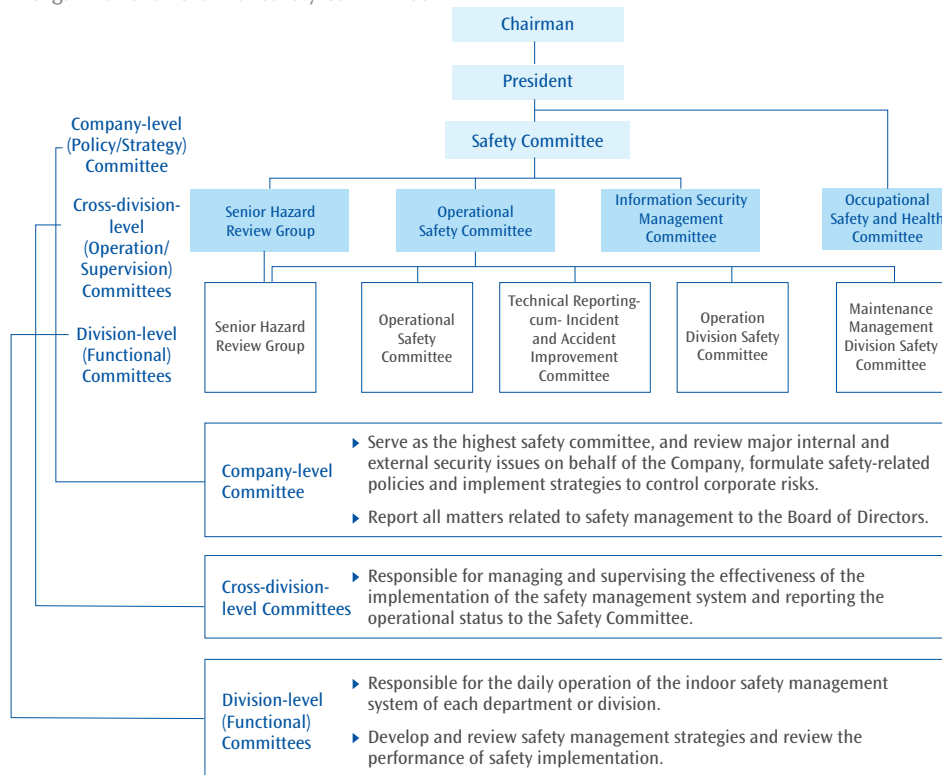
Safety is the operating principle and core value of THSRC, and is also the responsibility and commitment to every passenger. We monitor operational safety through a sound management structure and continue to consolidate the culture of safety first. During the 15 years of operation, we have always maintained zero operation accident. In 2022, the THSRC has an average daily ridership of nearly 148,000 passengers, an average delay time of only about 0.243 minutes and the train punctuality rate has reached 99.47%. This is a clear demonstration that THSRC provides high-speed rail travel services that can be trusted by the public. Due to a safe, punctual, and comfortable travel experience, the company has been awarded the 19th National Brand Yushan Award, the first prize for “Best Popular Brand Award”, and the first prize for “Best Product Award”, showing the trust and recognition that the company’s services and safety have gained from various stakeholders.

### Safety Management and Culture

#### Dedicated Safety Management Framework

In order to ensure the safety of THSRC’s operating environment, the Company has set up safety committees at 3 different levels to formulate prudent safety policies and implementation plans by the company-level safety committee, and regularly report significant issues related to operational safety to the Board of Directors. The cross-division-level Operational Safety Committee, functional committees, and division-level committees, executes strategies to ensure that each employee understands and abides by the Company’s safety regulations. In addition, the employee work instructions stipulate that employees shall be assigned the management or execution responsibilities as per their job rankings to thoroughly implement safety management measures and shape a safety-oriented operating culture.

#### Organizational Chart of Safety Committee



#### Descriptions of Safety Committees at all levels

Name of Safety Committee	Functions	Frequency of meetings	Issues discussed in 2022
Company-level Committee	▶ Serve as the highest safety committee, and review major internal and external security issues on behalf of the Company, formulate safety-related policies and implement strategies to control corporate risks	Meetings are held semi-annually	▶ Operational Safety Management Report (Semi-Annual Report)
	▶ Report all matters related to safety management to the Board of Directors		▶ Results of Material Work Items on Operational Safety
			▶ RMaterial issues of internal and external operational safety (legal requirements, cases of external material traffic accidents)
			▶ Safety Performance Allowance in 2023
Cross-division-level Committees	▶ Responsible for managing and supervising the effectiveness of the implementation of the safety management system and reporting the operational status to the Safety Committee	Meetings are held at least once per quarter	▶ Operational Safety Management and Functional Committee Report (Quarterly Report)
			▶ Material issues of internal and external operational safety (legal requirements, cases of external material traffic accidents) and work item progress tracking
			▶ Proposed Security Performance Allowances in 2023
Division-level (Functional) Committees	▶ Responsible for the daily operation of the indoor safety management system of each department or division	Meetings are held once a month	▶ Hazard Review
	▶ Develop and review safety management strategies and review the performance of safety implementation		▶ Safety Regulations Review
			▶ Operational Safety Technical Issues
			▶ Analysis and Improvement Suggestions for Operational Incidents

Notes: 1. The Company-level Safety Committee convenes a meeting every six months. The Occupational Safety and Health Committee, as well as the Operational Safety Committee and the Information Safety Management Committee at cross-division-level convene a meeting every quarter. The Operation Division Committee, the Maintenance Management Division Safety Committee at division-level, and the Hazard Review Group (HRG) convene a meeting every month. The "Safety Regulation Review Committee" and the "Technical Reporting-cum-Incident and Accident Improvement Committee" decide whether to convene meetings depending on the occurrence of the incident, with no fixed frequency of such meetings.

2. The Occupational Safety and Health Committee is parallel to other safety committees and is tightly connected to employee safety. For more details, please refer to the sub-chapter titled “Protection of Equity and Considerate Care.”

#### Operational Safety Mechanism and Safety Management System

Taiwan High Speed Rail (THSR) has implemented an operational safety management mechanism in order to mitigate and control safety hazards. It effectively applies internationally recognized risk assessment and safety management methods, ensuring that every operational process is executed according to the procedures. Quarterly, THSR conducts comprehensive reviews on significant railway operational safety issues from the perspectives of legal regulations, systematic transportation, extreme disasters, safety management, and security affairs, both domestically and internationally. These findings are then presented to the Operations Safety Committee for review.

The THSRC has established a safety management system (SMS) for many years, formulating the "Operation Safety Plan" as the highest level of safety management guidelines. The plan encompasses 12 safety management elements, and through the P-D-C-A (Plan-Do-Check-Act) process and principle, continue to control, supervise, improve the safety performance of the railway transportation system. This approach effectively achieves the goal of prioritizing safety. In response to the amendments to the Railway Train-Control Rules in 2022, which require railway organizations to implement safety management systems, THSRC also cooperates with the regulator to promote safety management mechanisms. The company has drawn on the experiences of international transportation and standardization organizations (such as the European Union Agency for Railways, the International Civil Aviation Organization, and the International Organization for Standardization) and references the results of previous safety management system reviews conducted by THSR (including incident/accident investigations, operational safety audits, and major internal and external issues). Based on these inputs, significant modifications have been made to the Operational Safety Plan, taking effect on January 1st, 2023.





## Safety Culture Promotion and Communication

In order to strengthen the protection concept of THSRC colleagues and partners on THSRC as a key infrastructure, we held four "Railway Industry Security Work Symposiums" in 2022, including "Suspicious Object Handling and Response Practice", "Security Incident Handling and Response Practice", "New Types of Crime Patterns and Preventive Measures (Take Railway industry as an example)", "Critical Infrastructure Protection Exercise Education and Training" and other lectures to promote exchanges and communication among colleagues in various units and jointly shape safety awareness. A total of 150 students participated in the seminar, including front-line maintenance supervisors and controllers. We look forward to effectively improving THSRC overall protection preparedness and emergency response capabilities through expert sharing and cross-unit discussions, and continuously improving the quality of security in the face of future new types of threats and challenges.



"Railway Industry Security Work Symposium" in 2022

In addition, in order to communicate with the public about THSRC's focus on operational safety, we held total of six times media events for THSR transportation safety in 2022. The topic includes demonstrations of train crew protective clothing contingency exercises for passenger transfers during operational changes, train ventilation and circulation systems, tunnel safety laser scanning operations, and promotion of THSRC epidemic prevention and control.

In order to continuously enhance the positive attitude and trust of management and employees towards safety management, in November 2022, THSRC held the "Safety Month" promotional activity focusing on "all employees working together to move towards zero accidents, zero occupational accidents, and zero passenger injuries". The event was commenced by senior executives to encourage employees to take the initiative to report potential hazardous events, and at the same time to hold activities such as scientific and technological physical fitness tests and Safety Talks for senior executives, so as to improve the safety management culture of THSRC.

In response to the major revision of the company's internal "Operation Safety Plan" this year, we strengthened the organization of seminars, workshops and online learning courses for executives and colleagues at all levels; and expanded the organization of human error management seminars to promote the systematic human error incident analysis and improvement mechanism, strengthen the ability to prevent and handle incidents, and lay the foundation for the next stage of safety management of the THSRC.



Senior Executive Safety Talk in 2022



Symposium on Human Negligence Management in 2022

## Station and Route Safety and Risk Management

Maintaining the smooth operation of tracks is the core of safety management of THSRC. THSRC's track maintenance personnel perform routine inspections after daily train operations. In addition to routine track inspections, daily maintenance and examination of THSR facilities includes stations, trains, mechanical and electrical facilities, civil structures, and route safety, which covers the safety inspection of various facilities. The actual safety inspection performance in 2022 includes a total of 1,800 turnout inspections, and routine track inspections and track irregularity inspections of 8,421 kilometers.

### Train Inspection and Maintenance Performance in 2022

Type	Cycle	Number of Trainsets Maintained
Daily Inspection	Every 2 days	5,184 trainsets
Monthly Inspection	Every 30 days or 30,000 km	670 trainsets
Bogie Inspection	Every 18 months or 600,000 km	33 trainsets
General Inspection	Every 36 months or 1.2 million km	17 trainsets

### Other Railway Maintenance Management Plans

Safety Actions	<ul style="list-style-type: none"> <li>Adopt management systems, labor safety and hazard management mechanisms, employee safety training, and internal/external professional training to enhance safety awareness and professionalism.</li> </ul>
Operations and Measures	<ul style="list-style-type: none"> <li>Purchase track advanced maintenance/testing equipment, engage in domestic development of rail equipment/spare parts, conduct technical exchanges and improvements in the track industry, and provide track's professional training.</li> </ul>
Professional Technologies	<ul style="list-style-type: none"> <li>Adopt track alignment measurement, optical track measurement, visual track inspection, train waving automatic measurement system, ultrasonic rail testing, rail and turnout grinding, and rail lubrication technique.</li> </ul>

THSRC has established a Hazard Review Group to implement risk management and control. The group is comprised of professionals from various fields within the company. It holds a monthly regular meeting to review hazard information and identify hazard risks while confirming whether appropriate procedures and technologies are implemented so as to put forth countermeasures to mitigate such risks. As of the end of 2022, all hazard risk levels identified at the HRG meetings were within the acceptable risk tolerance range.

April 1st, 2022, a construction outage at Southeast Cement caused Taipower's 69KV transmission line to disconnect and fall directly onto the main HSR line, resulting in abnormal power supply, and affecting the operation of the section between Tainan Station and Zuoying Station. THSRC immediately established an emergency response center to change the operating interval from Nangang Station to Tainan Station, and started the shuttle services between Tainan Station and Zuoying Station. In response to this outage, THSRC utilized the overhead catenary system maintenance vehicle with aerial work baskets and pulled ladders to conduct emergency repairs. With the cooperation of Taipower and Taiwan Railway, the operation was resumed normal at 22:40 that night, and two additional trains were operated from Zuoying Station to Nangang Station. All non-reserved seat (excluding business car) trains stopped at each station for passengers to return to their hometowns for the festival.

According to the "Passenger Transportation Contract", this abnormal event is not attributed to THSRC and natural disasters. Initially, passengers are not subject to the delayed refund policy between Tainan Station and Zuoying Station. However, considering the impact of the incident, if the ticket includes the itinerary between Tainan Station and Zuoying Station, after taking the shuttle bus, passengers can still refund the fare for the section not taken within one year. Due to the interruption of operations caused by abnormal incidents, a large number of passengers need to be transferred and redirected. Each station has planned the shuttle position and diversion measures, and discussed the traffic control plan around the station with the local police. In July 2022, passenger transfer operation drills were implemented at each station. Regarding off-rail facilities, THSRC comprehensively inventoried the construction data of the third party once again within the prohibited construction area along the high-speed railway and the location of the transmission lines/towers adjacent to the high-speed railway (including those that span, cross and parallel it) The data were submitted to the Railway Bureau in mid-April 2022 to guide the relevant engineering regulatory authorities to pay attention to construction safety. Regular or irregular inspections will continue to be carried out by local engineers and security personnel, and the hazard control record sheet will be updated monthly to reduce the risk of such hazards.

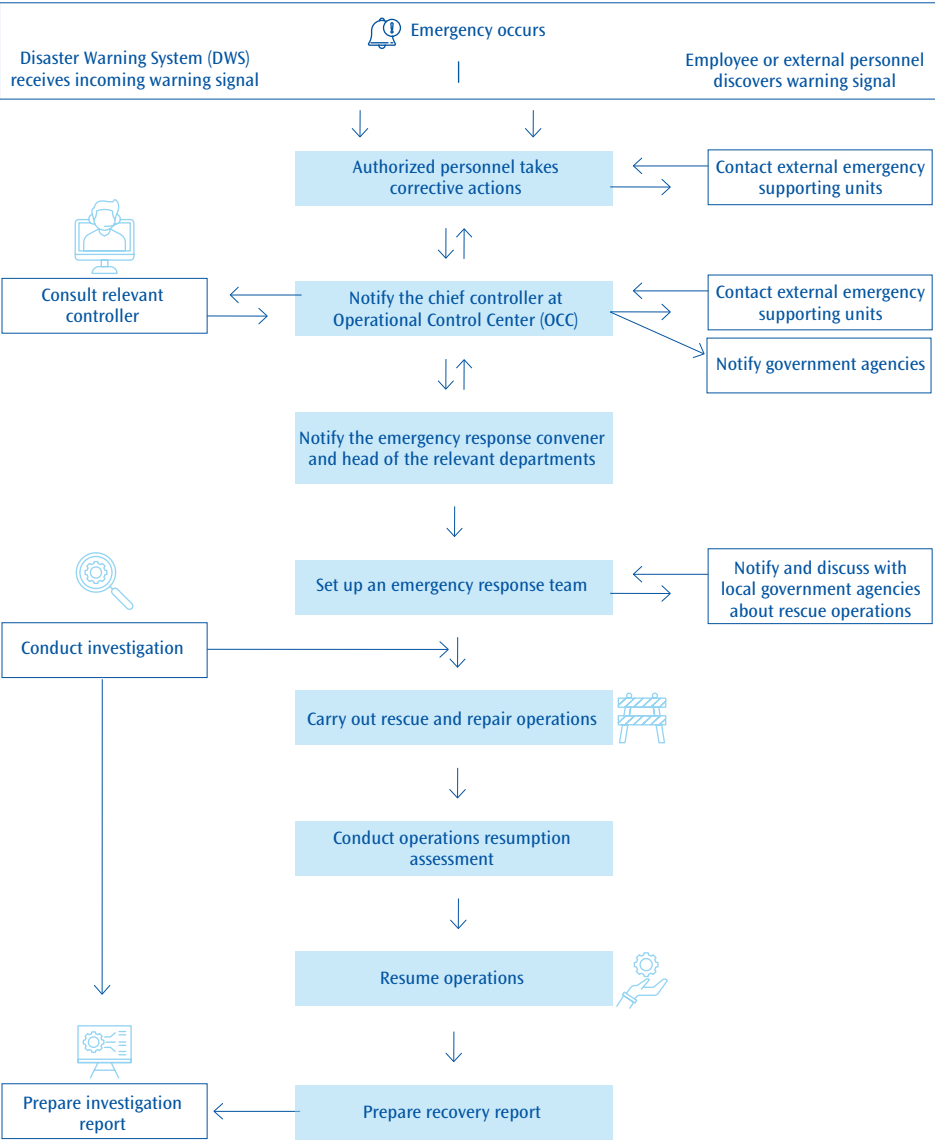
## Disaster Prevention with Professional Response

### Train Safety and Disaster Prevention and Response

Factors affecting the safety of THSR trains can be divided into three categories, including: natural factors, human factors and equipment abnormality (see the table below). In accordance with the overall prevention and contingency plan for the three categories of disasters, the Company puts the safety of passengers and personnel first, formulates emergency procedures to respond to actual disasters, and takes various measures to improve and resume operations through cooperation between internal and external units.

Natural Factors	► Earthquake, typhoon, heavy rain, landslide, rock fall, etc.
Human Factors	► Destruction of equipment, arson, explosives, violent attacks, hijacking, etc.
Equipment Abnormality	► Signal system failure, turnout failure, train bogie failure, low hanging tram lines, etc.

Emergency Response Flow Chart for Various Disasters



## Natural Factors - Natural Disaster Prevention and Response Mechanism

THSRC has adopted relevant laws and regulations on disaster prevention and fire safety as the basis for the formulation of internal plans and measures, and each station or depot implements various disaster prevention tasks as per the internal plans. The standard operating procedures for disaster response are also independently inspected for safety by international experts in the final inspection phase to ensure that the procedures can cope with various potential disasters that affect transportation safety. All operating procedures are regularly inspected and revised in accordance with regulations, and all inspection operations are completed according to the frequency of inspection during the epidemic period in compliance with epidemic prevention regulations to ensure the reliability of equipment. The relevant disaster or emergency response operation rules and procedures of each unit shall be reviewed at least once every three years, and the effectiveness shall be periodically reviewed through legal compliance operations every quarter; the relevant emergency response procedures shall be continuously improved at each emergency response operation review.

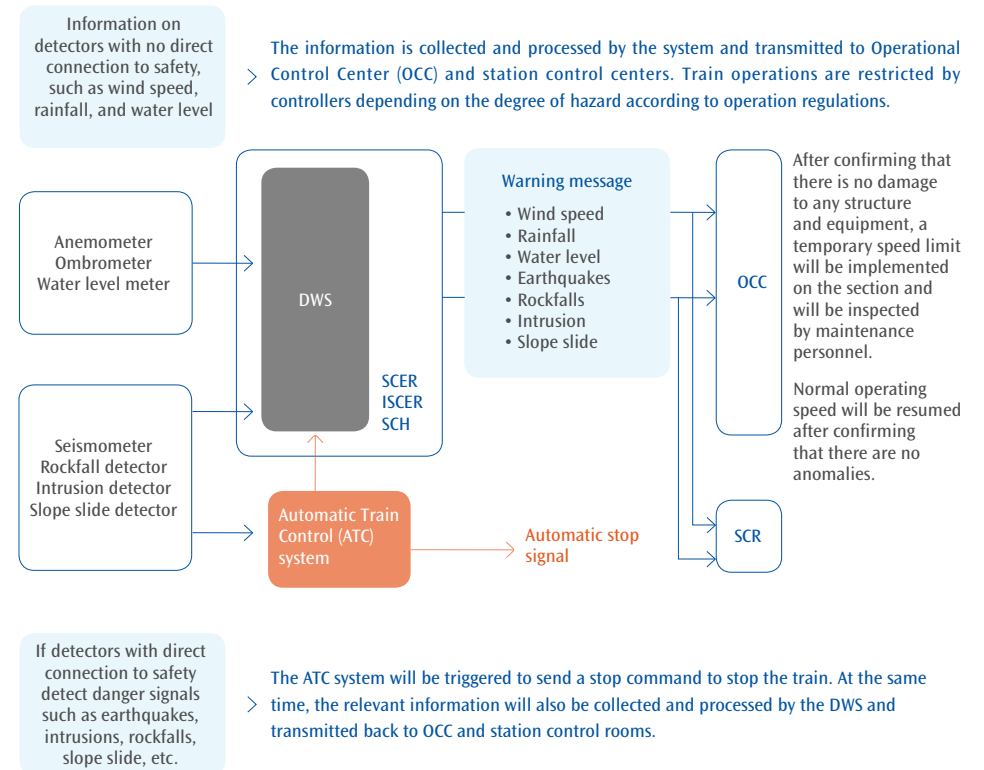
### Natural Disaster Prevention Measures

Type of Prevention	Position of Prevention	Content of Prevention Measures
Passive Prevention	Station facilities and operating trains	<ul style="list-style-type: none"> <li>Construct station facilities and operating trains using fire-retardant, fire-resistant, low-smoke, and non-toxic materials according to fire prevention and environmental protection regulations, as well as regulations of the US National Fire Protection Association</li> </ul>
Predicted or Knowable Disaster Prevention	THSRC operation sites and operating trains	<ul style="list-style-type: none"> <li>Initiate typhoon/rain prevention preparations in advance through interpretation of typhoon/heavy rain warnings and weather information</li> <li>Formulate the “Overall Disaster Prevention and Response Plan for Taiwan High Speed Rail Traffic Accidents” with the Ministry of Transportation and Communications (MOTC), and establish supporting and assistance mechanisms with central and local rescue units</li> </ul>
Detection and Prevention along Operating Routes	Operating trains	<ul style="list-style-type: none"> <li>Install natural disaster warning detectors along the THSRC line, which are directly connected to the automatic train control system and can automatically stop trains immediately if there are earthquakes, landslide, and rock falls that directly affect train safety</li> </ul>
Earthquake Prevention for Civil Structural Facilities	Elevated bridges, tunnels, and flat sections	<ul style="list-style-type: none"> <li>The seismic strength of civil structures is designed with a 950-year return period to ensure operational safety</li> </ul>

There is a "Disaster Warning System" (DWS) along the line of the THSR trains. When dangers that directly threaten people's safety such as earthquakes, foreign object intrusions, landslides, rock falls, or other dangerous signals are detected, the automatic train control system will send a stop command to stop the train. The earthquake detector in the system can accurately monitor the earthquake's range to ensure driving safety. For heavy rain and earthquake events in 2022, the Disaster Warning System (DWS) will play the function of disaster warning, sending automatic stop signals in time, and returning disaster information to OCC.

## DWS Framework

### Trackside signal detection



Notes: 1. SCER: Signaling and Communication Equipment Room  
2. ISCR: Intermediate Signaling and Communication Equipment Room  
3. SCR: Station Control Room  
4. SCH: Signaling and Communication Hut

Relevant information on the actual natural disaster events affecting the THSRC operation in 2022 is as follows:

## Natural Disaster Events Affecting Operations

Event	2022	Response Methods
Heavy Rain	June 6th, June29th	<ul style="list-style-type: none"> <li>▶ The second and third level alarm actions of the rainfall detector of the disaster warning system were set by the mobile control center in accordance with standard operating procedures to impose a temporary speed limit of 70 kilometers per hour and 170 kilometers per hour in the affected area, and after the necessary inspection, normal operation was resumed.</li> </ul>
Earthquake	September 17th, September 18th	<ul style="list-style-type: none"> <li>▶ After the main seismometer detects an earthquake warning, DWS automatically set the TSR to 0 in the affected area, and the trains in the affected area automatically applied emergency brakes to stop. According to the standard operating procedures, after necessary inspections by OCC, the train will gradually increase its speed from a low speed to perform post-earthquake track inspections. After the train waving test and inspection were completed, normal operation was resumed.</li> </ul>

## Countermeasures and follow-up treatment of THSRC for Miaoli landslide event

Cause of Event	<ul style="list-style-type: none"> <li>▶ On August 7th, 2021, the outer circulation of typhoon Lubi caused heavy rainfall for several days, causing the east slope of the high-speed rail mileage TK126+100 to collapse, and the falling soil and rock triggered the detector of the DWS.</li> </ul>
Event Highlights	<ul style="list-style-type: none"> <li>▶ On August 7th, 2021, a third-level emergency response center was opened for the landslide incident. Later, due to the difficulty of surveying in the midst of the continuous sliding of soil and rock, the emergency response center was revised down to level two. The on-site emergency repair work was completed from the afternoon to the evening, and the delay of the main line train was resolved. Therefore, the emergency response center was also deactivated on the same day.</li> <li>▶ From August 8th to 19th, the Miaoli-Taichung section trains running on the original single line (west line) were repaired and the two-line two-way operation was resumed the next day.</li> </ul>
Impact of Event	<ul style="list-style-type: none"> <li>▶ As a result, operations between Miaoli Station and Taichung Station were suspended on August 7th, 2021.</li> <li>▶ From August 7th to 19th, 2021, a total of 414 trains were affected, of which 384 trains were delayed for 5 minutes (inclusive) and less than 30 minutes, 15 trains were delayed for 30 minutes (inclusive) and less than 60 minutes, and 15 trains were delayed for more than 60 minutes.</li> </ul>
Improvement Measure	<ul style="list-style-type: none"> <li>▶ Established the "Taskforce of HSR Slope Safety Assessment" to implement the first phase of the "HSR Slope Safety Assessment Plan", 35 slopes were audited and screened for priority inspection. The inspection has been completed in September 2021, and the inspection report was submitted to the competent authority in October; relevant improvement measures were completed in December.</li> <li>▶ Implemented the second phase of the "HSR Slope Safety Assessment Plan", in October 2021, entrusted the Association of Geotechnical Engineers of the Republic of China to conduct a comprehensive general inspection of 389 slopes, and submitted the "HSR Overall Safety Inspection Report" in July 2022. After the professional technicians sorted out the geological and completion data, conducted on-site inspection according to the existing survey form on the slope, and made comprehensive assessment, improvement needs and disposal recommendations.</li> <li>▶ From May 2022 to July 2023, horizontal drainage pipes will be laid on the slope of the high-speed railway embankment to reduce the accumulation of groundwater on the embankment and strengthen its stability.</li> <li>▶ From September 2022 to September 2023, the automatic slope monitoring system is scheduled to be updated and upgraded.</li> <li>▶ The design and investigation of the permanent slope restoration project of TK126 section was completed from October 2021 to March 2022, and the hydrogeological survey of TK126 ~ TK127 section was completed from November 2021 to September 2022. The permanent slope restoration project of the TK126 section is expected to be completed from September 2022 to March 2024.</li> </ul>



Entrust a technician to conduct a field survey on the slope



THSRC maintenance personnel performed on-site emergency repair works

## Human Factors - Man-made Disaster Prevention and Response Mechanism

As for man-made disasters, THSRC not only develops a "Material Man-Made Security Incident or Terrorist Attack Contingency Plan" to facilitate coordination with government agencies and to set up operational mechanisms, but also intensifies safety training planning according to different scenarios such as "suspicious bags and explosions", "poisonous chemicals" or "train or station random homicide"; when actual man-made disasters occur, different execution plans are drafted according to crisis prevention, actual response, clean-up and restoration, etc. The relevant instructions are as follows:

- ▶ Crisis prevention stage: THSRC police are engaged to assist in maintaining station order and safety of train services, and a security company is also contracted to maintain order at stations, right-of-way of equipment, and safety of train services. In addition, dedicated personnel are assigned to monitor the closed-circuit television cameras at various stations, important server rooms along the rail, or tunnel entrances. For detailed information on security management, please refer to the "Partner Relationship Management and Local Supply" chapter of this report. ➤
- ▶ Actual response stage: In the case of man-made safety incidents, THSRC will immediately activate the crisis management and control mode. The key actions include rescue, evacuation guidance, isolation of the scene, access control, and notification of railway police.
- ▶ Clean-up and recovery stage: After the on-site investigation and evidence search are completed and approved by the judicial authority, the on-site clean-up and recovery operations will be carried out. In the early stage of resumption of operations, inspections and patrols will be enhanced, and the scale of the police on duty will be increased as support.

## Equipment Abnormality—Abnormality Prevention and Response Mechanism

Regarding the handling of abnormal equipment, THSRC carries out the repair and maintenance of circuit boards/modules of all train cars of the train system, the repair and maintenance of the switch of the signal system and electronic equipment, and turnout equipment reliability improvement project through the electronic maintenance center, while auditing and inspecting the maintenance records to strictly control the safety of the transportation equipment.

## Disaster Prevention and Safety Training

In addition to planning overall preventative and contingency measures based on three types of hazard factors such as natural factors, human factors and equipment abnormalities, the THSRC has also conduct regular and unscheduled drills for various hypothetical scenarios, so that employees at all levels are familiar with the emergency response procedures for various kinds of emergencies. In 2022, to part with the haze of the epidemic, we expanded safety training and disaster prevention and rescue exercises to improve the emergency response capabilities of various units. We continue to refer to the experience of various railway incidents at home and abroad and the "Taiwan High Speed Rail Overall Disaster Prevention and Response Plan" approved by the Disaster Management Council of the Executive Yuan, the laws and regulations, the requirements of government units and the review of abnormal incidents of high-speed railway companies, to formulate an annual disaster prevention and rescue exercise training plan, and plan and promote various disaster prevention training and rescue exercises with foreign aid units in various places to familiarize ourselves with the joint command and response mechanism, and improve on-site rescue and prevention capabilities. In 2022, THSRC completed a total of 98 disaster prevention and rescue drills (training) at various stations, depots, and routes. In response to the review of the southeast cement construction events in 2022, the "operation change passenger transfer and connection drill" of each station was strengthened, and 12 new rehearsals have been added this year compared with 2021.



Safety Training Categories in 2022

Internal Training for Site Commanders and Disaster Relief Engineers	<ul style="list-style-type: none"><li>▶ Held one new training session for THSRC site commanders and disaster relief engineers, a total of 46 personnel participated in the training.</li><li>▶ On-site conducting and online retraining for qualified personnel with on-site command, a total of 338 personnel completed the retraining.</li><li>▶ Held the "On-site Command Accident Site Handling Experience Sharing Talk" in September.</li></ul>
Disaster Prevention and Response Mechanisms Seminar	<ul style="list-style-type: none"><li>▶ Invited foreign aid units along the high-speed railway (Environmental Protection Agency Chemical Bureau, Fire, Police, Health, Environmental Protection and Medical Emergency Response Center and Professional Technical Team) and supervision units such as the Disaster Prevention and Relief Office of the Executive Yuan, the Transportation Committee, the Ministry of Transportation and the Railway Bureau to participate in the high-speed railway disaster prevention mechanism training, a total of 94 participants.</li></ul>
Emergency escape exit will be surveyed	<ul style="list-style-type: none"><li>▶ To help disaster relief personnel along the line familiarize themselves with the traffic flow and operating environment of emergency exits along the high-speed rail, the THSRC has invited the outsourcing units along the high-speed rail line (Environmental Protection Agency Chemical Bureau, Fire, Police, Health, Environmental Protection and Medical Emergency Response Centre and professional technical team) and emergency passenger operators, etc., to jointly survey the emergency escape port of the disaster relief traffic lines and the operating environment, will jointly survey the high-speed rail line 184 emergency escape exits, jointly confirm the large-scale disaster relief vehicles in and out of the flow line, disaster relief vehicles assembly location, etc., and included in the revision of the evacuation map for disaster relief units' reference.</li></ul>
Disaster Prevention and Rescue Drills (Training)	<ul style="list-style-type: none"><li>▶ A total of 98 disaster prevention and rescue drills (training) were completed at various stations, depots and routes. The detailed training records are shown in the table below.</li></ul>

2022 Disaster Prevention and Rescue Drills (Training) Record

Drills (Training) Location	Station	Route	Building	Unscheduled Test	Others	Total
Number of drills in 2022	79	7	5	6	1	98
Number of drills in 2021	65	6	5	6	3	87
Number of drills in 2020	60	7	5	5	1	78

Large-scale Joint Drills and Training Events in 2022

Considering the frequent earthquakes in Taiwan, the Company plans to conduct a second earthquake disaster drill in the main line area every year to strengthen the ability of colleagues to respond to and deal with earthquake disasters. On the night of June 23th, 2022, the THSRC conducted the "Taipei Station TRUPO Track Evacuation Exercise under Earthquake". The exercise simulated a train derailment and personnel injuries caused by an earthquake in the Taipei Tunnel. The train crew and station staff promptly notified the accident and carried out emergency evacuation of personnel in the tunnel. Foreign support units also collaborated in the disaster relief efforts. Over 250 individuals participated in the exercise, including relevant employees of the company and joint mobilization by the Taipei Municipal Fire and Health Bureau, Railway Police Bureau, Railway Bureau, and Transportation Safety Committee.

"Taipei Station TRUPO section track evacuation drill due to earthquake"



Firefighters will help evacuate injured passengers to hospital



Transportation Safety Board will arrive at forward command post



Transfer of Command



Technical engineering team draws up preliminary repair plan

In order to implement consolation and immediate medical care for injured passengers and their families when major disasters happen, THSRC has established the "Care and Consolation Team" in North, Central, and South part of Taiwan to provide relevant support and company, including care and consolation telephone lines, family contact, medical assistance, legal consultation, and funeral and other consultation on various needs. This team also regularly participates in THSRC's annual disaster prevention drills (training) to review and optimize its mobilization effectiveness through actual drills.

Safety-first 24/7 Monitoring

The command of the overall operation system of THSRC is controlled by the Operation Control Center located at Taoyuan Operation Management Center Building, including route control, signaling and safety interlock, power control, communication, data transmission or monitoring alarms equipment. Through 24/7 real-time monitoring, THSRC keeps abreast of the status of the operation and night maintenance along the entire HSR line while maintaining close contact with the station control centers, depot control centers, and external emergency supporting units to ensure transportation safety.



THSR OCC

Smooth Travel in Adherence to Commitment

Traffic Dispersion and Transfer Services

Traffic Dispersion Measures

THSRC adopts rigorous internal procedures to draw up dispersion plans and submit them to the Ministry of Transportation and Communications (MOTC) for review before execution. At present, a total of 34 trainsets are available to provide service, and the planning of the train schedule takes into account the needs of each time period, the expected occupancy rate, and the available fleet resources, and carries out shift planning to maximize the transport energy of the train and meet the travel needs of the public.

Traffic Dispersion Scheduling Measures

Period of Occurrence		Traffic Dispersion Scheduling Measures
Weekdays	Mondays to Thursdays	▶ Temporarily increase the number of trains according to the number of passengers on the current day
Peak Weekend Periods	Fridays to Sundays	▶ Move certain maintenance operations to weekdays to increase the number of usable trains during holidays.Temporarily increase the number of trains on the current day according to the number of passengers on the current day during the peak weekend period.
During Long Holidays	e.g., Lunar New Year, Tomb-Sweeping Day, etc.	▶ Control maintenance operations and provide maximum ridership to meet transportation demand In order to disperse large numbers of passengers, temporarily increase the number of trains according to passenger demand on the current day during the traffic dispersion period for long holidays.

The THSRC operations gradually emerged from the haze of the epidemic in 2022 and have resumed the pre-epidemic schedule since the beginning of January, providing 1,016 travel services per week to meet the gradually recovering travel demand. We also adjusted the schedule in response to the increased travel demand at the end of the year. From the middle of November to the end of December, 6 additional trains were available each weekend (2 south to south on Friday and 2 north to south on Sunday, excluding the weekend of the election), increasing the capacity of the service.



## Transfer Services

THSRC offers transfer or shuttle services in collaboration with various modes of public transportation at various operating locations, including shuttle bus, Taiwan Railways Administration (TRA), Mass Rapid Transit (MRT), public bus/express bus, taxis, parking lots, car leases, as well as pick-up and drop-off services for the physically challenged passengers. Moreover, THSRC has prepared transfer maps and established a transfer information system for passengers to consult, while providing transfer information at each HSR station on its corporate website [and](#) THSRC APP [and](#) THSRC APP.

In order to improve the emergency response efficiency of emergencies like the Southeast Cement Construction Accident in early April 2022 that resulted in the suspension of operations between Tainan Station and Zuoying Station, the THSRC took advantage of the post-shift period in late April to conduct the "Operation Change Passenger Shuttle Drill" at Tainan High-Speed Rail Station. They conducted daily staff training, strengthened coordination and cooperation with foreign relief agencies, improved the station's indirect barrier mechanism, provided passengers with fast and convenient shuttle services, and reduced the impact of operational changes on passengers.

The exercise mobilized about 250 high-speed rail employees and foreign aid units, and specially mobilized the actual participation of 20 tour vehicles to simulate the traffic control and vehicle diversion measures of foreign aid units. To prevent road congestion and improve shuttle efficiency, THSRC, Tainan Municipal Transport Bureau, and the police coordinated to implement traffic control around the station area, guiding buses to divert from general vehicles to facilitate rapid entry into the station area and the transfer of passengers to other stations. To accommodate the large number of waiting passengers, a temporary 11-seat parking platform was installed outside the HSR station area, and the existing bus platform in the station was used to quickly assist passengers with transfers. During the exercise, THSRC also strengthened station broadcasts, posted operation announcements, and utilized the station operation information display system. Shuttle bus passengers were concentrated in a specific area and guided by staff to the appropriate platform, allowing passengers to receive transfer information promptly and complete their journey efficiently.



Operation Change Passenger Shuttle Drill - Shuttle Arrangement



Operation Change Passenger Shuttle Drill — Ride Guides

## Sustainability Commitment

### Transportation Inclusion

In order to provide a friendly and inclusive accessible ride environment for all passengers while actively responding to the Sustainable Development Goals simultaneously, SDG 9 of "building affordable, safe, eco-friendly, resilient, and sustainable transportation", THSRC has installed reminder signs at multiple locations in the stations to guide the elderly, wheelchair-bound, physically challenged passengers, and those with large luggage or strollers. Through sound and complete station/train services and facility planning, every passenger will be able to have a pleasant travel experience. Relevant services and facilities are as follows:

#### Stations

- ▶ In 2022, the station completed the installation of handrails in squat toilets, the improvement of barrier-free urinals and partitions, the adjustment of the location of barrier-free toilet facilities, the addition of movable barrier-free slope slabs in taxi passenger areas, and the improvement of barrier-free platforms in Tainan Station Bus Transit Station to provide a friendly ride environment.
- ▶ Set up accessible ticket counters/ticket gates/toilets and elevators, and other service facilities, and call bells in the accessible restroom for assistance to passengers at any time.
- ▶ Specially prepared guidance services to assist elderly passengers traveling alone, wheelchair-bound passengers, or physically challenged passengers in entering and exiting the station. A total of 68,497 passengers received the guidance services in 2022.

#### Trains

- ▶ Car 7 is designed as an accessible car, and four seats are reserved for physically challenged passengers' companions to take care of the physically challenged passengers. The seats and accessible restroom are equipped with call bells. The physically challenged passengers can use it to call the train crew for assistance when necessary, and there are also charging sockets for electric wheelchair charging.
- ▶ There is a secure and private breastfeeding room at the entrance of car 5 of the THSR train. The train crew will also introduce the breastfeeding room equipment as per the passengers' needs to provide a warm and safe travel environment for mother and baby passengers.
- ▶ Large luggage storage areas are added in cars 3, 5, 9, and 11 for storage of luggage as well as folding wheelchairs, mobility aids, and strollers.
- ▶ There is a "seat map information system" at the train master compartment with a built-in reminder function for boarding guidance, reminding passengers with disabilities of the boarding section and the passenger assistance items (such as borrowing a wheelchair at the station). The prompt sound and reminder screen in the system will be turned on before passengers get on/off the train, so that the train crew can provide more complete and considerate services quickly and accurately.



Set up elevator signs for the elderly, wheelchair-bound, physically challenged passengers, and those with large luggage or strollers.



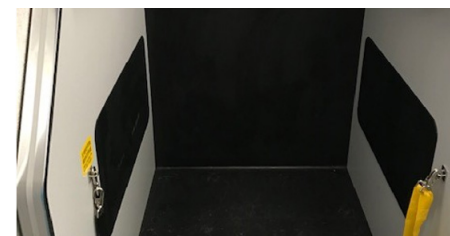
There are four accessible seats in car 7



There is a breastfeeding room in car 5 for female passengers who need to pump breast milk and breastfeed



Accessible Platform Improvement at Tainan Station Bus Terminal



Add large luggage storage areas in cars 3, 5, 9, and 11



Install handrails in squatting toilets at railway stations

Internally, THSRC also arranges train guidance service courses for new station staff and train crew members to learn guidance operations for wheelchair-bound and visually impaired and other disadvantaged groups of passengers. In addition to arranging external lecturers to explain service skills, practical experience trainings are also arranged for colleagues to enable them to better understand the practical operation precautions and meet the needs of passengers.



In-station ride guidance training



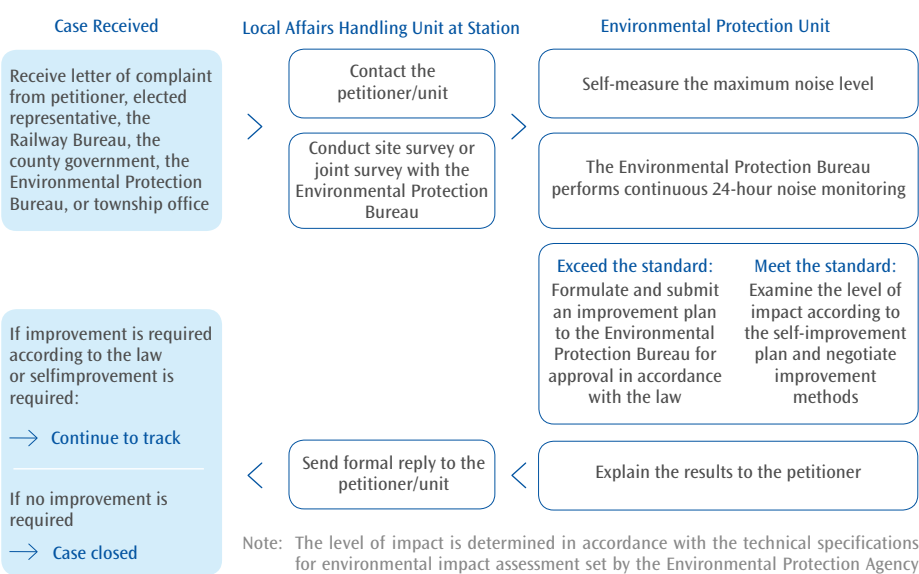
In-station ride guidance training

### Neighboring Care

THSRC is committed to environmental protection and working to comply with relevant laws and regulations through its environmental management systems. To address environmental and noise problems under THSR bridges, which are frequently reported by residents along the HSR route, THSRC periodically organizes and improves environmental and waterway facilities under these bridges. Measures such as installing soundproof doors and windows or building soundproof walls are implemented to reduce noise impacts. THSRC has formulated the "High Speed Rail Noise Improvement Plan" and the "Noise & Vibration Petition Treatment for HSR During Operation," and established the "High Speed Rail Noise Case Handling Process" to implement the most complete noise handling and prevention procedures. Executives at each station participate in activities and communicate with local opinion leaders and residents to achieve a win-win situation through communication.

In 2022, THSRC dealt with 19 high-speed railway noise issues along the line, and did not receive notification from the environmental protection regulator for violating noise standards. Only one case occurred in October 2022 in Waipu District, Taichung City, and this case is still being evaluated by local Environmental Protection Bureau to determine if further noise improvement measures are necessary. Please refer to the table below for relevant handling conditions.

### High Speed Rail Noise Case Handling Process



Number of Noise Petitions and Related Handling Statuses in the 3 Most Recent Years ( 2020~2022 )

Year	Number of Items	Need to be Improved	Remarks
2020	18	0	
2021	18	1	<p>► The case that needs to be improved in 2021 was the noise improvement case of Section 2, Dacheng Road, Dayuan District, Taoyuan City. In this case, residents complained about the noise from high speed rail, so the Department of Environmental Protection, Taoyuan conducted 24 -hour high speed rail traffic noise monitoring. The results showed that the average maximum volume of the high speed rail in this section was 83.3dB ( A ), which exceeded the requirements of the "Land Transportation System Noise Control Standards", and it was required to formulate a noise improvement plan within 180 days upon receipt of the notification from the competent authority. THSRC's project team has properly handled the issue and submitted the noise improvement plan for review on February 14, 2022 and the Environmental Protection Bureau issued a letter on May 16 agreeing to review.</p>
2022	19	0	<p>► One public petition case in Waipu District, Taichung City, this case is still pending the monitoring results of the local Environmental Protection Bureau for follow-up matters.</p>
Total	57	1	



- Technology
- Technology
- Sincere Services and Intelligent Transportation
- Passenger Services
- Convenience, Attentiveness, and Maintaining Relationships
- Safety and Quality Services
- Information Security Management
- Customer Relationship Connections
- Customer Affirmation



## Technology

### Innovation and Technology

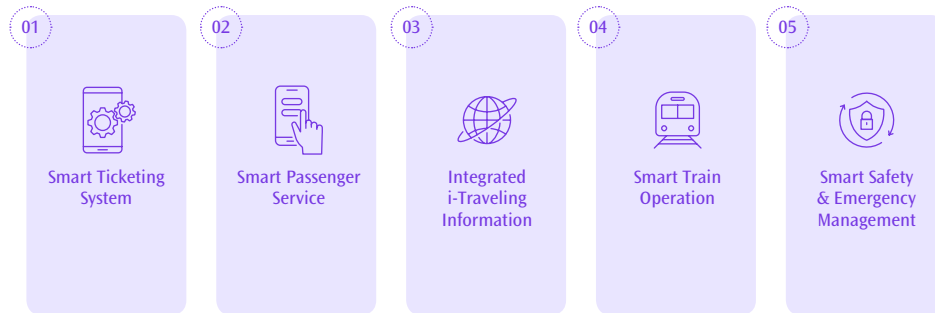
Subchapter Title	Material Topics (Positive)	Material Topics (Negative)	Management Purpose	Management Method	Assessment Mechanism	Management Performance in 2022
Sincere Services and Intelligent Transportation	Technological innovation		<ul style="list-style-type: none"> <li>▶ Continue to apply new technologies in order to improve the convenience of ticketing services, the smoothness of ticket purchase channels, and the efficiency of train operations, while using digital innovation to meet customers' needs for ticket purchases on mobile devices and strengthening communication immediacy.</li> <li>▶ Strengthen the service delicacy and accuracy of Artificial Intelligent Customer Service, and continue to improve service quality and efficiency.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Review the policies and market development of information and communication technology and payment tools regularly, and formulate technology introduction strategies in line with government policy indicators and industry development status.</li> <li>▶ Continuously collect opinions through customer satisfaction feedback, improve the content of the Artificial Intelligent Customer Service knowledge base, and strengthen the efficiency of customer service operations to improve customer experience and the quality of Artificial Intelligent Customer Service responses.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Establish the "Origination Process of Business Process Computerization Regulation" and "Acquisition of IT System and System Development Regulation" to ensure that collaborative operations among all units can smoothly promote innovative services.</li> <li>▶ Check the response accuracy and coverage rate of the artificial intelligent customer service throughout the year, and analyze the usage and response rate to continuously optimize the artificial intelligent customer service system.</li> </ul>	<ul style="list-style-type: none"> <li>▶ As of the end of December 2022, the cumulative number of downloads of the THSRC T Express Mobile APP had exceeded 13.04 million.</li> <li>▶ In 2022, the average accuracy of Artificial Intelligent Customer Service was 95%.</li> </ul>
Convenience, Attentiveness, and Maintaining Relationships	Information Security Management	▶ Business and customer information leaks	<ul style="list-style-type: none"> <li>▶ Provide passengers with safe, convenient, and reliable information services, including the collection, processing, or use of passengers' personal information, in order to ensure internal and external stakeholders' trust in THSRC's information processing environment.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Continue to supervise colleagues and vendors to implement information security protection work through the verification of ISO 27001 information security management system and the promotion of "information security management system".</li> <li>▶ The head of each office and department establishes an information security committee, which holds an information security management review meeting every six months to supervise the development direction and implementation results of information security, so that the information security management system continue to operate steadily.</li> <li>▶ Develop a procedure for "The Plan Of Security Measures For The Personal Information File", and hold meetings regularly for overall examination to ensure that personal information is fully protected.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Perform audit by a third party once a year to maintain the effectiveness of the ISO 27001 information security management system.</li> <li>▶ Perform the internal information security audit twice a year to review the implementation of information security of the user units and management units.</li> <li>▶ Perform audit of the relevant units involved in personal information security management operations as per the "Management System Internal Audit Regulation" so as to keep abreast of the status of each unit's implementation of security maintenance measures related to personal information protection.</li> <li>▶ Hold Information security and personal information awareness educational training regularly every year</li> </ul>	<ul style="list-style-type: none"> <li>▶ Introduced a real-time membership checking mechanism into the various ticketing systems, and TGo has reached 2.017 million registered members by the end of 2022.</li> <li>▶ Performed the third-party information security audit in October 2022; conducted the internal audit of information security in April and September 2022, respectively.</li> <li>▶ Conducted a total of 3 hours per person of information security education and training every year. Strengthened the awareness of information security and personal information protection of employees through education and training. In 2022, 100% of the employees completed the educational training.</li> </ul>
	Quality of Service and Operational Performance	▶ Business and customer information leaks	<ul style="list-style-type: none"> <li>▶ Adopt diverse channels to actively respond to customer opinions and maintain high-quality service standards to ensure that the product content, services, and safety performance meet passengers' needs, as a response to the diversity and variability of the transportation market.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Establish "Feedback Collection Channels and Customer Service Operations System" and "Current Customer Complaint Resolution Mechanism" to keep abreast of and respond to customers' needs accurately.</li> <li>▶ Maintain the safety and quality of travel and transportation through external quality inspection and internal pattern identification.</li> <li>▶ Strengthen the service quality of attendants, optimize facilities and services of stations and trains, and sell wider variety of products.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Analyze customer opinions received from the Company's website e-mail, artificial intelligent customer service, and customer service centers to collect passenger feedback and continue to optimize services.</li> <li>▶ Add a tracking mechanism to the Customer Opinion Management System Customer Response Handling System (CRH) to remind the responsible units to report on the progress of improvement, and implement the improvement to ensure service quality.</li> <li>▶ Manage the execution progress of each marketing project through regular meetings and closing reports, and track the achievement of targets.</li> </ul>	<ul style="list-style-type: none"> <li>▶ In 2022, the overall service satisfaction is 94%, and the customers have paid 93% to 98% importance of the four major service orientations on (train schedule planning/ticket services/station facilities and services/on board facilities and services) while 93% to 96% of customers have given the high-satisfaction ratings.</li> <li>▶ No personal information leakage in 2022.</li> </ul>



## Sincere Services and Intelligent Transportation

Through digital transformation, THSRC continues to optimize the "THSRC ITS Smart Railway Services System" to provide passengers with a pleasant riding experience. Improve overall service quality and operational performance through Smart Ticketing Services, Smart Passenger Services, Integrated i-Traveling Information, Smart Train Operation, and Smart Safety & Emergency Management. For specific actions, please refer to the following table:

### THSRC ITS Smart Railway Services System



#### Smart Ticketing System

- ▶ Complete the software optimization of the ticket counter equipment in the stations and the upgrade of the network equipment.
- ▶ Complete the T Express Booking Chatbot project to enhance user experience.
- ▶ Add the ticket window to enable the Senior/Disabled tickets expiration date pure registration function.
- ▶ Complete the optimization of the Internet Reservation System (IRS) interface and introduce RWD (Responsive Web Design) to enhance the passenger ticketing experience.
- ▶ The periodic/multi-ride ticket renewal service on the mobile phone.



#### Smart Passenger Service

- ▶ Artificial intelligent customer service provide passengers with answers to frequently asked questions and personalized inquiry services 24/7.
- ▶ Ticket window information display system.



#### Integrated i-Traveling Information

- ▶ The T Holiday provides diverse travel information and uses membership points to offset travel expenses.
- ▶ The online redemption and seat reservation function of THSR's One-Way Tickets is optimized to make it easier for overseas tourists to buy tickets. From September 21, 2022, it has been adjusted to issue magnetic tickets, and passengers can swipe the new format of the ticket to pass through the gates to enter and exit the station.



#### Smart Train Operation

- ▶ Adopt the "Train Operation Management Information System (TOMIS)" to consolidate train number, running position, train schedule, and other travel information to assist train crew members with proper transportation management.
- ▶ Introduce graphical data and cross-query functions into various systems to strengthen the efficiency of train operation management.
- ▶ The "Intelligent Train Crew Duty Report System (IDRS)" provides crew members with online maintenance and duty roster query to improve the efficiency of transportation management.
- ▶ The "OCC Mimic Panel Display Intelligence Integrated System" is planned to analyze the real-time turnout position mapping with schedule route setting, so as to strengthen the safety and efficiency of train operation management.



#### Smart Safety & Emergency Management

- ▶ Manage the THSRC's historical operational data digitally, set up an Operating Activity Safety Incident System, and provide statistical analysis for decision-making reference.
- ▶ Continue to develop a self-owned earthquake early warning system, review and improve the earthquake inspection operations in the past, provide suggestions for the best response decisions, and reduce the risk of earthquake disasters.
- ▶ Integrate existing safety/emergency information systems (Safety Mall, Mobile Information, etc.) for emergency operations centers and field units to support emergency reference and improve emergency performance.
- ▶ Cooperate with the Institute of Industry and Research to develop an unmanned aerial vehicle bridge inspection and maintenance system which is applied on facility inspection and maintenance and disaster relief surveys, and establish a database of inspection targets to improve detection performance and quality.

## Passenger Services

### Strengthening Customer Relationships with Optimized Experience

THSRC launched the individual membership mechanism "TGo membership program" in October 2017, enabling customers to purchase tickets as THSRC members and accumulate points through consumption to redeem THSR tickets or enjoy discounts. To deepen customer loyalty and engagement, THSRC established the "TGo 365" point redemption platform in July 2020, which combines external enterprises and shops in THSR stations. Nearly 300 merchandises allow consumers to redeem with credits, deepen the value of high-speed railway TGo members through cross-industry alliance benefits, and enhance the business opportunities of cooperative merchants. By the end of 2022, the "TGo Membership Program" has accumulated more than 2.017 million members, which is an 18% increase over the previous year, and the "TGo 365" point redemption platform has created nearly 500,000 merchandises redeemed in 2022, which is beloved by members.



Promotional Visual for the TGo Membership Program

In addition to continuously optimizing the membership mechanism, THSRC has also improved the convenience of ticketing services through multiple ticketing channels. The TGo Member ID real-time verification mechanism, which was launched in 2020, improves the accuracy of members' ticket purchases in each booking system — including ticketing windows, ticket vending machines, websites, convenience stores, smartphones, and other channels; and from August 2022, customers can directly select the "credit discounted fare" service when purchasing tickets offsite channels. In addition, to continuously improve the utilization rate of mobile channels and the quality of mobile ticketing services, we have optimized the T Express mobile ticketing application. In addition to the TGo members who can enjoy preferential discounts for TGo members to buy tickets, we have added the "T Express Booking Chatbot" service and credit card binding and other functions, hoping to fit to the operation habits and needs of passengers. At present, T Express has become one of the main channels for passengers to buy THSR tickets. In 2022, more than 15.96 million mobile tickets were issued.

### Innovative, Digital, and Real-time Communication

THSRC is committed to developing a multi-faceted information platform to broadcast public information related to transportation and promotional videos instantly, and assists passengers in accessing real-time information related to train schedule. To interact with customers and get real-time feedback and suggestions, THSRC provides information regarding the latest product and service through its Facebook fan page. The THSRC's Facebook Fan Page garnered 420,000 fans cumulatively in 2022, and the posts on THSRC's Facebook Page reached more than 30 million throughout the year, with more than 930,000 interactions. Advertising activities were also effective in raising brand awareness, for example, the 2022 Travel Revitalization Project reached more than 4.9 million people, the Spring Travel Promotion Project reached more than 1.8 million people, and the Online Travel Exhibition Project reached more than 2 million people.

In addition to implementing the personalized mobile ticketing service "T-EX App", THSRC is also creating a smarter travel service by emphasizing the multi-functional travel service "THSR App". "THSR App" creates a real-time communication system for consumers to provide member information, itineraries and offers to customers in real time. By 2022, the "T-EX App" has accumulated more than 13.04 million downloads and the mobile payment rate has reached 43.6%, both of which have increased significantly compared to last year, demonstrating the digitalization results of the high-speed railway; in addition, the "THSR App" has accumulated more than 1.38 million downloads.



THSR App



T-EX App

## THSRC Multiple Ticketing Channels



HSR Stations

Ticket counter

Ticket vending machine



Website

Online reservation system



Convenience Store

Convenience Store Ticketing Service (7-ELEVEN, FamilyMart, Hi-Life, and OKmart)



Smart phone

T Express Mobile APP (Including T Express Booking Chatbot)



Gate (Mobile Payment)

EasyCard Co-branded Credit Card  
iPass Co-branded Credit Card

Others

Customer service center

Reservation for group tickets  
(including ticket counters at THSRC  
stations, fax, and online booking)  
THSR+Airline/Hotel Combo Ticket  
Booking SystemTravel agent ticketing management  
system

► Ticket counter: Passengers eligible for the elderly and disabled tickets no longer have to purchase tickets at the ticketing window. Instead, they can register with their ID, which increases the flexibility and convenience of passenger booking and ticketing services.

► Adopt responsive web design to increase the convenience and friendliness of travelers booking tickets on a variety of device sizes and enhance the traveler's ticketing experience.

► TGo Member Credits are valid for full fares and discounted fares for preferential ticket types (respect for the elderly, caregivers and children).

► Providing Senior/Disabled tickets activations and quick scan of barcodes for the input of ID/Account numbers for TGo members.

► More than 12,000 stores nationwide (7-ELEVEN, FamilyMart, Hi-Life, and OKmart) provide passengers with convenient ticket purchase/collection services 24/7. By December 2022, more than 4.2 million high-speed rail tickets have been issued by convenience stores.

► TGo Member Credits are valid for full fares and discounted fares for preferential ticket types (respect for the elderly, caregivers and children).

► Elderly/ disabled passengers who have completed the ID number registration process and reserved accessible seating through the Customer Service Center will be eligible with self-pick tickets at convenience stores.

► In December 2022, T Holiday added the new service of ticket collected for the tourism product.

► To meet the booking needs of different customer groups, we added the T Express Booking Chatbot service to provide a conversational booking service.

► Enhance the T-EX mobile ticket splitting feature to provide a friendlier, more intuitive service and add the shortcut function by pressing the T-EX app icon.

► Added the "Frequently Booked Trips" feature, which allows travelers to quickly enter frequently used booking requests to improve ticket purchasing efficiency.

► The TGo member ticketing service has been upgraded again. The "Credit Discount for Fare" service is available for standard tickets and discounted tickets (elderly, disabled, and children). To improve the convenience of member points usage, the service is available at off-site channels. To improve the ease of payment for travelers, the new T-EX offers a credit card binding function.

► Mobile ticket downloading service for the tourism product T Holiday was added (currently available for THSR+Hotel/Airline Combo Ticket and THSR TourPlus package).

► As of December 2022, 19.67 million of tickets were paid via the T-EX App, and more than 15.96 million mobile tickets were issued, making it the most commonly used ticketing channel for people to purchase THSR tickets for reserved seats.

► Using EasyCard Co-branded Credit Card/iPass Co-branded Credit Card to purchase tickets for non-reserved seats enables passengers to board THSR trains without having to top-up and purchase tickets in advance. As of December 2022, nearly 1.35 million passengers purchased electronic tickets for non-reserved seats using co-branded cards.

► In 2022, except the original cooperated platforms such as Klook, KKday and ezTravel, THSR TourPlus Package has added two new sales channels: ibon ticketing system and Liontravel, while continuing to expand multiple merchandises such as tickets, transportation, experience activities and tours, so that consumer can freely purchase and assemble itineraries themselves and enjoy the discounts.

### Easy access to the internet

The THSRC provides high-quality Wi-Fi services, completed the installation of network equipment for all 34 full-vehicle trains in 2018, effectively improving the quality of passengers' mobile communications, and installed Wi-Fi wireless network hotspots in public areas of 12 stations along the line, providing Wi-Fi network services for station passengers, and implementing the THSRC's commitment of "high-speed travel with uninterrupted on-board connection"; As the number of users continues to increase, we will increase the bandwidth of Wi-Fi services, and establish remote monitoring of the Wi-Fi system status of all trains and trains, real-time remote automatic troubleshooting of equipment, and improve the stability of the system. In the event of ineffective remanufacturing, personnel can be quickly dispatched for maintenance to achieve orbital intelligent maintenance services.

## Convenience, Attentiveness, and Maintaining Relationships

### Safety and Quality Services

THSRC regularly reviews the effectiveness of quality management through a rigorous quality management system, various quantitative quality performance indicators, and quality improvement proposals, and promotes quality policies from top to bottom, so that the spirit of quality becomes the High-speed rail culture, to protect each passenger who trusts THSRC.

### Quality Management System (QMS)

The THSRC introduced the ISO 9001 quality management system since 2005, and annual quality management review meetings are held since 2007, chaired by the General Manager and attended by various company's various supervisors. Since 2010, THSRC has been verified by external third-party certification companies annually in accordance with the ISO 9001 international standard for quality management system certification, certification covers the "high-speed rail operation, maintenance and passenger service" the overall core business, as of 2022 have been successfully passed.

### External Quality Inspection Items

Quality Audit and Supervision Unit	Items	2020	2021	2022
Third-party Certification Company	Certification of ISO 9001	ISO 9001 Regular audit and verification	ISO 9001 Regular audit and verification	ISO 9001 Three-year renewal verification
Railway Bureau, MOTC	Annual regular operational inspection and temporary inspection	one regular inspection one temporary inspection	one regular inspection 2 temporary inspection	one regular inspection one temporary inspection

In order to thoroughly implement quality management, the THSRC regularly checks the latest status of internal operating facilities, equipment and related systems, software and hardware, and ensures that the THSR's quality management system keeps pace with the times through strict control and inspection of internal operating quality, and continuously strengthens the operation and maintenance quality.

### Examination of Internal Configuration

Main Categories	► Core, trackside equipment, track, closed-circuit television, facility, station, maintenance depot, and depot equipment
Total Monitored Items	► 33,960
Percentage of Configuration Monitored Items	► 80.36%
Verification Method / Frequency	► Internal verification by the Quality Assurance Office/once every quarter

### Quality Management Performance Review

THSRC has established various internal performance indicators for quantification of quality, and reviewed and improved those tasks by following up on the results quarterly, so as to provide customers with high-quality travel services in line with four major aspects of "safety", "reliability", "efficiency", and "customer satisfaction". The number of serious injuries and deaths caused by traffic accidents on the THSRC in 2022 is 0; while the number of minor injuries to passengers is 3, which is 3 fewer than that in 2021. The passenger injury rate (minor injuries) of the "safety" performance indicator for the current year is 0.055 per million trips, which meets the set goals/estimates, which demonstrates that we continue to improve quality management and provide passengers with safe and high-quality travel services.

### Quality Performance Indicators

Target	Items	Formula	2020		2021		2022	
			Target / Estimated Value	Achieved Value	Target / Estimated Value	Achieved Value	Target / Estimated Value	Achieved Value
Safety	Passenger injury rate (severe injury and death) per million trips	Passenger injury (severe injury and death) per million trips	0	0	0	0	0	0
	Passenger injury rate (minor injury) per million trips	Passenger injury (minor injury) per million trips	≤ 0.07	0.05	≤ 0.06	0.14	≤ 0.06	0.055
Reliability	5 minutes punctuality rate (excluding natural disasters)	Number of train runs with delays within five minutes of scheduled time/Total number of train services	> 99.5%	99.8%	> 99.6%	99.9%	> 99.6%	99.64%
Efficiency	Customer comments & suggestions achievement rate	Number of cases replied within 7 working days/ Total number of cases	≥ 99%	100%	≥ 99%	100%	≥ 99%	100%
Customer Satisfaction	Overall service satisfaction	Number of respondents giving 5 points and 4 points in the customer satisfaction/ Total number of respondents	≥ 95%	97%	≥ 96%	Due to the impact of the pandemic, the survey was temporarily suspended once	≥ 95%	94% (Note)

Note: According to statistical theory, there is no significant difference between the 2022 target and the 2022 outcome at the 95% confidence level, which means that high-speed rail continues to perform very well. In the future, we will continue to refine and improve the quality of our software and hardware.

Since 2011, THSRC has launched an employee suggestion improvement system and introduced quality control circle activities every year, encouraging colleagues to use innovative thinking and technology as the basis for developing practical suggestions to optimize quality control and operational performance, continuously improve various problems, and effectively reduce operation and maintenance costs. Since the implementation of the proposed improvement system in 2011, the savings have exceeded NT\$ 80 million. Since 2009, the QCC Quality Control Circle has been promoted, which has saved the company more than NT\$260 million and 41,215 man-hours by 2022, greatly improving production efficiency, driving the company's common investment, improving the quality, safety and efficiency of travel, and further improving Taiwan's high-speed rail travel services; and showing the positive image of THSRC, which attaches importance to safety and quality. The QCC (Quality Control Circle) winning team participated in the Taiwan continuous improvement competition on behalf of the company. For the third consecutive year from 2018 to 2020, we were awarded the Golden Tower Award of the Unity Group, and in 2021, we were awarded the Silver Tower Award of the Unity Group. In 2022, we won the Golden Tower Award in the top level of the "Taiwan Continuous Improvement Competition" for the first time. We are also the first company in the domestic track industry to receive this award. It can be seen that the high-speed rail company's pursuit of quality improvement has been deeply recognized by the outside world.



Quality Month Closing Event  
Chairman Chiang, Yao-Chung personally presented the flag to the members of the "The Red Star Circle Team"

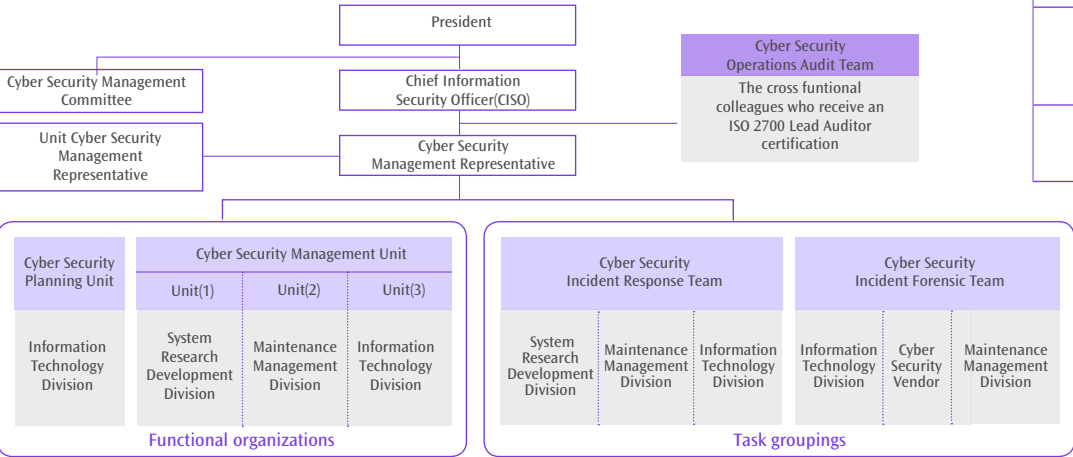


THSRC won the Taiwan Continuous Improvement Competition Excellence Group (Golden Tower Award)

## Information Security Management

Affected by geopolitical turmoil and volatile digital crimes in recent years, THSRC has actively implemented information security, established the "Information Security Management Committee" in 2017, and appointed information security officers from the company's interdepartmental office to hold information security management review meetings every six months and convene information security officer meetings every quarter. Review the development direction, strategy and related implementation results of information security, so that the information security management system continues to operate steadily. A total of 2 information security management review meetings and 4 information security representative meetings were held in 2022. The information security governance report and results have been recorded in the report of the 27th Board of Directors of the ninth session in 2022. For more information about the policies and management plans related to information security, please refer to THSRC Enterprise Website. [↗](#)

### THSRC Information Security Management Framework



Digital and diverse services has fostered the importance of privacy and information security issues. In order to implement the protection of personal privacy and information security, THSRC not only collects, process, or utilize personal information in compliance with laws and regulations, but has also formulated the "Personal Information Protection Policy" and "Rights and Interests Regarding Customer Information Protection", and reviews the personal information protection mechanism through regular meetings. Every year, we regularly hold information security and personal information cognitive training for all employees, for a total of 3 hours, to strengthen the information security awareness of each colleague; as of December 31th, 2022, the education and training completion rate reached 100% (excluding newcomers and long-term injury and sick employees), and for the personal information representatives of each unit, we scheduled the professional courses of "BSI 10012 Personal Information Management System Training", and a total of 38 colleagues completed the training in 2022.

In 2022, THSRC received no customer complaints regarding infringement of customer privacy or loss of customer information. In the future, we will continue to supervise employees and service providers to implement information security protection through external audit and internal control mechanisms. In October 2022, all of the THSRC core information technology systems passed ISO 27001 certification and continued to maintain the validity of their licenses, continuously improving in the field of information technology security, and completing the expansion of introduction and certification in 2022. THSRC in accordance with the "The Plan Of Security Measures For The Personal Information File" procedure, personal information security maintenance measures implementation situation is detailed as follows:

### Implementation of Personal Information Security Maintenance Measures

Safety Maintenance Measures for Personal Information Protection Management	Personal Information Management Measures and Implementation Results in 2022
Establish a management organization and allocate considerable resources	► Segment representatives formed the "Personal Information Protection Implementation Group." As of September 2022, there were 20 personal information representatives and a personal information representative meeting is held every quarter, and a total of fourmeetings were held in 2022.
Risk assessment and management mechanism for personal information	► A three-level management model is adopted as per the security level of personal information files, and risk identification and assessment of personal information files were conducted every year, and personal information files inventory audits were performed twice every year, to maintain the correctness of the "Personal Information File Inventory".
Information security management and accident prevention, notification, and response mechanisms	► Information is divided into three types: written forms, electronic files, and system files, and relevant regulations on personal information security incident response, a complete notification mechanism, and a review and improvement policy have been formulated. As of 2022, no personal information security incident occurred.
Awareness promotion, education and training	► One hour of education and training for new employees and one hour of annual training for all employees.
Equipment safety management	► Terminal equipment (including personal computers, notebook computers, and mobile devices) and various types of servers are all handled in accordance with THSRC's relevant information security management regulations.
Overall continuous improvement of personal information security maintenance	► The annual audit results are regularly reviewed at the personal information representative meeting and reported to the review meeting of the Information Security Management Committee.



THSRC continue to strengthen security operations in 2022, such as the use of the Virtual Private Network (VPN) and the employee remote work emergency measures and security are listed below to improve the high-speed rail information communication security environment:



#### Ensure employee portal availability

Increase equipment capacity to ensure sufficient employee connections, and adjust the system to a high availability architecture.



#### Strengthen the security authentication of the portal website system

Two-factor authentication is adopted for employees who log in to the Company's intranet from the external network. The employee account number, password and One Time Password (OTP) are required for authentication, and the time limit of OTP is shortened while the length of OTP is increased.



#### Increase network bandwidth

Increase network bandwidth and circuit redundancy, increase the number of employee connections, and improve network connection stability.



#### Improve VPN to high-availability architecture

In case of any abnormality, the VPN device will complete the switch within one second. After the switch is completed, the password and One Time Password need to be re-authenticated.



#### Strengthen VPN connection monitoring

VPN uses two-factor authentication to monitor the connection source IP. In case of any abnormality such as the connection source IP is detected from a place outside Taiwan and intensively requests for login in a short period of time, the firewall will control and block the connection IP.



#### Integrated information security monitoring mechanism

Integrates the main systems, endpoints, networks, and security and reconnaissance threat monitoring information of information technology (IT) and operation technology (OT), analyzes the status of threats in real time, introduces information security solutions such as abnormal alarms and defense disposal, and monitors and reports full-time through the information center computer room.



#### Cooperate with the national information and communications security operation

Restrict the use of products that threatens the national information and communication security, inventory the company's internal information and communications equipment, conduct replacement operations; while we cannot require suppliers to replace the restricted Chinese branded equipment immediately, we have reached an agreement for suppliers to replace them at the end of the products' lives, and strengthen the management of information security.

In response to the "Accelerating Digital Optimization and Moving Towards Digital Transformation" aspect of the six strategic directions of THSRC in the medium and long term, while accelerating digital innovation and transformation, we have formulated four development strategies for high-speed rail information technology, including management information digital optimization, maintenance management digital optimization, operation management digital optimization, and marketing digital optimization. The projects and goals we planned to introduce are as follows:

#### Management Information Digital Optimization

Build off-site backup mechanisms to improve service availability and introduce IT asset and configuration management platforms to ensure consistency of service data, as a way of increasing automation and saving manpower.

#### Maintenance management digital optimization

Establish high-speed railway geographic map to quickly obtain the corresponding mileage assets and maintenance records information, and continue to collect track, tramway and power system detection and maintenance data, and analyze the data to establish the basis for predictive maintenance operations and provide a coordinating mechanism for track maintenance area scheduling to further improve maintenance efficiency.

#### Digital Optimization of Operations Management

Establish a new generation ticket booking service system to meet market demand, import cloud computing into station equipment, and improve service timeliness.

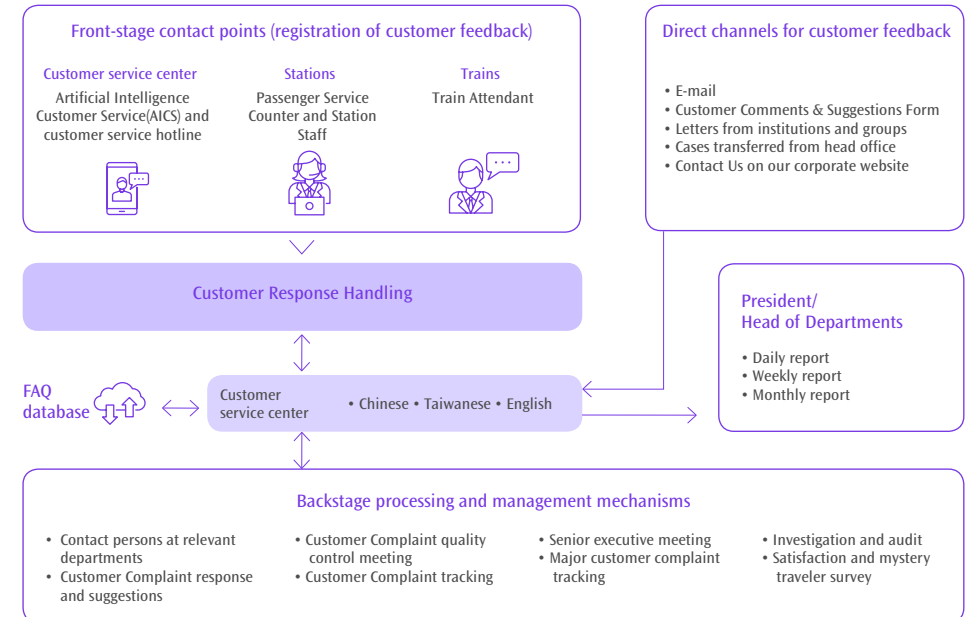
#### Digital Marketing Optimization

Enhance the company's revenue through accurate marketing and the establishment of a new business model platform, while developing the T Express sales model to provide diversified ticketing services and enhance market competitiveness.

## Customer Relationship Connections

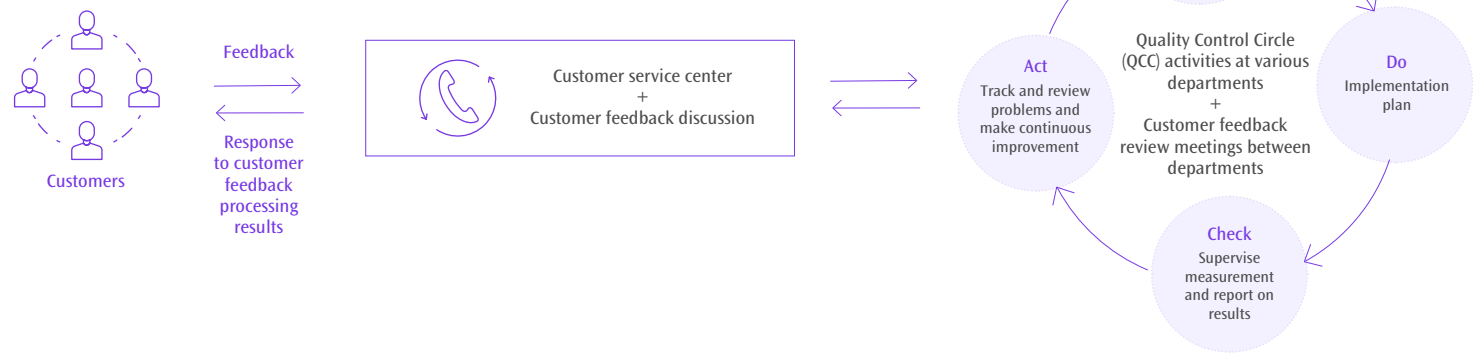
Continuously innovating service content and types to create thoughtful services that exceed customer expectations is the driving force for THSRC's continuous improvement. We have prepared a dedicated management department to open up multiple communication channels to respond to passengers' needs in real time, deepen customer relationships, provide online consultation by Artificial Intelligent Customer Service, corporate website e-mail message and other functions, and configure the customer service line service with Mandarin/ Taiwanese / English responses. The current Feedback Collection Channels and Customer Service Operations System are detailed in the figure below.

### Current Feedback Collection Channels and Customer Service Operations System



THSRC has set up a Current Customer Complaint Resolution Mechanism to not only provide immediate consolation and attention but also submit customer feedback to the quality management authority and responsible unit of each department and the cross-departmental customer opinion review meeting, so as to truly incorporate customer feedback into management and implement improvements. In 2022, the inbound passenger service center and the use of Artificial Intelligent Customer Service inquiries were about 670,000 cases, and the main consultation items were about ticketing, lost items and high-speed rail promotions. Part of that, Artificial Intelligent Customer Services received 210,000 (31%) inquiries or applies for timetables, ticketing problems, guide for travel, properties lost and found services.

### Current Customer Complaint Resolution Mechanism



### Highlight story: THSRC's Artificial Intelligent Customer Service

THSRC's Artificial Intelligent Customer Service System was conceived in 2019, and a professional team was established for implementation, striving to improve service efficiency and quality, and provide passengers with innovative technological service experience. The Artificial Intelligent Customer Service System was officially launched at the end of 2020, and technologies such as data analysis and sorting, natural language and word processing, and machine learning were introduced to provide passengers with answers to frequently asked questions and personalized service application and inquiry services 24/7. The Artificial Intelligent Customer Service System opens up the opportunity for customers to experience the technological services in their daily life, including online interactive consultation with digital robots at all times, or services such as online lost and found reporting, travel guide, so that customers can experience exquisite service with high satisfaction. If the content of the customer's question is beyond the scope that can be handled by the Artificial Intelligent Customer Service, the Artificial Intelligent Customer Service will be transformed into a knowledge support role to assist the online real person text customer service, so as to shorten the time that passengers are required to wait and repeat the questions online, and provide passengers with more convenient and thoughtful services. Before the launch of the Artificial Intelligent Customer Services, all colleagues of the Company were invited to participate in the test experience to enrich the database of the Artificial Intelligent Customer Service with the feedback of the colleagues, so as to improve the accuracy of the system's response to problems (Note ), and the smoothness and stability of the service process. In 2022, the overall text service processing volume was increased, and nearly 88% of the text consultation services have been transferred to Artificial Intelligent Customer Service for response. This service has won the "Best Popular Brand" of the "The 18th Nation Brand Yushan Award" in 2022. In order to achieve THSRC's 4T enterprise development vision, we continue to guide passengers to use Artificial Intelligent Customer Service for consultation, lost and found reporting, and assistance to search for progress through media publicity and customer service explanations, with an aim to expand customer contact points and improve service satisfaction, and to gradually drive Artificial Intelligent Customer Service to become the main communication channel. In the future, we will continue to add new digital service items, improve service capacity, and move towards a stable and innovative digital transformation.

Notes

After the Artificial Intelligent Customer Service understands the traveler's questions in natural language, it searches the saved information for answers, or imports the personal service process, and the cumulative response number as a percentage of the total number of questions is "accuracy".

Corporate Website

Taiwan High Speed Rail APP

Transfer to live customer support when it cannot be processed

live customer support

Database Searching Support

### Customer Affirmation

Customers' affirmation and feedback are important indicators for THSRC to review its own quality management performance. Every year, the THSRC has entrusted a third-party to investigate customer satisfaction. Although the first half of 2022 was affected by the COVID-19 pandemic, the Company continued to cooperate with the implementation of government epidemic prevention policies such as: restricting the carrying rate, prohibiting diet, wearing masks throughout the whole process, real alliance system and other measures and short-term work shifts, resulting in the restriction or suspension of related services; however, after the lockdown was lifted in the second half of the year, the Company successively launched a revitalization promotion plan to rapidly increase travel volume, reaching nearly 90% of the pre-pandemic traffic. In 2022, the overall service satisfaction is 94%, and the customers have paid 93% to 98% importance of the four major service orientations on (train schedule planning/ticket services/station facilities and services/on board facilities and services) while 93% to 96% of customers have given the high-satisfaction ratings.





- Taiwan

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- Enhancing Local Connection
- Enjoy a Local Travel
- Industry Exchanges

- Partner Relationship Management and Local Supply

- Supply Chain Management
- Localized Supply Chain
- Security Management Strategy and Training



## Taiwan

### Enhancing Local Connection

Subchapter Title	Material Topics (Positive)	Material Topics (Negative)	Management Purpose	Management Method	Assessment Mechanism	Management Performance in 2022
Partner Relationship Management and Local Supply	Improving Supplier ESG Awareness and Management	Supplier Management (Mismanagement)	<ul style="list-style-type: none"> <li>▶ Looking forward to a more sustainable partnerships with our suppliers and partners.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Include requirements regarding the environment, society, and corporate governance into management systems, such as supplier evaluation, visits and audits, commitment statement, etc.</li> <li>▶ In each procurement plan, vendors are not allowed to violate national laws including the Labor Standards Act and environment-related regulations.</li> <li>▶ Formulate safety and health policy to be followed in procurement cases and require vendors to meet occupational safety and health requirements when performing contracts.</li> <li>▶ Establish rules for employees of contractors, to receive trainings and obtain safety certifications related to HighSpeed Rail Operations before entering workplaces.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Audit departments carry out vendor assessment, based on Vendor Self-evaluation Form, etc. Vendors may report any dispute arisen therein through established grievance channels, with the help of THSRC personnel.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Handled a total of 1,096 procurement cases, where vendors complied with THSRC anti-corruption regulations.</li> <li>▶ Collected a total of 171 corporate social responsibility commitment letters and 113 vendors self-assessment forms for corporate social responsibility commitment.</li> </ul>
	Local Economic Development and Community Care		<ul style="list-style-type: none"> <li>▶ Promote local economic growth through collaboration with local enterprises or institutions. Relevant practices include domestic train local manufacturing, local procurement, domestic tourism, advocacy for localization of the rail industry, as well as support for native products by local small- and medium-sized business.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Build up railroad equipment and systems in joint hands with local authorities and enterprises.</li> <li>▶ Actively implement local procurement and increase the localization ratio of railroad system suppliers on an annual basis.</li> <li>▶ Stimulate local economies through development and supply of diversified regional tourism products.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Evaluate performance based on the amount of local procurement, alternative sourcing solutions, and the development of applicable equipment and systems.</li> <li>▶ Track the yield of THSRC tourism products by analyzing tourist visits, business volume, traffic volume, and sales figures.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Visited 325 local vendors and developed 127 alternative sourcing in 2022. Saved a total of about NT\$33.3 billion through joint work with 132 alternative materials-developing suppliers from 2011 to 2022.</li> <li>▶ Cultivated a total of 74 to 80 sales personnel and achieved a revenue of more than NT\$ 105 million for local business in 2022.</li> </ul>

## Glide through Taiwan and Stretch Global Wide

### Enjoy a Local Travel

In 2022, pandemic has been gradually eased and the domestic tourism industry continued to recover, THSRC transported 2.913 million people, increasing of 98% compared with 2021. To capitalize on this trend, THSRC launched the "Be There in Your Way" revitalizing plan from July to September 2022, offering a variety of interesting package itineraries. This project successfully created marketing topics and drove the trend of intercity tourism, attracting nearly 247,000 tourists and achieving an impressive rate of 113% in ticket sales. Looking ahead, THSRC plans to continue promoting diversified tourism products in the future, targeting more different demographics for mass marketing, introducing exclusive tourism products, and using brand advantages to develop new products. The company hopes to exceed 3.98 million passengers in high-speed rail tourism in 2023.



## Launching a Travel Revitalization Plan to Expand Precision Marketing Business Opportunities

In July 2022, THSRC launched the "Be There in Your Way" related project in response to the domestic downward trend of the pandemic. The project aims to promote active tourism promotion plans through online advertising, social media, and channel suppliers. Its goal is to stimulate people's desire to travel and provide preferential services to consumers through product projects.

The THSR Holidays program has launched several special package tours, including the "Big Saving Program," "Cool Summer Fun in Taipei," "Summer Family Time," "Furry Friends," and "Tour of Culinary Feasts." Also, by cooperating with hotels and online travel agencies platforms, consumers can book hotel rooms or purchase travel products via these channels, and by adding high-speed rail tickets to their purchase, they can enjoy a maximum 40% discount, and discounts of three times the activity, up to triple their loyalty points, resulting in excellent membership discounts that can total as much as NT\$1,200 in savings on THSR holiday travel.

The THSRC caters to both students and senior citizens. In the summer of 2022, a "Youth Discount" was launched, offering discounts on designated trains for young students aged 12 to 18, encouraging them to travel with family and friends. In keeping with the growing trend of mature tourism among the elderly, the Company also launched an "Elderly Player" tourist route designed for seniors to travel easily, providing a multi-day independent travel option that includes round-trip high-speed rail tickets and hotel accommodations, with bonus hotel credits for passengers aged 55 and above, specifically targeting the senior consumer group.



THSRC "Travelling for Tons of Fun" and "Elderly player" publicity photos

To promote the "Journey with THSR, Discover Taiwan" series of travel itineraries, THSRC participated in the 2022 Taipei International Travel Fair. The exhibition hall showcased the theme of "High speed slow living" and displayed the beautiful life brought by high-speed rail. The high-speed rail art installation "Treasure Island Walkman" was also featured, inviting attendees to experience an art feast on the move. This conveyed the brand spirit of "real contact" of THSRC. The President attended the opening of the THSRC in person, and the exhibition attracted many people and media attention. In the end, THSRC stood out from many pavilions and was awarded the "Best Pavilion Award" by the conference.



THSRC won the Best Pavilion Award at the 2022 Taipei International Travel Fair

## Industry Exchanges

Taiwan High Speed Rail Corporation (THSRC) has been actively responding to international industry trends through technical visits, international observation, and industry-academia cooperation, and has continued to refine the technology of the rail industry. Among them, THSRC has been a member of 21 associations (refer to Appendix Table 1), maintaining close cooperative relationships with domestic and foreign rail industry group and promoting its development. Since THSRC joined the International Union of Railways (UIC) as a member in 2009, it has been exchanging experiences with railroad systems or operating organizations around the world by co-organizing seminars. THSRC continues to participate in the International High-Speed Rail Association (IHRA) as a member and actively supports the seminars and forums held by the association. In October 2022, THSRC was invited to be a panelist at the annual forum of the International High Speed Rail Association (IHRA) in Japan, and shared Taiwan's sustainable development with the global railway transportation industry.



THSRC was invited to be a panelist at the annual forum of the International High-Speed Rail Association



## Local Industry-Academia Cooperation

THSRC collaborated with 27 universities and colleges in 2022 to promote industry-academia cooperation measures. These measures included joint internship programs, railway equipment laboratory, and memorandum of industry-academia cooperation. By sharing rich industrial experience and providing perfect railway service training, THSRC created opportunities for young students to explore the railway transportation industry. As part of this effort, 54 students were provided with one-year station staff internship opportunities through the academic year internship program. Additionally, THSRC worked with National Taipei University of Science and Technology, National United University, and Asia Eastern University of Science and Technology to jointly promote maintenance internship programs. In total, 10 students were admitted for cultivation.

Through actively promote project cooperation and seminars with domestic universities and colleges, THSRC get the opportunity to enhance the technical strength of the local rail industry. In 2015, THSRC and the National Kaohsiung University of Science and Technology jointly opened a Railway Equipment Laboratory, which has so far developed 34 systems and 4 dedicated instruments. This laboratory has been certified by the Taiwan Accreditation Foundation (TAF), which was an important milestone. Additionally, THSRC has signed Memorandums of Industry-Academia Cooperation with several universities and colleges, accelerating the localization of equipment parts and strengthening the independent maintenance capacity of the rail industry. Through these efforts, THSRC has been able to extend outstanding talents and promote the growth of the rail industry.



Project cooperation and seminars with domestic universities and colleges

Maintenance Internship Program	Colleges and Universities
Academic Year Internships	<ul style="list-style-type: none"> <li>National Kaohsiung University of Hospitality and Tourism, National Pingtung University, National Kaohsiung University, Providence University, Chung Hua University, Chang Jung Christian University, Shih Chien University, Overseas Chinese University, Ling Tung University, China University of Science and Technology, Vanung University, National Taipei University of Technology, National United University, and Asia Eastern University of Science and Technology</li> </ul>
Railway Equipment Laboratory	<ul style="list-style-type: none"> <li>National Kaohsiung University of Science and Technology</li> </ul>
Memorandum of Industry-Academia Cooperation	<ul style="list-style-type: none"> <li>National Kaohsiung University of Science and Technology, National Taipei University of Technology, National Cheng Kung University, National Tsing Hua University, National Taiwan University of Science and Technology, and National United University</li> </ul>

## Partner Relationship Management and Local Supply

### Supply Chain Management

To enhance the overall value chain sustainability performance, THSRC has formulated a “Supply Chain Management Policy” with reference to international industry standards to strengthen the supplier management mechanism by means of auditing, management and providing education and training to enhance supplier environmental, social, and governance (ESG) performance. Furthermore, THSRC has taken active steps to localize its rail supply chain by increasing the number of domestic suppliers, and deepening the local supply chain of high-speed railway materials and components through collaboration with government research projects and universities and colleges.

### Supplier Negotiation

In 2022, THSRC established relationships with 696 suppliers, 463 of whom provide materials, mainly equipment parts and vehicle products, and 233 of whom provide labor. To achieve our sustainability goals, we have developed "Procurement Regulations." Sustainability is comprehensively evaluated through the management manual and precautions taken before signing off on instructions. Any supplier who violates these regulations and refuses to rectify the situation within the specified period will have their cooperation terminated. In 2022, there was no cooperation terminated due to vendors' poor ESG performance. Additionally, since 2019, bidders have been required to commit to cooperating with THSRC's CSR regulations and sign a CSR commitment. Regular project group meetings are held to review the self-assessment forms of contractors. In 2022, we collected a total of 171 CSR commitments and 113 CSR commitment supplier self-assessment forms. Furthermore, a total of 1,096 procurement announcement cases complied with THSRC's anti-corruption regulations. For the Company's supplier policy specifications and requirements, please refer to our Supplier Management website [here](#).

### Localized Supply Chain

#### Local Development

In its efforts to promote the growth of local rail technologies and capabilities, THSRC has made multiple visits to suppliers seeking alternative regional materials. In 2022, we successfully completed 127 alternative sourcing cases, after visiting a total of 325 local suppliers. Through joint work with 132 alternative materials-developing suppliers from 2011 to 2022, we were able to save approximately NT\$3.33 billion. In addition to expanding our recruitment of manufacturers, THSRC has also broadened our cooperation with industry, government, academia, and research to jointly developed high-speed railway equipment and system innovation technology. Through these efforts, we have contributed to the localization of railway transportation and achieved our goal of "Localization of Domestic Vehicles." Relevant cooperation projects include:

- ▶ Since September 2018, we have collaborated with China Steel Corporation on the "Overhead Catenary System (OCS) Maintenance Vehicle Localization" project. Our efforts included integrating equipment component specifications, and pooling supplier resources. As a result of equipment localization, we have effectively reduced maintenance and inventory costs while improving maintenance quality. By October 2022, we had delivered eight OCS maintenance vehicles, and we plan to deliver 4 more in batches by 2024 to achieve to goal of phasing out the old OCS maintenance vehicles.
- ▶ In July 2019, we collaborated with the Industrial Technology Research Institute to develop the "Bogie Running Tester," which has improved maintenance efficiency and bogie reliability. In 2021, we completed the design review for the core system, substrate installation, main body assembly, and test room construction. The operation test, delivery, and acceptance were completed in May 2022.
- ▶ In July 2019, we collaborated with Taiwan Rolling Stock Company in July 2019 to invent the "Diesel-Hydraulic Locomotive." This innovation has enhanced our ability to respond to operational incidents. By the end of 2020, we had completed the design and development of this locomotive and began manufacturing of the body mechanism and control system. Delivery was completed in December 2022.
- ▶ In 2021, the THSRC R&D team achieved success in developing the "Taiwan Design Turnout Control System". By December 2022, a total of 17 pieces of equipment had been installed at Changhua Station, Yunlin Station, and Chiayi Station, gradually replacing the previously used German-made Turnout Switch Control cabinet. Through the optimization of circuit configuration and cabinet design, this new system not only effectively extends the service life of the equipment, but also improves the system's reliability. Our plan is to complete the replacement process within five years, by 2026.

## THSRC Enhance Development of Taiwan Railway Industry Localization

The "Diesel-Hydraulic Locomotive" was developed in collaboration between THSRC and Taiwan Rolling Stock Company. This locomotive can be connected to control the 700T train, resulting in improved scheduling and maintenance efficiency during normal operations. Additionally, it plays a crucial role in response to emergency situations where the mainline train requires rescue. By connecting the three dispatchers of the train, the locomotive generates more power, allowing it to tow the 520-ton high-speed rail 700T train back to the maintenance site. This breakthrough in terrain restrictions accelerates the completion of preliminary repair tasks and further enhances the operational safety of THSRC.

THSRC and China Steel Corporation collaborated to construct "Overhead Catenary System (OCS) Maintenance Vehicle." These vehicles combine the functions of six types of Japanese and German maintenance vehicles, simplifying the process and unifying equipment component specifications and suppliers. Once the equipment is stabilized locally, it will reduce maintenance and inventory costs, improve maintenance quality, and achieve the objective of replacing old maintenance vehicles with new ones. This will also enhance local development capacity and the ratio of local equipment/material supply ratio. As of October 2022, eight OCS maintenance vehicles have been delivered.

Through effective cooperation with excellent local partners, THSRC has successfully integrated the strengths of Taiwan's railway industry, supported by the strategy of industrial alliance. Moving forward, we will maintain our leadership position in the railway industry and work alongside our peers to achieve our vision of "Domestic Vehicles Made by Compatriots will Create a Better Future for Taiwan."



Diesel-Hydraulic Locomotive and Overhead Catenary System Maintenance Vehicles



Diesel-Hydraulic Locomotive Launch Ceremony





## Local Procurement

In addition to actively localizing technology and equipment, THSRC has implemented a localized procurement strategy on the premise of ensuring the safety and quality of equipment. This strategy not only decreases reliance on foreign suppliers, but also reduces equipment replacement costs and lead times. Local suppliers of rail transportation industry can take this opportunity to obtain certification of the international railway industry standard quality system, greatly enhancing the image and popularity of the domestic rail transportation industry.

THSRC also actively works with local suppliers in the procurement of labor services and properties. In 2022, the total amount of material purchases conducted by THSRC was approximately NT\$2.9 billion, where the amount of procurement from local suppliers accounted for 73.98% of the total amount. Meanwhile, the amount of labor service procurement in 2022 exceeded NT\$5.6 billion, of which 90.94% came from local service procurement.

### Percentage of Local Procurement



## Local Business

To promote the growth of local industries and capitalize on local business opportunities, THSRC has established high-speed rail markets and local production halls throughout its operations in Taiwan. These facilities support the production of local raw materials through concrete actions. In 2022, THSRC cultivated a total of 74 to 80 service sales personnel <sup>(note)</sup> and generated over NT\$105 million in revenue for local merchants.

Note: In 2022, THSRC recruited a total of 24 local businesses, with each booth staffed by 3 to 4 employees.



## Security Management Strategy and Training

THSRC has engaged professional security company to conduct security trainings for our security personnel to ensure the safety of passengers and THSRC personnel. Additionally, we have developed a security management plan that outlines the duties of our security personnel, which include maintaining order at stations and on trains, ensuring passenger safety train operations. To further enhance passenger safety, we have introduced "Train-Elite Security Guard" program by hiring security personnel with military and police-related experience or qualified martial arts licenses since 2020. We also maintain communication with the security company regularly, and hold bi-monthly meetings to ensure compliance with our security management regulations and to promote customer-first service attitude. Please refer to the following for details on security personnel training.

### Security Personnel Training Content

Training Courses Provided by THSRC	<ul style="list-style-type: none"> <li>▶ Customer service etiquette training</li> <li>▶ Security equipment/system operation and emergency notification training</li> <li>▶ Pre-service training, security service review training, and safety lectures</li> <li>▶ Railway safety regulations (high-speed railway operation specification training) and disaster prevention training</li> </ul>
Training Courses Provided by Security Companies	<ul style="list-style-type: none"> <li>▶ Traffic control and command, patrol skills, comprehensive application of boxing skills, and self-defense training</li> <li>▶ Legal training related to personal security and arrest of offenders, to avoid infringement on human rights of passengers or third parties</li> <li>▶ Basic training on the identification of suspicious packages and bomb threats</li> </ul>



Comprehensive application of boxing skills, and self-defense training



Basic training on the identification of suspicious packages and bomb threats







Touch

Touch

Sustainable Governance  
and Ethical Management

Low-Carbon Train Operation  
and Environmental  
Sustainability

Nurturing Talent and Value  
Cultivation

Protection of Rights and  
Considerate Care

Carrying for Society and  
Developing Local Area

## Touch

### Sustainable Care

Subchapter Title	Material Topics (Positive)	Material Topics (Negative)	Management Purpose	Management Method	Assessment Mechanism	Management Performance in 2022
Sustainable Governance and Integrity Management	Enterprise Governance and Operational Performance	Corporate Governance and Operations (Malpractice)	<ul style="list-style-type: none"> <li>Enhance various corporate governance-related measures and legal compliance systems to ensure the sustainable operation of THSRC and reduce the risk of violation of laws and regulations.</li> </ul>	<ul style="list-style-type: none"> <li>Establish the Corporate Governance Promotion Committee, which is overseen by the Board of Directors and the Chairman and chaired by the President, whereas executives from managerial departments serve as members of this committee. This committee regularly reports to the Board of Directors regarding the overall promotion and implementation of corporate governance at THSRC every year.</li> </ul>	<ul style="list-style-type: none"> <li>Formulate the "Regulation of Self-Evaluation of the Board of Directors," and implement internal self-assessment of the performance of the Board of Directors at the end of each year in accordance with this regulation. In addition, conduct external assessment at least once every three years.</li> <li>Participate in the Corporate Governance Assessment organized by Taiwan Stock Exchange Corporation and also undergo external assessment.</li> </ul>	<ul style="list-style-type: none"> <li>Regularly convened meetings for review of the improvement situation based on internal and external assessment results to make continuous improvement.</li> <li>Ranked among the top 5% of listed companies in the "Corporate Governance Evaluation" for fifth consecutive year.</li> </ul>
		Violation of Laws and Regulations		<ul style="list-style-type: none"> <li>Set up a legal compliance team in the Legal Office and formulate a legal compliance promotion plan. Regularly convene a legal compliance representative meeting every quarter and require the Legal Office to report on the status of compliance at THSRC to the Audit Committee and the Board of Directors every year.</li> </ul>	<ul style="list-style-type: none"> <li>Require the Legal Office to formulate and review work plan items every year, as well as compile and manage penalty cases, and require penalized units to report the progress of handling such cases and improvement measures during compliance meetings every quarter.</li> <li>Required units at all levels to regularly assess the compliance risks, internal control design, and implementation effectiveness of their units in accordance with the internal control system and self-assessment regulations.</li> </ul>	<ul style="list-style-type: none"> <li>In 2022, THSRC did not violate the laws and regulations related to the "public companies," "economic and social aspects," and "environmental aspects."</li> <li>In 2022, there were two cases of penalties related to the "construction and operation of HSR." For relevant descriptions and improvement measures, please refer to the subchapter "Legal Compliance."</li> </ul>
Low-carbon Train Operation and Environmental Sustainability	Climate Change Response and Management	Greenhouse Gas Emissions	<ul style="list-style-type: none"> <li>Enhance the ability of the transportation system to cope with climate change and implemented energy conservation and carbon reduction measures to reduce the risks and hazards that may be caused by climate change to THSRC's operations.</li> </ul>	<ul style="list-style-type: none"> <li>In addition to establishing the Environmental Management Committee, set up relevant units mainly in charge of operational safety risks and environmental risks in accordance with THSRC's risk management policy to identify and manage climate change risks that may affect THSRC's operations, as well as promote relevant response mechanisms and measures</li> <li>Build early warning systems for slope and tunnel safety, continuously conduct safety monitoring and risk assessment, conduct investigations or improvement projects when necessary, and promote the drills for hypothetical scenarios.</li> <li>Promoted greenhouse gas reduction policies and measures or formulated emission reduction targets and identified relevant needs for rail transportation and station operations in line with the relevant policies and requirements set forth by government agencies, including the Ministry of Transportation and Communications (MOTC) and the Ministry of Economic Affairs (MOEA).</li> </ul>	<ul style="list-style-type: none"> <li>The Environmental Management Committee regularly reviews the accomplishment of short-, medium-, and long-term environmental management goals and strategies, assessed the gap between the goals set and the current situation, and reviews related mechanisms and measures accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>On November 9, 2022, the greenhouse gas emissions at high-speed rail (HSR) stations in 2021 obtained the ISO 14064-1 Verification Opinion Statement from a third-party verification team. The carbon emissions for 2022 were 33.941 gram of CO<sub>2</sub>e per passenger-kilometer, reduced by 10.05% as compared with 37.735 g in the previous year (2021).</li> </ul>
	Energy Use Efficiency Resource Management	Greenhouse Gas Emissions	<ul style="list-style-type: none"> <li>Implement energy conservation and carbon reduction policies, resulting in reduced energy consumption during operation and increased utilization of green energy sources.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to promote four major energy conservation solutions, including "autonomous energy conservation management, reduce electricity consumption, transfer peak electricity usage, and use electricity reasonably" to improve energy use efficiency during operations.</li> <li>Establish the "Energy Conservation Project Team" to promote energy conservation measures at each THSR station, and set the "reduction of annual average electricity consumption per passenger served" by more than 0.86% as our management target.</li> </ul>	<ul style="list-style-type: none"> <li>The Energy Conservation Project Team regularly convenes "Energy Conservation Meetings" every three months to track the implementation of energy conservation measures and analyze the achievement of annual energy conservation goals.</li> </ul>	<ul style="list-style-type: none"> <li>In 2022, average electricity consumption per passenger served at HSR stations was 1.688 kWh, saving 19.27% compared with 2.091 kWh in the previous year (2021).</li> </ul>



Subchapter Title	Material Topics Positive	Material Topics Negative	Management Purpose	Management Method	Assessment Mechanism	Management Performance in 2022
Low-carbon Train Operation and Environmental Sustainability	Energy Use Efficiency Resource Management	Energy Consumption	<ul style="list-style-type: none"> <li>▶ Build a green life circle with low-carbon transportation while strengthening the management of water resources and waste to make substantive contributions to environmental protection.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Regularly review and revise the water management policy through the “Energy Conservation Project Team” and comply with the “Water Pollution Prevention and Control Measures Plan” and the “Industrial Waste Cleanup Plan” to treat effluent and waste.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Track the implementation of various water conservation measures through quarterly water conservation effectiveness review meetings.</li> <li>▶ Track and check the process of waste based on the waste clean-up receipt and regularly file a report on the quantity of waste processed online; the storage facilities for business waste also comply with the relevant requirements of the Environmental Protection Administration's "Methods and Facilities Standards for the Storage, Clearance, and Disposal of Industrial Waste."</li> </ul>	<ul style="list-style-type: none"> <li>▶ As the pandemic has been on a downward trend, passenger traffic continued to rise. The average water consumption per passenger served at HSR stations in 2022 was 0.0120 cubic meters, compared with 0.0136 cubic meters in the previous year (2021), saving 11.76%.</li> <li>▶ The recycling rate of resources and waste was 23%, and no leakage of oil, fuel, chemical substances, or waste occurred.</li> </ul>
	Ecological Conservation and Diversity	Ecological and Community Impact	<ul style="list-style-type: none"> <li>▶ Carry out environmental monitoring and environmental protection work to maintain the ecology, natural environment, and conservation mechanism around the operating facilities and the track to reduce environmental impact.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Formulate the “THSRC Environmental Protection Specification” as the environmental protection operation standard during the construction of the high-speed railway to manage the environmental quality along the THSR tracks during the construction period.</li> <li>▶ Continue to prevent or mitigate the possible impact on the environment caused by the activities related to high-speed railway system through the Company's environmental management system, so that all environmental protection prevention and control projects meet the requirements of environmental protection laws and regulations.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Accept the review and evaluation of government agencies such as the Ministry of Transportation and Communications (MOTC) and the Environmental Protection Administration (EPA), and formulate relevant measures to reduce environmental impact based on the evaluation results.</li> <li>▶ Conduct the internal audit operation according to the “Management System Internal Audit Regulation” and the audit scope includes environmental quality management units of depots and stations.</li> </ul>	<ul style="list-style-type: none"> <li>▶ In 2022, eight internal audits were conducted, and follow-up improvement were reported to the Environmental Management Committee regularly; externally, the audit was conducted by the environmental protection unit. In 2022, there was no penalty imposed due to the pollution of the environment.</li> </ul>
Nurturing Talent and Value Cultivation	Talent Development and Nurturing	Occupational Accidents and Violations of Human Rights in the Workplace	<ul style="list-style-type: none"> <li>▶ Recruit personnel in a timely manner based on business needs and manpower planning, and provide relevant training on knowledge, skills and work attitudes required for the job to ensure that the recruited employees meet job requirements.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Formulate management regulations and methods related to manpower management and training as the base for planning for external recruitment and appointment, internal career development, promotion, and relevant training programs.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Refer to management reports and convene training coordination meetings regularly to review the implementation results, such as evaluation of training plans, budgets, licenses, and relevant feedback, and to put forth improvement measures.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Training on employees' core competencies, management competencies and professional competencies were all implemented as per the annual training plan. The average training hours per person in 2022 was 60.5.</li> </ul>
Protection of Rights and Considerate Care	Labor Protection and Healthy and Equitable Workplace	Occupational Accidents and Violations of Human Rights in the Workplace	<ul style="list-style-type: none"> <li>▶ Ensure the physical and mental health of employees, and reduce workplace hazards by creating a healthy and friendly workplace and establishing multiple grievance channels, so as to provide employees a safe, equal, and high-quality work environment.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Establish the “Mental Health Protection Regulation,” as well as conduct relevant mental health talks or training courses for employees, irregularly impart mental health knowledge through electronic bulletin boards, or promote grievance and reporting mechanisms for employee mental health protection at various settings such as new employee training.</li> <li>▶ Establish the “Sexual Harassment Prevention and Handling Regulation” (including grievance and reporting process), and enhance efforts to raise awareness towards the prevention of sexual harassment among employees in accordance with the Act of Gender Equality in Employment and by referencing the Regulations for Establishing Measures of Prevention, Correction, Complaint and Punishment of Sexual Harassment at Workplace.</li> <li>▶ Convene labor-management meetings regularly and discuss the Company's various issues with the THSRC Labor Union monthly.</li> <li>▶ Establish and implement the “Grievance Regulations” for employees to effectively implement management policies and maintain harmonious employee relations.</li> <li>▶ Convene the “Occupational Safety and Health Committee” meetings regularly to deliberate and make decisions on material occupational safety and health issues within the Company.</li> <li>▶ Establish “Safety and Health Policies,” and occupation disaster notification process, and regularly convene Occupation Safety and Health Committee meetings.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Regularly inspect grievance and reporting mechanisms for employee protection, as well as feedback on mental health talks and training courses, to understand employee needs and develop relevant plans based on these needs.</li> <li>▶ Set quantifiable and trackable safety and health management indicators for employees and contracted suppliers and adopt regular or random inspections and audit mechanisms to implement internal safety and health management mechanisms. Additionally, establish a complete report system in order to effectively cope with and reduce negative impacts during occupational accident.</li> </ul>	<ul style="list-style-type: none"> <li>▶ A total of 872 employees participated in the employee mental health lectures and training courses, and a total of 228 employee care sessions were organized.</li> <li>▶ A total of 4,884 employees participated in the sexual harassment prevention courses and online training for all staff.</li> <li>▶ There were 12 occupational accidents in the workplace, with the frequency-severity indicator of 0.11, and 10 traffic accidents outside of the workplace, with the frequency-severity indicator of 0.12, and no occupational disease occurred.</li> </ul>

# Sustainable Governance and Ethical Management

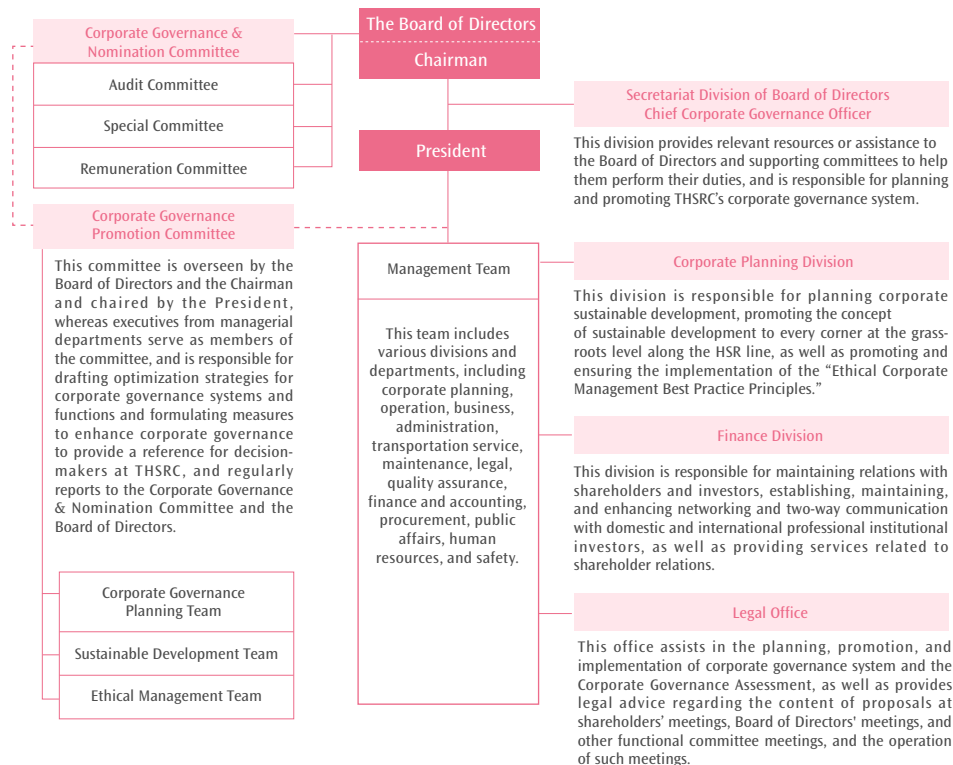
## Corporate Governance Structure and Committee

THSRC firmly believes that thought-out, transparent, and efficient corporate governance is the foundation for pursuing steady development, continuously improving operational safety and sustainable performance, and further creating sustainable value. The Company complies with domestic laws and regulations to establish the "Corporate Governance Guidelines," and has established the Board of Directors and various functional committees under it to optimize the overall governance effectiveness of the Company through various management mechanisms.

THSRC has established a "Corporate Governance Promotion Committee" to promote relevant issues through its corporate governance planning team, sustainable development team, and ethical management team. The main issues discussed in 2022 covered the implementation status of human rights management, corporate governance, sustainable development, ethical management, information security management and system, legal compliance, and risk management. Additionally, the committee presented reports on investor relations enhancement plans and strategic planning for material corporate governance matters. For more information on the responsibilities of the "Corporate Governance Promotion Committee" and its operations in 2022, please refer to "Corporate Governance Structure."

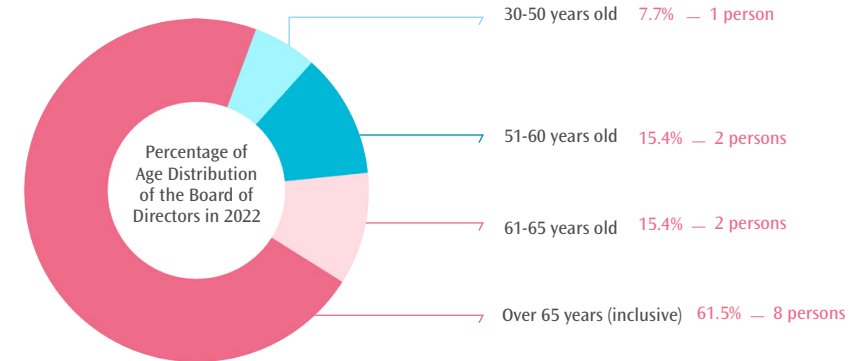
THSRC makes efforts to promoting corporate governance systems and measures, and has been ranked among the top 5% of listed companies in the "Corporate Governance Evaluation" for five consecutive years. In the future, THSRC will continue to execute its corporate governance framework, actively implement communication with stakeholders, and practice rigorous corporate governance strategies. For further information related to corporate governance, please refer to the "Corporate Governance Structure," THSRC's annual reports, corporate website, and the Market Observation Post System (MOPS).

## Corporate Governance Structure



## Responsibilities of the Board of Directors and Information on Board Members

The Board of Directors serves as THSRC's highest governing body. Its main power and responsibilities include the power conferred by relevant laws and regulations, and the shareholders' meeting, reviewing significant regulations, business plans, budgets, financial statements, and important business, as well as supervising management execution results and guiding the management team. THSRC strives for board diversity which include industrial, academic, and legal professional backgrounds. Currently, there are 13 directors (including 4 independent directors) on the Board, of which male directors accounted for 85% (11 persons) and female ones accounted for 15% (2 persons). The age distribution is as follows:



The term of Board of the Directors is three years, with the current term starting from the election at the general meeting of shareholders on May 21, 2020, and ending on May 20, 2023. Please refer to Appendix Table 2 for information on the members of the Board of Directors. In accordance with THSRC's Corporate Governance Guidelines, the Board of Directors must convene at least once every two months. In 2022, a total of 12 meetings were held to address economic, environmental, and social issues discussed by the functional committees. For details on directors' attendance, please refer to page 62 of the Annual Report.

## Functional Committees

In order to effectively perform the competencies of the Board of Directors and elevate the caliber of its decisions, functional committees have been set up under THSRC's Board of Directors, including the "Corporate Governance & Nomination Committee," "Audit Committee," "Remuneration Committee," and "Special Committee." These committees aid the Board of Directors in fulfilling its supervisory and advisory duties by organizing meetings to execute the responsibilities mandated by regulations, deliberating pertinent matters, and presenting conclusions and recommendations to the Board of Directors for resolution. Please refer to the table below for the description of each functional committee's responsibilities and the issues discussed in 2022. For further information on operations, please refer to "Operations of Functional Committees."

	<b>Economic</b>	E.g., finances, integrity, anti-corruption, corporate governance, management, etc.
	<b>Environmental</b>	E.g., energy conservation and carbon reduction, renewable energy generation devices, waste disposal, ecological conservation, etc.
	<b>Social</b>	E.g., donations, public welfare activities, community communication, labor rights issues, employee education and benefits, customer safety and health, etc.

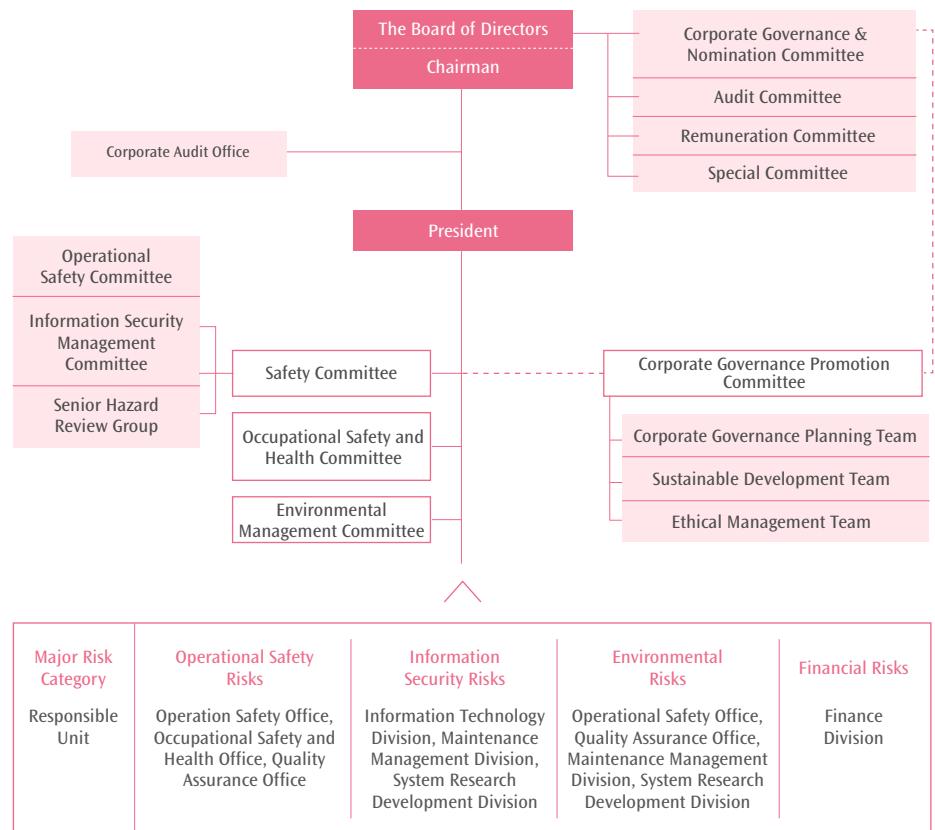


	Performance of functions	Some issues discussed in 2022	Economic	Environmental	Social
Corporate Governance & Nomination Committee	<ul style="list-style-type: none"> <li>▶ Review the professional knowledge, techniques, and experience required by independent directors, non-independent directors, and managers, and their diverse backgrounds such as gender and independent criteria</li> <li>▶ Responsible for the nomination of directors, as well as the planning and assessment of potential director candidates</li> <li>▶ Plan and review the performance of duties by all directors</li> <li>▶ Responsible for planning suggestions and effectiveness reviews of corporate governance systems</li> <li>▶ Has established a corporate governance planning team, a sustainable development team, and an ethical management team to promote relevant issues. The main issues discussed in 2022 covered the implementation status of human rights management, corporate governance, corporate social responsibility, ethical management, information security management and system, legal compliance, and risk management</li> </ul>	2022 corporate governance system, sustainable development (including environmental and social aspects), and report on the operation of ethical management and implementation status, and report on corporate governance status	●	●	●
		Report on the review of THSRC's information disclosure system	●		
		Report on the results of self-evaluation of the Board of Directors' performance	●		
		Report on the self-assessment of the Corporate Governance Evaluation	●		
		Performance goal setting and evaluation result reporting for managers	●		
		Succession mechanism for important levels of management	●		
		Amendment to the Company's "Corporate Social Responsibility Best Practice Principles" and renaming it the "Sustainable Development Best Practice Principles"	●	●	●
		Amendments to the Company's "Articles of Incorporation"	●		
		Revision of the Company's "Guidelines for Corporate Governance"	●		
		Amendments to the Company's "Rules of Procedure for Shareholders' Meetings"	●		
		Amendments to the Company's "Rules of Procedure of the Board of Directors Meetings"	●		
		Report on the implementation of corporate governance	●		●
Audit Committee	<ul style="list-style-type: none"> <li>▶ Formulate or amend the internal control system in accordance with the Securities and Exchange Act</li> <li>▶ Review major asset and derivative trading, loaning of funds, and provision of endorsements or guarantees</li> <li>▶ Review annual financial statements and assess company risk management policies, metrics, and compliance</li> </ul>	Report on the implementation of corporate governance	●		●
		Performance goal setting and evaluation result reporting for managers	●		●
		Report on the legal compliance system and its implementation	●		
		Amendment to the "Internal Control System" and the "General-Rules of Internal Control Self-assessments"	●		
		Perform self-assessment of internal control system results	●		
		Report on the implementation progress related to risk management, including environmental risk control	●	●	●
		Report on the implementation of information security governance and management	●		
		Annual donation and sponsorship programs			●
Remuneration Committee	<ul style="list-style-type: none"> <li>▶ Regularly review the policies, systems, standards, and structures of performance evaluation, and salary and remuneration for directors and managers</li> <li>▶ Regularly assess and formulate the salary and remuneration for directors and managers</li> </ul>	Proposal for salary adjustment	●		
		Report on the results of self-evaluation of the Board of Directors' performance	●		
		Suggestions on the distribution of employee and director compensation	●		
		Performance goal setting and evaluation result reporting for managers	●		
		Suggestions on subsidies and bonuses related to employee benefits			●
Special Committee	<ul style="list-style-type: none"> <li>▶ Provide counsel and suggestions on major legal or contractual disputes and important institutional changes in the Company</li> </ul>	Report on the Localization and Development of Original Equipment Manufacturer (OEM) Sources	●		●
		Procurement of equipment and materials from local suppliers for domestic development and support	●		●
		Optimization and improvement of software and hardware facilities to maintain customer safety	●		●

## Sustainable Risk Management

Risk management is a crucial element in the pursuit of sustainable operations for enterprises. In light of the increasing diversity of emerging risks, as well as environmental, social, and corporate governance concerns, THSRC has established a risk management operation mechanism. This mechanism integrates recommendations from various committees at different levels and formulates THSRC's "Risk Management Policy," and the management team is responsible for monitoring related risks and reporting the operation status to the Board of Directors once a year. In 2022, the Audit Committee and the Board of Directors reported the implementation status and progress of annual risk management, and the responsible management team has taken appropriate response measures for relevant risks and made records accordingly. The risk management team will continue to review and revise new risk management policies in response to changes in internal and external environmental conditions, with the aim of strengthening the risk awareness of THSRC through the implementation of medium- and long-term risk strategic plans and goals, moving towards the vision of sustainable operation.

### THSRC Risk Management Structure



Considering various aspects related to company operations, such as business environment, operation, finance, and hazardous events, THSRC has identified four risk categories including “environmental,” “operational safety,” “information security,” and “financial” according to the principle of materiality. Meanwhile, we review the completeness of internal risk management and the effectiveness of risk control, check and identify risks that may affect operations and profitability, and enhance response measures for related risks. The identification results, relevant response measures and actions, key performance indicators, and 2022 actual results of major risk categories of THSRC are listed as follows. In order to mitigate the potential financial impacts of declined revenue and increased work costs caused by various risk factors, THSRC has comprehensively planned for the operating asset insurance and business interruption insurance to cover various risk factors, such as natural disasters, human errors and equipment abnormalities to properly respond to risks.

Topic	Major Risk Category	Risk Implications	Relevant Response Measures and Actions	Key Performance Indicators	2022 Performance
Environmental	Environmental Risks	Assess various environmental risk patterns that may cause regulatory amendments, system damage, regional power outages, water shortages, etc., which will affect service quality and increase maintenance costs, such as the greenhouse effect, extreme climate events, earthquakes, land subsidence, newly formed faults and etc.	<ul style="list-style-type: none"> <li>Formulate environmental policies and conduct management in accordance with the environmental management manual; has passed the certification of the environmental management system ISO 14001</li> <li>Identify climate change risks, forecast future medium- and long-term climate change risks, formulate energy conservation plan and measures, and work with professional institutions to analyze and formulate adaptation strategies in response to climate change, in order to effectively reduce the possible operational impact of climate change on THSRC. For details, please refer to the section entitled "Climate Change Mitigation and Adaptation"</li> <li>Collaborate with professional institutions to establish an earthquake early warning system</li> <li>Conduct assessment of land subsidence, new faults, flood control, and earthquake resistance capability, as well as study and plan for improvement needs</li> <li>Adopt Disaster Warning System (DWS) to keep abreast of environmental disaster status, performed annual disaster prevention audits, and organize regular and random large drills</li> </ul>	Formulate indicators and goals related to environmental management, ecological conservation, waste management, energy management, water resource management, and greenhouse gas management (please refer to the table titled "Short-, Medium-, and Long-term Environmental Management Goals and Strategies" in the subchapter entitled "Environmental Sustainability Strategies")	<ul style="list-style-type: none"> <li>Assessed and structurally reinforced activity faults along THSR routes</li> <li>Strengthened slope monitoring and protection mechanism</li> <li>Increased the frequency of slope inspections</li> <li>Replaced disaster alarm system server</li> <li>Acts of third party construction within and outside the restricted area</li> </ul>

Topic	Major Risk Category	Risk Implications	Relevant Response Measures and Actions	Key Performance Indicators	2022 Performance
Social	Operational Safety Risks	In the THSRC system, facility and equipment failure, human negligence, sabotage or other external factors may affect train safety, which in return harm employees, passengers, contractors, and the public or result in delay or interruptions in railway operations	<ul style="list-style-type: none"> <li>▶ Formulate safety and health policy, corporate quality policy, and configuration management policy, as well as managed these policies in accordance with the Operation Safety Plan, the Occupational Safety and Health Management Manual, the Corporate Quality Manual, the High Speed Rail System Configuration Management Manual, the Corporate RAMS (Reliability, Availability, Maintainability and Safety) Manual, the Railway Operation Security Management Plan, and the Corporate Safety Assurance Plan</li> <li>▶ Establish Operational Safety Committee and Occupational Safety and Health Committee which meet regularly every quarter</li> <li>▶ Perform internal audit and safety inspections of railway operation safety, occupational safety and health, quality management, configuration management, and system assurance, etc.</li> <li>▶ Conduct railway safety training, occupational safety and health training, hazard management training, and disaster prevention and rescue drills and training</li> </ul>	<ul style="list-style-type: none"> <li>▶ Percentage of configuration monitored items (please refer to the subchapter entitled "Quality Management Systems (QMS)" ) ↗</li> <li>▶ Four major quality performance indicators (please refer to the subchapter entitled "Quality Management Review") ↗</li> <li>▶ Inspection cycle and number of trainsets maintained (please refer to the subchapter entitled "Station and Route Safety and Risk Management") ↗</li> </ul>	<ul style="list-style-type: none"> <li>▶ Evaluated the relevant operational risks and contingency strategies in the event of a Taipower power failure</li> <li>▶ Reported to the Board of Directors on operational safety performance</li> </ul>
Corporate Governance	Information Security Risks	THSRC is Taiwan's key information infrastructure provider and is listed as an agency of cyber security responsibility Level A in Taiwan. Therefore, the confidentiality, integrity, availability, and legal compliance of the THSRC information system are key risk considerations for our information security	<ul style="list-style-type: none"> <li>▶ Formulate information security policy and computer software intellectual property protection policy, which are managed in accordance with the Information Security Management Manual</li> <li>▶ Establish the Information Security Management Committee, which convenes review meetings regularly every six months</li> <li>▶ Establish a management operation system in accordance with the ISO 27001 Information Security Management Standards</li> <li>▶ Implement internal audit, drill assessment, information security diagnosis, penetration test, defense in depth, education and training regarding information security in accordance with the requirements for agencies of cyber security responsibility Level A in Taiwan</li> </ul>	<ul style="list-style-type: none"> <li>▶ Personal information inventory count</li> <li>▶ Number of related awareness programs, and education and training sessions held and training completion rate</li> <li>▶ Review through regular meetings</li> </ul>	<ul style="list-style-type: none"> <li>▶ Report to the Board of Directors on the implementation of information security governance and management</li> <li>▶ Continued to integrate IT and OT information security management and implement information security detection and monitoring based on the three major strategies of OT protection (maintaining OT segment independence, strengthening OT boundary maintenance, and defending against the OT segment)</li> <li>▶ Vigilance raised against offshore cyber attacks</li> </ul>
	Financial Risks	Changes in the economic and financial situation at home and abroad will affect THSRC's revenue, maintenance and operation costs, interest rates, and exchange rates, thereby affecting THSRC's profit or loss and cash flow	<ul style="list-style-type: none"> <li>▶ Comply with the relevant provisions of the "International Financial Reporting Standards (IFRS)", the "International Accounting Standards (IAS)", and government regulations</li> <li>▶ The competent authority conducts a regular annual financial review</li> <li>▶ Managerial departments review budgets every month and report them to the Board of Directors every six months</li> <li>▶ Regularly produce quarterly and annual financial statements</li> <li>▶ The Board of Directors reviews important financial activities in accordance with relevant laws and regulations and internal control systems</li> </ul>	<ul style="list-style-type: none"> <li>▶ Cumulative Revenue</li> <li>▶ Net Income after Tax</li> </ul>	<ul style="list-style-type: none"> <li>▶ Submitted financial reports to the Board of Directors every quarter, and budget execution reports submitted to the Board of Directors every six months</li> <li>▶ Submitted the THSRC's financial solution implementation effectiveness checklist, budget and financial modules checklist, and THSRC's financial audit report during the planned operation period to the Ministry of Transportation and Communications</li> <li>▶ Interest rate risk due to the trend of interest rate hikes</li> <li>▶ Liquidity risk due to the impact of the pandemic on revenue</li> </ul>

In order to respond to the emerging risk and cultivate the risk awareness and cognition of THSRC's colleagues, THSRC arranged risk-related internal and external courses as follows. In 2022, 88 people were trained, with a total of 260 hours.

- ▶ Investment plan assessment and risk management practices
- ▶ Exploring the impact of ESG risk on corporate internal control and response measures in the face of climate change and sustainable development
- ▶ Boosted the value of corporate sustainability and improved the risk management system
- ▶ General safety and health education and training (occupational safety and health hazard risk assessment)
- ▶ Occupational Safety & Health Hazard Identification, Risk Assessment, and Risk Control Procedure
- ▶ Functional Training on Cyber Security - Risk Management of Cyber Systems

### Legal Compliance

THSRC has established a compliance policy, specific implementation objectives, and a management mechanism in accordance with relevant regulations and guidelines drafted by competent authorities. The implementation results of the legal compliance system have been integrated into its internal control system, which requires employees to self-examine their compliance status and each team to assess the risk of legal compliance. This approach aims to cultivate an awareness and culture of compliance among employees. In 2022, the average risk level evaluated by each team was medium to high, and implementation effectiveness of risk control at each team was highly effective. Meanwhile, the results were submitted to the supervisors of each team for audit according to the internal control system review mechanism.

THSRC reviews applicable laws and regulations on a quarterly basis, files cases to competent authorities for adjudication, and convenes representative meetings on compliance. These efforts are aimed at continuously improving and tracking compliance in a rolling manner, with the ultimate goal of fostering a culture of law compliance within THSRC. The compliance status of THSRC in 2022 is described as follows:

- ▶ Important laws and regulations related to the construction and operation of THSRC: Including the Railway Act and its sub-laws, the Statute for Encouragement of Private Participation in Transportation Infrastructure Projects, the Act for Promotion of Private Participation in Infrastructure Projects, and the Fair Trade Act. In 2022, there were two penalty and adjudication cases, both of which have been resolved through payment of penalties and implementation of improved management measures. These cases did not have a material impact on the overall operations of the Company.
  - In 2021, THSRC hired foreign employees without obtaining approval from the Ministry of Transportation and Communications (MOTC), which contravened Article 34 of the Railway Act. As a result, THSRC was fined NT\$300,000 by MOTC in both February and April 2022. We have conducted a review of our hiring process for foreign nationals and implemented control mechanisms for managing fixed-term contract staff. We have also imposed penalties on those who failed to fulfill their duties and intensified efforts to educate team managers on compliance with relevant laws and regulations to prevent similar incidents from occurring in the future.
- ▶ Important laws and regulations related to public listed companies: In 2022, there were no violations of the following important laws and regulations, including the Company Act, the Securities and Exchange Act, the Regulations Governing Procedure for Board of Directors Meetings of Public Companies, the Regulations Governing Establishment of Internal Control Systems by Public Companies, and other laws and regulations related to corporate governance, such as ethical management and information disclosure.
- ▶ Laws and regulations related to “economic and social aspects”: In 2022, there were no violations of the following important laws and regulations, including the Income Tax Act, the Labor Standards Act, the Statute for Industrial Innovation, the Fire Services Act, the Consumer Protection Act, and other laws and regulations.
- ▶ Laws and regulations related to the “environmental aspect”: In 2022, there were no violations of the following important laws and regulations, including the Building Act, the Environmental Impact Assessment Act, the Soil and Water Conservation Act, the Water Pollution Control Act, the Air Pollution Control Act, the Noise Control Act, and the Waste Disposal Act.

In 2022, THSRC was not involved in any non-compliance events, such as penalties, resulted from the violation of regulations related to marketing and labeling of products and services.

## Ethical Management and Anti-Corruption

THSRC firmly believes that integrity, honesty, and corporate governance are the foundation of our operations. We have formulated relevant internal codes of conduct such as "Ethical Corporate Management Best Practice Principles," "Code of Ethical Conduct," and "Employee Code of Conduct," and increased all employees' awareness of anti-corruption through solid education and training so as to actively prevent conducts that violate integrity and internal norms. In 2022, no anti-corruption education and training for the Board of Directors was held due to COVID-19. However, if the competent authority releases relevant anti-corruption information or new laws and regulations, we will provide the Board of Directors with written materials. The number of participants and hours of education and training related to ethical management and anti-corruption organized for new and existing employees are listed below:

- ▶ The total number of new employees participated in the anti-corruption policy promotion sessions was 210, accounting for 4.5% of all employees.
- ▶ A total of 4,678 people participated in the digital training courses on ethics, integrity, and insider trading prevention, accounting for 100% of all employees, with a total of 4,678 hours. In addition, the Company's directors and senior management have signed the "Ethical Management Policy Statement."

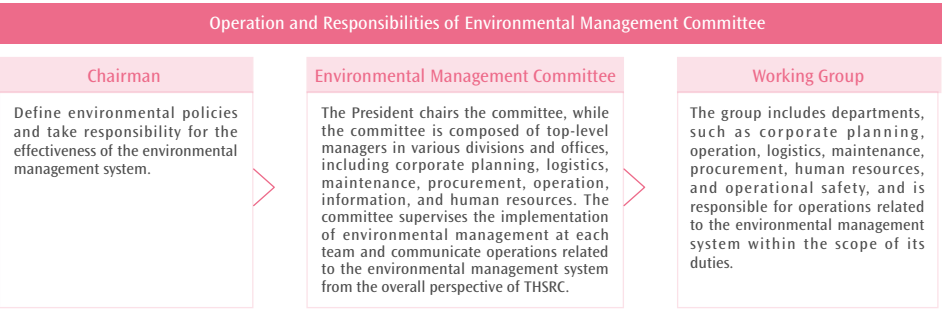
THSRC has set up the "Ethical Corporate Management Grievance Mechanism" and the "Regulation of Whistle-Blowing System for Unlawful, Unethical Conduct and Dishonesty Behavior," which are handled by the Company's spokesperson and the Internal Audit Office. Through these mechanisms, a comprehensive complaint channel has been established to promote the Company's culture of ethical management. In 2022, there were no material violations of regulations resulting in penalties imposed by competent authorities due to corruption, and no relevant complaints were received. In the future, we will continue to uphold the highest standards of integrity management.

In view of the fact that suppliers are THSRC's important partners, the Company has formulated the "Principles of Handling Unusual Conduct Among Manufacturers," "Procurement Regulations," and relevant sub-laws to regulate suppliers' integrity conduct while indicating the anti-corruption policies and procedures in the bidding instructions to ensure a fair, just and open bidding process. In case of violations, suppliers shall be required to make an explanation, and those with material violations may be blacklisted. In 2022, THSRC announced anti-corruption policies in a total of 1,096 procurement bidding cases. There were no cases of suppliers' violation of Ethical management.

## Low-Carbon Train Operation and Environmental Sustainability

### Environmental Sustainability Strategies

In order to implement environmental protection measures, the Company has set up an "Environmental Management Committee" with THSRC's Chairman as the convener, and composed of the executives of each department or division, to supervise the development and implementation of internal environmental policies and targets. In 2022, the Environmental Management Committee conducted four audits on environmental quality management to assess the actual performance of each depot and HSR station in promoting environmental sustainability. Additionally, the Environmental Management Committee held an "environmental management working conference" every quarter to monitor the progress and performance of each department in promoting environmental projects, ensuring the smooth operation of our environmental management systems. We also promote measures to mitigate environmental impact in compliance with environmental regulations. In 2020, THSRC became the first company in the rail service industry in Taiwan to pass the ISO 14001 environmental management system certification, demonstrating our commitment to environmental protection. In 2022, we passed the ISO 14001 environmental management system re-examination to ensure the effectiveness of our environmental sustainability management implementation.









## Environmental Protection Expenditure in 2022











Environmental Protection Measure (NT\$ thousands)	2020	2021	2022
Environmental impact assessment and monitoring (including Miaoli Station, Changhua Station, and Yunlin Station)	2,730	1,880	2,004
Environmental protection research (including Pheasant-Tailed Jacana Preservation, greenhouse gas inventory check, and noise research <sup>(Note)</sup> and improvement plan)	5,458	4,529	5,132
Environmental pollution prevention (wastewater and waste treatment operation and maintenance at stations and maintenance depots)	62,509	87,836	86,615
Total	70,697	94,245	93,751

Note: Please refer to the subchapter titled "Sustainability Commitment" subsection under the chapter "Transportation" for relevant information on noise control 

## Targets and Strategies

THSRC sets targets for internal sustainability issues which cover five aspects: environmental management, greenhouse gas management, ecological conservation, waste management and water resources management, and has formulated short-, medium- and long-term environmental management targets and strategies. Please refer to the table below for details:

Period		Target	Environmental Management Strategy	Achievements in 2022
Short-Term (till 2022)	 Environmental Management	<ul style="list-style-type: none"> <li>▶ Comply with environmental protection and environment impact assessment regulatory requirements</li> <li>▶ Conduct education and training for environmental protection personnel</li> <li>▶ Maintain the validity of ISO 14001 Environmental Management System certification</li> </ul>	<ul style="list-style-type: none"> <li>▶ Implement environmental management, environmental monitoring, and environmental protection in compliance with laws and regulations</li> <li>▶ Conduct environmental protection education and training for environmental management representatives and related personnel at each unit, and strengthen their familiarity with environmental protection regulations and related execution capabilities</li> <li>▶ Maintain the operation of the environmental management system through performance assessment, management review, external audit, and continuous improvement, so as to continue to pass ISO 14001 certification</li> </ul>	<ul style="list-style-type: none"> <li>▶ There were no sanctions cases of violation of environmental protection and the Environmental Impact Assessment in 2022</li> <li>▶ Passed ISO 14001 re-examination</li> </ul>
	 Greenhouse Gas Management	<ul style="list-style-type: none"> <li>▶ Obtained the ISO 14064-1 Verification Opinion Statement for greenhouse gas emissions at HSR stations in 2021</li> </ul>	<ul style="list-style-type: none"> <li>▶ Handling of "Low Carbon Product Award" for carbon footprint of high-speed railroad transportation service products</li> <li>▶ Conduct greenhouse gas emission inventory audit and external verification at HSR stations in 2021</li> </ul>	<ul style="list-style-type: none"> <li>▶ All HSR stations have completed the greenhouse gas emissions inventory audit and verification for 2021 and obtained the ISO 14064-1 Verification Opinion Statement issued by the verification team on November 9, 2022</li> </ul>
	 Ecological Conservation	<ul style="list-style-type: none"> <li>▶ Assist in Pheasant-Tailed Jacana Preservation work in Guantian, Tainan</li> </ul>	<ul style="list-style-type: none"> <li>▶ Continue to sponsor the Pheasant-Tailed Jacana Ecological Education Park</li> </ul>	<ul style="list-style-type: none"> <li>▶ Continued to sponsor the Pheasant-Tailed Jacana Ecological Education Park and invested more than NT\$1.143 million in 2022</li> </ul>
	 Waste Management	<ul style="list-style-type: none"> <li>▶ Strengthen waste reduction, implement waste sorting, and actively recycle resources and waste</li> </ul>	<ul style="list-style-type: none"> <li>▶ Create awareness of the concept of circular supply and resource recycling, promote waste reduction at the source, and strengthen waste sorting and recycling</li> </ul>	<ul style="list-style-type: none"> <li>▶ The amount of waste recycled reached 1,452.223 metric tons, with a recycling rate of approximately 23.0%. In 2022, no breach of contract occurred, and no leakage of oil, fuel, chemical substances, or waste occurred</li> </ul>

Period		Target	Environmental Management Strategy	Achievements in 2022
Short-Term (till 2022)	 Energy Management	_____	_____	▶ Average electricity consumption per passenger served at HSR stations was 1.688 kWh, compared to 2.091 kWh last year (2021), saving 19.27%
	 Water Resources Management	_____	_____	▶ Average water consumption per passenger served at HSR stations was 0.0120 cubic meters, compared to 0.0136 cubic meters last year (2021), saving 11.76%
Medium-Term (till 2023)	 Energy Management	▶ Promote energy conservation and carbon reduction measures at stations and maintenance depots, and set the annual electricity saving rate at greater than 0.86% as our energy conservation target using the average electricity consumption per passenger served at stations [excluding public areas Taiwan Railways Administration (TRA) and depots as an indicator]	▶ Continue to promote the four major energy conservation solutions, including “autonomous energy conservation management, reduce electricity consumption, transfer peak electricity usage, and use electricity reasonably”	▶ Results will be tracked and disclosed in the 2023 Sustainability Report
	 Water Resources Management	▶ Strengthen water conservation measures at stations and maintenance depots, and set the annual water saving rate at greater than 3.42% as our water conservation target using the average water consumption per passenger as an indicator	▶ Implement water management policies of conserving water, reducing the use of water, as well as recycling and reusing water	
	 Greenhouse Gas Management	▶ Set the annual carbon reduction rate at greater than 1.5% as our carbon reduction target using the gram of CO <sub>2</sub> e per passenger-kilometer as an indicator	▶ Implement energy conservation measures, continue to increase passenger volume, and reduce the amount of carbon emission per passenger-kilometer	
	 Environmental Management	▶ Implement the environmental management system and pass the ISO 14001 re-certification process ▶ Conduct environmental education and training for employees	▶ Continue to formulate and implement management goals, check the results, and make improvements through the environmental management system ▶ Conduct environmental education and training to enhance general employees' sense of responsibility toward environmental protection and deepen the concept of sustainable development of environment	
	 Waste Management	▶ Strengthen waste reduction, implement waste sorting, and actively recycle resources and waste	▶ Continue to create awareness of the concept of circular supply and resource recycling, promote waste reduction at the source, and strengthen waste sorting and recycling	
Long-Term (till 2026)	 Energy Management	▶ Conduct company-wide greenhouse gas inventory audit and verification	▶ Establish THSRC's "Greenhouse Gas Inventory Audit List" to conduct total emission inventory audit and verification and establish emission reduction measures and priorities	▶ Results will be tracked and disclosed in the 2026 Sustainability Report
	 Greenhouse Gas Management	▶ Implement ISO 50001 Energy Management System verification	▶ Establish the ISO 50001 Energy Management Systems to enhance energy management	
	 Waste Management	▶ Strengthen waste reduction, implement waste sorting, and actively recycle resources and waste	▶ Continue to create awareness of the concept of circular supply and resource recycling, promote waste reduction at the source, and strengthen waste sorting and recycling	


## Climate Change Mitigation and Adaptation





In light of the increasing global concern regarding climate change, the government's commitment to achieving net zero emissions by 2050, and the rail transportation industry's response to the threat of climate change, THSRC acknowledges the potential impact and difficulties that climate change may pose to sustainable operations. As a result, THSRC has proactively implemented a range of measures to mitigate and adapt to climate change.

In 2022, THSRC implemented a mechanism to evaluate climate-related risks and opportunities based on the Task Force on Climate-Related Financial Disclosures (TCFD) framework's four major recommendations and eleven recommended Disclosure. The objective is to assess the impact of climate change on the Company, implement systematic adaptation measures to mitigate its effects, and improve operational resilience. The TCFD requirements encompass the following four recommendations:

### Governance

The "Corporate Governance and Nomination Committee" of the Taiwan High Speed Rail Board of Directors has established a "Corporate Governance Promotion Committee". This committee is supervised by the Board of Directors and the Chairman and comprises the President and senior executives of the management department. The Corporate Governance Promotion Committee oversees the corporate governance planning team, sustainable development team, and ethical management team, which remain committed to addressing sustainable development management issues within the Company. Additionally, the Corporate Governance Promotion Committee will report to the members of the Corporate Governance and Nominating Committee and the Board of Directors on the progress and effectiveness of the implementation annually.

The Company has established a “Risk Management Policy” , overseen by the Audit Committee of the Board of Directors, to manage risks across all areas of its operations. This includes an Environmental Management Committee, chaired by the President and comprised of top executives from various divisions, to oversee the implementation and regular review of environmental risks and objectives, and to communicate environmental management practices. To facilitate cross-departmental communication and enhance overall operations, a working group spanning multiple departments or divisions has been established under the Environmental Management Committee to manage environmental management-related business.

As per the risk management framework, the team responsible for promoting and implementing risk management will report annually to the board. The report will review the response and effectiveness of risks related to climate change. For additional information regarding climate governance, please refer to, please refer to the “ Corporate Governance Structure”  and THSRC's annual reports , corporate website  and the Market Observation Post System (MOPS) .

### Strategy

In 2022, THSRC conducted a comprehensive assessment of climate change risks and opportunities referring to the TCFD disclosure framework. The latest climate risk assessment was completed by the Company at the end of the 2022. Taking into account the unique characteristics of the railway transport industry and prioritizing internal natural disaster management practices, the assessment identified six major risks from 22 climate-related risks, including two transition risks and four physical risks. The potential impacts of these risks were also evaluated based on their timeline. Please refer to the table below for the results of this evaluation.

Climate Risk Factor	Climate Risk Events	Timeline	Impact on Operations	Potential Impact on Financials
Transition risk	Regulations and policies: increasing costs of greenhouse gas emissions	Medium-Term	<p>In light of the 2050 net-zero emissions target and the enactment of the Climate Change Response Act, corporations will be obligated to remit carbon fees in stages based on their industrial characteristics, leading to enhanced expenses for greenhouse gas emissions.</p> <p>1 As per the Climate Change Response Act, the existing carbon pricing mechanism follows a phased approach. It is anticipated that a carbon fee will be implemented in 2024, which could potentially result in a surge in the expenses associated with greenhouse gas emissions.</p> <p>2 Due to the implementation of the carbon fees on construction projects, the contractor may pass on the resulting costs to the Company.</p>	<p>► The increase in cost and expenses will result in a decrease in operating income.</p> <p>► In accordance with the 2050 net-zero carbon emission transition mechanism and the imperative for energy conservation and carbon reduction, we will replace our equipment by procuring products with low-carbon emissions or equipment that boasts high energy efficiency.</p> <p>► Evaluate the possibility of purchasing renewable energy certificates or carbon credits.</p>
	Technology: Transitioning to low-carbon technology	Medium-Term	THSRC might be unable to completely replace its equipment with alternatives that have lower carbon emissions and are energy-efficient.	
Physical Risk	Acute physical risk: increased extreme weather events - typhoon-induced damage <small>(Note 1)</small>	Short-Term	<p>► May cause operational disruptions and damage to infrastructure and assets:</p> <p>1 The strong winds and heavy rainfall brought by a severe typhoon may cause slope collapse and scouring of river bridge foundations, and subsequent slope and bridge repair work will be required to maintain or restore their performance.</p> <p>2 A severe typhoon with strong winds and heavy rainfall may cause disaster damage to ongoing project, resulting in extended construction periods and affecting normal operations.</p>	<p>► Decrease in operating income.</p> <p>► Additional labor cost and maintenance and operation costs required for equipment/ infrastructure damage repair.</p>
	Acute physical risk: increased extreme weather events - heavy rainfall <small>(Note 2)</small>	Short-Term	Operational disruptions due to waterlogged stations, track failures and sliding slopes along the track, etc.:	<p>► Decrease in operating income.</p> <p>► Impairment of asset value increases the resilience of infrastructure, requiring additional labor costs and maintenance and operation costs.</p>

Climate Risk Factor	Climate Risk Events	Timeline	Impact on Operations	Potential Impact on Financials
Physical Risk	Acute physical risk: increased extreme weather events - heavy rainfall <sup>(Note 2)</sup>	Short-Term	<ol style="list-style-type: none"> <li>1 Short periods of heavy rainfall may cause disasters such as slope collapse and flooding of engine rooms along the route, and subsequent repair work will be required to maintain or restore their performance.</li> <li>2 Short periods of heavy rainfall may cause damage to the ongoing engineering projects, resulting in extended construction periods and affecting normal operations.</li> <li>3 After a short period of heavy rainfall, the project site will need to be inspected by staff, and there is a risk of unanticipated accidents that could endanger lives.</li> </ol>	<ul style="list-style-type: none"> <li>▶ Decrease in operating income</li> <li>▶ Impairment of asset value increases the resilience of infrastructure, requiring additional labor costs and maintenance and operation costs.</li> </ul>
Transition risk	Acute physical risk: increased extreme weather events - extreme heat <sup>(Note 3)</sup>	Short-Term	<ol style="list-style-type: none"> <li>1 THSR has not been able to replace its equipment with alternatives that have lower carbon emissions and save energy.</li> <li>2 Failure to meet the targets set out in the net-zero emissions roadmap may also result in damage to the reputation of the Company.</li> </ol>	<ul style="list-style-type: none"> <li>▶ Disruption of operations, resulting in a decrease in operating income.</li> <li>▶ Impairment of asset value</li> <li>▶ To increase the resilience of infrastructure, requiring additional labor costs and maintenance and operation costs.</li> </ul>
	Chronic physical risk: increase in average temperature	Long-Term	Climate change will affect travelers' needs and preferences, for example, consumers may choose more environmentally sustainable modes of transportation	

Notes: 1. "Typhoon-induced" refers to weather events caused by strong winds (gust velocity >30m/s) and heavy rainfall from severe typhoons

2. "Heavy rainfall" refers to short duration heavy rainfall weather events with hourly rainfall >50mm/h and 24-hour rainfall >250mm/24h

3. "Extreme high temperature" refers to weather events where the maximum temperature for the day exceeds 37.6 degrees

Based on the results of the climate risk assessment mentioned before, THSRC has chosen climate risk events that will have a "short-term impact (2023-2025)" and has taken an assessment of response measures. Currently, THSRC has established an early warning mechanism for climate disasters and will further enhance the disaster tolerance of track-related infrastructure and the climate resilience of operating system. This will ensure the provision of safe and secure services, allowing passengers to travel safely.

Climate Risk Factor	Climate Risk Events	THSRC's Response Measures
Physical Risk	Extreme physical risk: increased extreme weather events - typhoon-induced winds	<p>THSRC has formulated guidelines for adverse weather operations and provided contingency measures for different typhoon intensities to enhance the prevention and response to such extreme weather events:</p> <ol style="list-style-type: none"> <li>1 Suspension of operations: From the time the typhoon warning is issued, THSRC will have an Emergency Operations Center (EOC) set up to closely monitor the typhoon situation and consider the forecast of strong winds and rainfall in each region before making a decision to suspend operations</li> <li>2 Resumption of operation: Normal operations will be resumed gradually after regular line inspections have been arranged, taking into account wind speed, rainfall, and route conditions.</li> </ol> <p>In the future, technology will continue to be introduced to strengthen disaster tolerance and early warning capabilities (such as cooperation with the Industrial Technology Research Institute (ITRI) to develop a drone track patrol system) and strengthen the THSRC internal disaster prevention and response mechanism.</p>
	Extreme physical risk: increased extreme weather events - heavy rainfall	<p>THSRC has severe weather disaster mitigation measures and corresponding contingency measures in place. Despite the relatively short forecast period for rainstorm disasters, the following measures were taken to respond timely with appropriately:</p> <ol style="list-style-type: none"> <li>1 Ensuring safety: Rainfall forecasts are obtainable from both the Central Weather Bureau and private weather forecasting companies. THSRC 1) implements train deceleration contingency measures based on actual rainfall and location; 2) installs monitors on bridges across rivers and implement operational contingency measures for train deceleration or shutdown, depending on the flood level; 3) assesses the potential impact of disasters and take contingency measures to move vehicles from underground sections or Wuri depot.</li> <li>2 Maintaining operations: THSRC has implemented a disaster warning system (DWS) along its route. In the event of heavy rainfall causing rockfalls or landslides, THSRC can promptly halt train operations. Depending on the situation, the trains can operate in Bi-Directional Operation.</li> <li>3 The high-speed railway's slopes are characterized by poor geology, resulting in high and steep slope designs. In recent years, extreme weather conditions have caused continuous deterioration of the slopes' internal and external environmental conditions. This has led to changes in stress conditions and other issues that require enhanced slope management and monitoring. In 2022, the Company completed a total of 389 slope inspections and improvements, classified as A, B, C, and D based on their impact on operational safety (A being the highest risk and D being the lowest). In the future, we will strengthen the slope monitoring and protection mechanism by introducing digital technology to update and upgrade the slope automated monitoring system.</li> <li>4 The emergency exits in the underground section in Taipei which was built in the earlier phase were inspected for flood control elevation and improvements were completed according to the flood control needs.</li> </ol>
	Extreme physical risk: increased extreme weather events - extreme heat	<p>THSRC has severe weather disaster mitigation measures and corresponding contingency measures in place. Detectors are installed on the main turnouts to monitor and record the rail temperature to avoid compromising operational safety.</p> <ol style="list-style-type: none"> <li>1 For high rail temperatures, THSRC sets safety levels from 51°C (inclusive) and above to ensure safety; below 61°C (inclusive), monitoring is stepped up but there are no restrictions on train operation; above 61°C (inclusive), operation will be at a reduced speed; and above 65°C (inclusive), operation will be halted.</li> <li>2 Due to the high temperature tolerance of THSR rails, internal evaluation of extreme high-temperature events has a limited impact on train operations</li> </ol>
	Long-term physical risk: increase in average temperature	



One of the six primary axes of THSRC's sustainability strategy, THSRC's medium to long-term strategic blueprint for the next five years, is to address the impact of extreme climate and mitigate disaster risks. To achieve this, THSRC will actively collaborate with government agencies, academic institutions, and relevant industries to enhance climate adaptability, minimize operational disruptions, and reduce financial losses.

Strategy	Strategic Planning	Focus Areas
Adapting to extreme climate and reducing disaster risk	Introducing technology to enhance disaster tolerance and early warning capabilities	<ul style="list-style-type: none"> <li>▶ Strengthening toughness/weather resistance of existing facility structures.</li> <li>▶ Introducing artificial intelligence and Internet of Things (AI+IOT) technology and strengthens the effectiveness of disaster warning and facility monitoring.</li> <li>▶ Introducing telemetry and unmanned drive to improve observation efficiency.</li> </ul>
	Reviewing disaster preparedness in response to extreme climate threats	<ul style="list-style-type: none"> <li>▶ Building operational emergency support and decision support system.</li> <li>▶ Developing mobile response information platform.</li> <li>▶ Implementing slope safety management and disaster warning and response system.</li> <li>▶ Reviewing and implementing the security operations of the basic SOP.</li> </ul>

Climate change presents both risks and opportunities for businesses. THSRC is capitalizing on the advantages of low-carbon transportation and plans to enhance its energy efficiency by investing in renewable energy installations at stations and maintenance depots. The Company's goal is to establish a zero-carbon transport value chain. In addition to addressing climate risks, THSRC aims to offer consumers environmentally friendly, fast, and convenient services, thereby promoting sustainability throughout Taiwan. The following table outlines the climate-related opportunities identified in this review:

Climate Opportunity	Details of Opportunity	Potential Impact on THSRC
Technology: improving energy efficiency	Improve the energy efficiency of maintenance depots and stations, introduce high-performance trains and equipment, and inventory opportunities for greenhouse gas reduction	<ul style="list-style-type: none"> <li>▶ Reducing costs for energy use.</li> </ul>
Markets: Changes in consumer demand for green products and services	Increased environmental awareness may lead consumer to prioritize more environmentally sustainable low-carbon travel products to increase revenue	<ul style="list-style-type: none"> <li>▶ Increase brand value, higher corporate evaluation ratings, and increase investor and shareholder confidence.</li> <li>▶ As passengers choose more sustainable transportation methods, the demand for passenger capacity increases resulting in revenue growth.</li> </ul>


## Risk Management

### Process for Identifying and Assessing Climate-Related Risks


THSRC has completed the identification of climate-related risks and opportunities by following the TCFD recommendation and utilizing international railway transport industry practices. This was achieved through cross-departmental interviews and discussions, as well as reviewing and incorporating existing internal natural disaster management and response mechanisms. Qualitative assessment was used to determine the impact of climate change on the Company's operations and financial performance. The results will serve as a foundation for future risk review and decision making, with the aim of enhancing THSRC's climate risk management measures and strengthening its ability to respond to climate change.



### Identify, Assess, and Manage Climate-Related Risk Process and Integration of Management Systems


THSRC reviewed and identified the potential risks that could impact its operations and financial performance based on business and operational activities. Key factors considered include the business environment, operations, finance, and hazardous events. Evaluations are conducted to ensure the integrity of corporate risk management and the effectiveness of risk control, as well as to assess major issues related to the internal and external environment, society, and corporate governance. Therefore, set up an operational framework and identify primary risk categories, such as environmental risks (including those related to climate change), information security risks, operational security risks, and financial risks.

THSRC has developed a "Risk Management Policy"  that unites multiple committees at various levels to recognize and evaluate potential climate change risks within a risk management framework that encompasses all aspects of the Company's operations. The risk management promotion and implementation team report to the board of directors and audit committee annually. The team proactively and cost-effectively creates pertinent risk management practices, response methods, and conducts effectiveness reviews to assess, revise, and enhance THSRC's resilience to climate risks through medium and long-term risk strategies, objectives, and project promotions.

## Indicators and Targets

In line with the United Nations' Sustainable Development Goals, THSRC has integrated ESG principles into its business strategy. The Company has established medium- and long-term goals based on the six strategic directions of sustainability, with the aim of formulating performance reduction and quantitative targets for greenhouse gases, water resource management, and energy consumption. The achievement rate of each indicator is regularly monitored and reviewed, and internal management policies are adjusted on a rolling basis, based on the results of the annual review, to mitigate the impact of climate change through target management. For information on the relevant target achievements and other environmental-related performance in 2022, please refer to the "Low-carbon Train Operation and Environmental Sustainability"  subsection in this section.
















	Target	Performance item	2020	2021	2022
 <div>Energy Management</div> <div>(Note 1)</div>	<div>(Note 2)</div> Annual average electricity saving rate per passenger served <b>&gt;0.86%</b>	Total electricity consumption (tens MWh)	9,616.699	9,089.537	9,141.130
		Average electricity consumption per passenger served (kWh)	1.680	2.091	1.688
		Electricity savings (MJ)	9,865.251	18,977.791	-1,857.322
		Electricity saving rate (%)	8.938%	12.380%	19.273%
 <div>Water Resources Management</div> <div>(Note 1)</div>	<div>(Note 3)</div> Annual average water saving rate per passenger served <b>&gt;3.42%</b>	Total water consumption (cubic meter)	682,713	590,363	648,901
		Average water consumption per passenger served (cubic meter)	0.012	0.014	0.012
		Water saving rate (%)	5.338%	17.170%	11.764%

	Target	Performance item	2020	2021	2022
 (Note 1) Greenhouse Gas Management	(Note 4) Annual average carbon reduction rate per passenger-kilometer >1.50%	(Note 5, Note 6) Total emissions (metric tons of CO <sub>2</sub> e)	308,351.92	285,609.55	316,942.85
		Average grams of CO <sub>2</sub> e per passenger-kilometer (gram of CO <sub>2</sub> e/passenger-kilometer)	31.109	37.735	33.941
		Carbon reduction rate (%)	11.181%	19.406%	10.055%

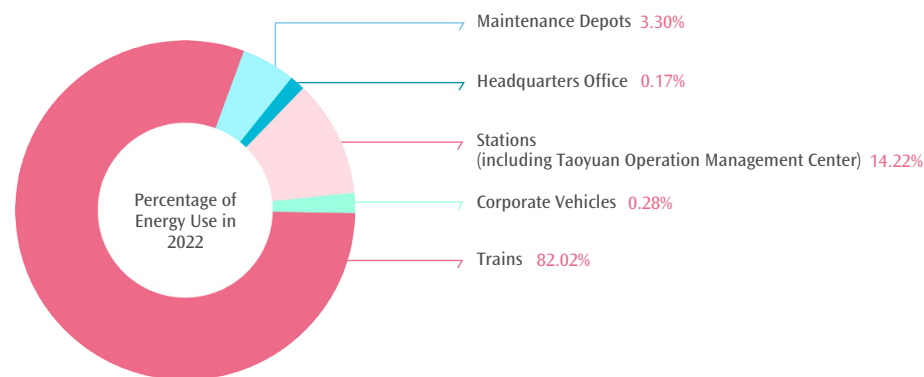
- Notes: 1. The electricity saving rate, water saving rate, and carbon reduction rate calculations for 2019 were based on the previous year's values. However, due to the pandemic's impact on passenger traffic in 2020 and 2021, the base values were adjusted. Therefore, the 2020 performance was compared to the adjusted base values of 1.845 kWh of electricity per passenger served for electricity savings, 0.013 cubic meters of water consumption per passenger served for water savings, and 35.15g of CO<sub>2</sub>e per passenger-kilometer for carbon reduction. In 2021, the performance was compared to the adjusted base values of 2.387 kWh of electricity per passenger served for electricity savings, 0.0164 cubic meters of water consumption per passenger served for water savings, and 46.18g of CO<sub>2</sub>e per passenger-kilometer for carbon reduction. A "positive" value for the reflected electricity saving rate, water saving rate, and carbon reduction rate represents a decrease, while a "negative" value represents an increase.
2. The scope of setting indicators and targets encompasses the electricity consumption of HSR stations, including the Taoyuan Operation OMC Center, but excluding commercial areas, parking lots, and public areas shared with the Taiwan Railways Administration (TRA) at Nangang, Taipei, and Banqiao stations, as well as depots. For performance evaluations related to THSR trains and THSRC's headquarters, please refer to the subchapters titled "Building Low-carbon Trains" and "Optimization of Sustainable Operations".
3. The indicators and targets setting scope pertain to water consumption at HSR stations, encompassing the Taoyuan OMC Building but excluding commercial areas, parking lots, and water consumption in public areas shared with TRA at Nangang, Taipei, and Banqiao stations, as well as depots.
4. The indicators and targets setting scope encompass the electricity and gasoline/diesel fuel consumption of THSR trains, as well as that of HSR stations. This includes the electricity consumption in public areas shared with TRA (at Nangang, Taipei, and Banqiao stations) and Taoyuan OMC Building, but excludes commercial areas and parking lots, depots, and THSRC's headquarters.
5. As the calculation of the National Electric Power Emission Factor in 2022 was based on the data from 2021, it differed from the data presented in THSRC's 2021 Sustainability Report.
6. Emission factors for gasoline and diesel fuel were corresponding factors from Version 6.0.4 (June 2019) of the Greenhouse Gas Emission Factor Management Table published by the Environmental Protection Administration.

## Total Energy Consumption (NOTE 1)

Unit: GJ

			2020	2021	2022
Trains		 Electric power	1,799,343.36	1,625,775.28	1,844,543.43
Stations	Maintenance Depots	 Electric power	72,400.23	66,910.38	66,633.02
		 <sup>(Note 3)</sup> Renewable energy	0	0	0
		 Diesel fuel	6,178.07	6,736.96	7,625.20
	Stations (Including Taoyuan Operation Management Center and the Public Area of the Shared Station with Taiwan Railway)	 Electric power	327,742.62	315,763.71	318,996.18
		 Renewable energy	729.65	784.45	597.70
		 Diesel fuel	196.54	175.18	197.43
Headquarters Office		 Electric power	4,013.86	3,857.01	3,907.56
		 <sup>(Note 3)</sup> Renewable energy	0	0	0
Corporate Vehicles		 Gasoline	6,806.47	2,658.01	2,555.57
		 <sup>(Note 2)</sup> Diesel fuel	1,509.11	5,027.75 <sup>(Note 2)</sup>	3,807.31
Total Amount		 Gasoline	6,806.47	2,658.01	2,555.57
		 Diesel fuel	7,883.73	11,939.89	11,629.94
		 Electric power	2,203,500.07	2,012,306.38	2,234,080.18
		 Renewable energy	729.65	784.45	597.70
		Total energy	2,218,919.91	2,027,688.73	2,248,863.39

- Notes: 1. THSRC used the Energy Product Unit Heating Value Table as specified in the 2016 Energy Statistics Handbook published by the Bureau of Energy, the heating value of 1 liter of diesel fuel for motor vehicles is 7,800 Kcal/L, and the heating value of diesel fuel is 8,400 Kcal/L, which is 4.187KJ per Kcal; 1 KWh= 0.0036GJ.
2. Due to the expiration of the company vehicle leasing contract in 2020, the Company switched to another leasing agency for diesel engine company vehicles since 2020, resulting in an increase in diesel fuel consumption in 2021.
3. Solar power generation facilities at four maintenance depots of Wuri, Yanchao, Zuoying, and Liujia were installed on the rooftop area of these maintenance depots rented by operators in the electric power industry. Electric power generated by such equipment was sold to Taiwan Power Company, so there was no data of green power consumption. As there is no renewable energy equipment installed at the headquarters office, there was no data of green power consumption, either.



Percentage of Energy Use

Percentage of Energy Use	2020	2021	2022
Trains	81.09%	80.18%	82.02%
Maintenance Depots	3.54%	3.63%	3.30%
Stations (including Taoyuan Operation Management Center)	14.81%	15.62%	14.22%
Headquarters Office	0.18%	0.19%	0.17%
Corporate Vehicles	0.38%	0.38%	0.28%

## Greenhouse Gas Emissions

Unit: metric tons CO<sub>2</sub>e

Year	2020	2021	2022
Scope 1	1,086.07	1,091.79	1,068.73
Scope 1 (Biological Sources)	0	0	0
Scope 2	307,265.84	284,517.76	315,874.11
Estimated Total Amount of Emissions	308,351.92	285,609.55	316,942.85

- Notes: 1. THSRC used the 2020~2021 National Electric Power Emission Factor published by the Bureau of Energy and calculated emissions in 2022 using emission factors in 2021. As the calculation of electric power emission in 2021 was updated in 2022, so the data was different from that in THSRC's 2020 and 2021 Sustainability Reports.
2. Emission factors for gasoline and diesel fuel were corresponding factors from Version 6.0.4 (June 2019) of the Greenhouse Gas Emission Factor Management Table published by the Environmental Protection Administration.
3. The Global Warming Potential (GWP) was taken from the fourth assessment report of the Intergovernmental Panel on Climate Change.
4. Greenhouse gas emissions were compiled using the operational control method.
5. The types of greenhouse gases emitted included sulfur dioxide, methane, nitrous oxide, fluorocarbon, perfluorocarbons, and sulfur hexafluoride.
6. The greenhouse gas emissions in 2022 have not been verified by ISO 14064-1 and are expected to be completed in December 2023.

## Building Low-Carbon Trains

THSRC utilizes the industrial benefits of low-carbon transportation to offer passengers environmentally friendly, fast, and convenient transportation services while effectively mitigating the environmental impact of operations. The average electricity consumption per passenger served at THSR stations and bases has decreased from 2.25 kWh in 2008, with a yearly decrease of 0.73 kWh. However, in 2022, the electricity consumption per passenger at THSR stations and bases increased to 1.35 kWh and 0.34 kWh, respectively. Nevertheless, this still represents a significant reduction from 1.66 kWh at THSR stations and 0.43 kWh at the bases in 2021. When calculated in terms of the passenger-kilometer carried by THSRC in 2022, the Company was able to reduce CO<sub>2</sub>e by 775,059 metric tons compared to smaller passenger cars. This reduction is equivalent to the carbon uptake of 1,922 Da-An Forest Parks.

## External Affirmation

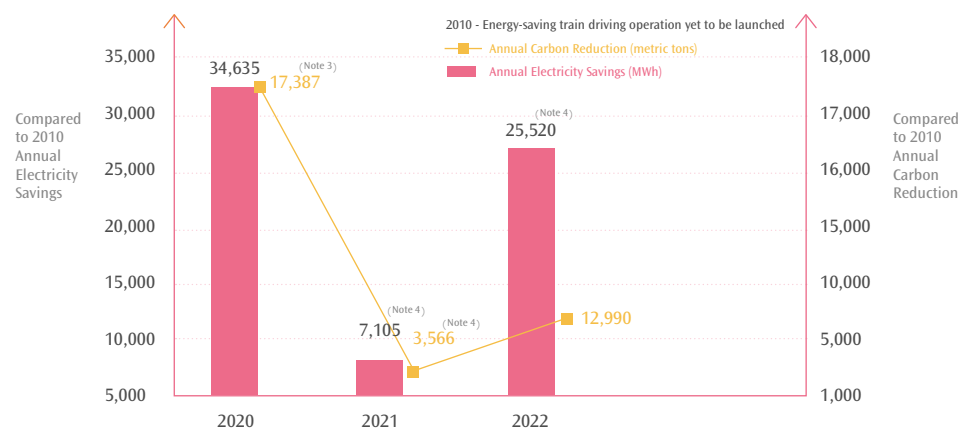
"Carbon Footprint label of High Speed Rail Transportation Services" and "Carbon Footprint of Passenger Transportation Between Stations" verification certificate and label.

In 2020, we applied to the Environmental Protection Administration (EPA) for an extension and were awarded a renewed carbon footprint label, which valid until December 16, 2025. As we have achieved our carbon reduction commitment of reduction by more than 3% within three years (by 4.92% in practice), we were awarded a "Carbon Reduction Label."



In order to continuously improve the energy use efficiency of trains, THSRC has introduced the LED device replacement plan and the energy-saving train operation plan. The former one has been promoted from November 2013 to the end of 2021, saving 13,326 MWh of electricity cumulatively and reducing CO<sub>2</sub>e by 6,926 metric tons. The latter one continues to promote energy-saving plans through the "Train Energy Conservation Team," which has been promoted from 2010 to 2021, reducing approximately 318,174 MWh of electricity and CO<sub>2</sub>e by 166,604 metric tons.

## Energy-Saving Train Operation Performance





- Notes: 1. THSRC used the 2010-2020 National Electric Power Emission Factor published by the Bureau of Energy and calculated emissions in 2021 using emission factors in 2020.
2. Only electricity consumption in train operation was included. Electricity consumption for lighting and air-conditioners on trains was not included.
3. The original annual carbon savings in 2020 as compared to those in 2010 were 17,629 metric tons, which was adjusted to 17,387 metric tons in the recalculation due to the adjustment of the 2020 emission factors.
4. In 2021, due to COVID-19, trains were reduced from May to November. In addition, due to the landslide incident on the Miaoli section in August, the speed limit of trains was implemented, resulting in a decrease in the energy-saving benefits of train driving in that year.

## Promoting Green Stations





THSRC has implemented energy-saving projects at five maintenance depots and 12 stations, and has established a comprehensive energy efficiency improvement plan to develop zero-carbon emission green stations. HSR stations are designed with a sustainable environment concept that includes "ecology, energy conservation, waste reduction, and health." Several energy-saving measures are implemented to suit the geographical environment of each station, reducing the load on building materials and air conditioning. The maintenance depots prioritize energy reduction planning, with the continued implementation of four major energy-saving schemes and several improvement measures for existing equipment.

## Energy Conservation Measures at Maintenance Depots in 2022

 Four Major Energy Conservation Solutions			Annual Power Generation (MWh)		
			2020	2021	2022
 Other Energy Conservation Measures	<ul style="list-style-type: none"> <li>▶ Autonomous energy conservation management</li> <li>▶ Reduce electricity consumption</li> </ul>		<ul style="list-style-type: none"> <li>▶ Transfer peak electricity usage</li> <li>▶ Use electricity reasonably</li> </ul>		
	<ul style="list-style-type: none"> <li>▶ In accordance with Taipower's initiative to promote the "new peak and off-peak time zone" tariff plan, the electrical equipment utilized during the original peak time zone will be repurposed for use during the off-peak time zone. This will be achieved through the monitoring of on-site electrical equipment to ensure proper functioning and stabilization of the quality of electricity supply.</li> <li>▶ Continuous replacement of LED energy-saving lamps at depots</li> <li>▶ Energy saving improvements at six depot dormitories</li> <li>▶ Replacement of split-type air conditioners at Zuoying depot</li> <li>▶ The water supply system at Yanchao Main Workshop Administration Building to be changed from irrigation pumps to gravity-fed</li> </ul>		<ul style="list-style-type: none"> <li>▶ Change from two-stage time-of-use tariff to three-stage</li> <li>▶ Install independent air-conditioning systems with small chiller units</li> <li>▶ Change the operation mode of blowers at wastewater treatment plants</li> <li>▶ Reduce the original contracted electricity capacity during the summer months <sup>(Note)</sup></li> <li>▶ Increase the temperature of outflowing water from cooled chillers</li> <li>▶ Improve the pressure capacity of the air compressor in the maintenance depots</li> <li>▶ Improve the monitoring function of the small energy-efficient chillers</li> </ul>		

Note: This is a "planned electricity consumption reduction measure" during the summer months (June to September), which means that Taipower provides tariff incentives, and the Company evaluates its own operating nature and applies for a contract for measures to reduce electricity consumption. During periods of high load on the power system or power supply difficulties, Taipower can guide users to reduce or suspend part of the electricity consumption to improve the system load.

## Energy Management Measures Implemented at Each Station in 2022

 <ul style="list-style-type: none"> <li>▶ 12 HSR stations have replaced their light fittings with LED, and all replacements are expected to be completed by the end of 2023</li> </ul>	 <ul style="list-style-type: none"> <li>▶ Replaced east side hydraulic elevator at Banqiao Station</li> </ul>
 <ul style="list-style-type: none"> <li>▶ Banqiao station reduced frequent contract capacity from 850 KW to 800 KW</li> </ul>	 <ul style="list-style-type: none"> <li>▶ Taichung station replaced split-type air conditioners</li> </ul>

In response to the global trend of sustainable energy transition and in line with the renewable energy policy promoted by the government, THSRC has built solar power generation facilities at maintenance depots and stations. In 2022, the annual solar power generation reached 10,543.24 MWh. The total power generation of the four maintenance depots was 8,172.08 MWh, and the power generated was all sold to Taipower; the total power generation of the six HSR stations was 2,371.16 MWh, of which 166.027 MWh was used by the HSR station, and the rest was sold to Taipower.

## Solar Power Generation at Four THSR Maintenance Depots

Maintenance Depots	Installed Capacity (W)	Annual Power Generation (MWh)		
		2020	2021	2022
Wuri Maintenance Depot <sup>(Note 1)</sup>	1,436.25	2013.19	1,864.20	1,703.12
Yanchao Main Workshop	3,856.59	4,891.6	4,512.94	4,930.32
Zuoying Maintenance Depot <sup>(Note 2)</sup>	1,410.17	1,528.87	2,175.03	962.16
Liuja Maintenance Depots	499.72	318.80	605.35	576.48
Total amount at all four maintenance depots	7,202.73	8,752.41	9,157.52	8,172.08

Notes: 1. Solar installation capacity and power generation were added at the detention ponds in 2020.

2. Solar installation capacity and power generation at the detention ponds and car/scooter parking spaces were added in 2020.

## Solar Power Generation at Six HSR Stations

Stations	Installed Capacity (W)	Annual Power Generation (MWh)		
		2020	2021	2022
Miaoli Station	72	66.56	39.812	28.537
Changhua Station	99.38	81.87	77.29	46.044
Yunlin Station	93.18	54.25	100.80	91.446
Tainan Station	499.72	676.11	622.87	670.515
Chiayi Station	968.44	1,062.66	1,027.41	1,005.50
Taoyuan Station	499.84	624.95	631.32	529.12
Total amount at all six stations	2,232.57	2,566.41	2,499.50	2,371.16



## Optimization of Sustainable Operations

THSRC not only actively implements low-carbon measures related to transportation services but also promotes energy-saving measures in its operations. The Company aims to achieve the goal of energy conservation and environmental protection through various measures, such as switching off lights during lunch breaks, regulating room temperature to 26 degrees, and replacing traditional lamps with LED. As a result of these efforts, THSRC has achieved significant energy savings at its headquarters and Taoyuan Operations Management Center in 2022.

### Headquarters

- ▶ In 2022, the savings of about 31,000 kWh of electricity are equivalent to reducing emissions by about 16 metric tons of CO<sub>2</sub>e.
- ▶ The complete substitution of LED lighting in the headquarters between August 2019 and December 2022 will result in a total electricity savings of 260,000 kWh and a reduction in emissions of roughly 136 metric tons of CO<sub>2</sub>e.
- ▶ In 2022, approximately 49,622 electronic documents were utilized, resulting in the conservation of approximately 594,464 sheets of paper, 71 trees, and a reduction of 852 kilograms of carbon emissions <sup>(Note)</sup>.

### Taoyuan Operation Management Center

- ▶ In 2022, the complete replacement of LED lamps and lanterns in offices and public areas will result in a total energy savings of 27,000 kWh. This is equivalent to a reduction of approximately 14 metric tons of CO<sub>2</sub>e emissions.
- ▶ From January 2020 to December 2022, the implementation of energy-saving measures will save a total of 46,000 kWh of electricity consumption, equivalent to a reduction of 24 metric tons of CO<sub>2</sub>e.

Note: Based on a reduction of 12 sheets of paper per electronic document and 5 grams of A4 paper per sheet, the switch to electronic documents will save about 2.97 metric tons of paper in 2022; according to the information provided by the Environmental Quality Protection Foundation ([http://www.eqpf.org/wood2/consumtion\\_3.html](http://www.eqpf.org/wood2/consumtion_3.html)) one metric ton of paper requires cutting down 24 trees of 12 meters in height and 15 to 20 centimeters in diameter; one tree absorbs about 12 kg of CO<sub>2</sub>e per year (<http://www.eqpf.org/sf/3-1.html>)

With the increasing consumer awareness of sustainability, THSRC is also offering a low-carbon and convenient riding experience to its customers through a range of ticketing services. The relevant performances for 2022 are outlined below:

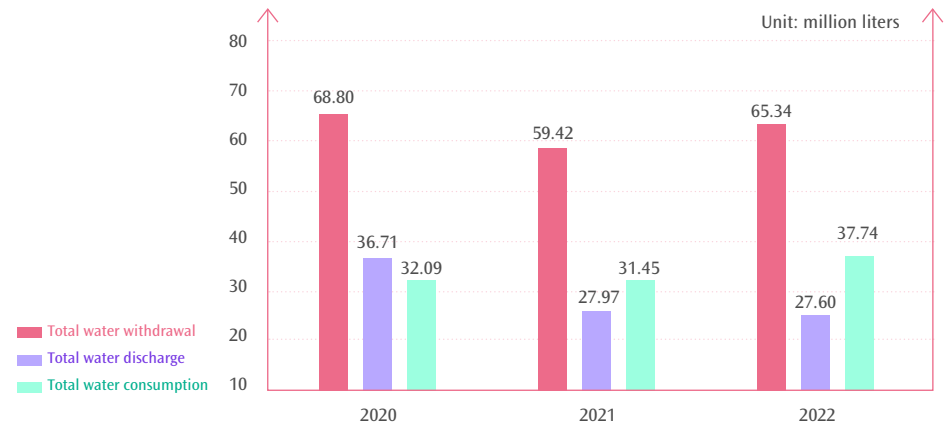
- ▶ Overall, THSRC has successfully reduced the cumulative number of magnetic/paper tickets used by passengers by 51.44 million pieces. In 2022 alone, the number of magnetic/paper tickets used by passengers decreased by 5.375 million pieces, demonstrating the effectiveness of THSRC's efforts to promote the use of periodic/multi-ride tickets.
- ▶ Due to the implementation of cellphone-based tickets, the total number of magnetic and paper tickets used by passengers has decreased by over 72.04 million. In 2022, there was a reduction of 14.87 million magnetic and paper tickets used by passengers.
- ▶ The cumulative number of passengers utilizing co-branded credit cards for non-reserved seat service has surpassed 13.12 million individuals. In 2022, the total number of magnetic/paper tickets used by passengers decreased by 1.35 million.

## Use of Water Resources and Wastewater Treatment

THSRC has implemented three major strategies, namely water conservation, use reduction, and recycle and reuse. Meanwhile, established an Energy Conservation Project Team to hold quarterly review meetings to examine the progress of implementation and actively practice water resource management. In 2022, the water conservation rate reached 11.764%, which is an improvement from 2021 and continues to meet the goal of reducing water consumption.

In 2022, THSRC used the water resources management tool of the World Resources Institute (WRI) for risk assessment. THSRC's water intake source is in the fifth range of 2.6-3.0 in a medium-to-low stress region. THSRC stations, maintenance depots, and THSRC's headquarters use tap water as the source of water rather than groundwater.

Regarding wastewater management, THSRC has set up wastewater treatment plants at various maintenance depots and Taoyuan, Hsinchu, Miaoli, Taichung, Changhua, Yunlin, Chiayi, and Tainan Stations. Professionals with wastewater treatment licenses will classify and treat the sewage to meet the standards for effluents <sup>(Note)</sup>. The remaining stations directly discharge sewage into sewers with sewage treatment fees paid regularly. Moreover, environmental management audits performed, THSRC complies with the "Water Pollution Prevention and Control Measures Plan," and the requirements of environmental laws and regulations. The total water discharge in 2022 was 27.60 million liters, and a report was filed on the quality and quantity of effluents from the sewage treatment plants as scheduled.



Note: The effluent standard complies with the effluent standard limit of the "specially polluted sewer system in other designated areas or places" specified under the Water Pollution Control Act, which includes water temperature < 35° C (October to April) < 38 ° C (May to September), pH value between 6.0 and 9.0, oil and fat <10 mg/L, suspended solids <30 mg/L, chemical oxygen demand <100 mg/L, biochemical oxygen demand <30 mg/L, ammonia and Escherichia coli).

## Waste Disposal

The recycling of THSRC's waste, including the resources generated from train maintenance operations and transportation services, as well as the recycling, clean-up, and disposal of and general industrial waste and waste at all HSR maintenance depots and stations are all processed by qualified licensed operators. Non-recyclable general industrial waste is ultimately disposed in incinerators. THSRC also manages the contractors through a contract mechanism to facilitate supervision of their compliance with relevant waste regulations. In 2022, the total amount of waste treated as per the reports filed was 4,854.508 metric tons, and 1,452.223 metric tons of waste was recycled, with a recycling rate of approximately 23.0%. The recyclables are classified into waste paper, waste plastic, scrap iron and others (including scrap copper, scrap aluminum, waste lighting sources, waste lead storage batteries, and waste glass containers, etc.), covered by 24.2%, 6.7%, 58.5% and 10.6%, respectively. In 2022, no breach of contract occurred, and no leakage of oil, fuel, chemical substances, or waste occurred.

THSRC is committed to reducing the amount of waste and increasing the rate of waste recycling year by year. THSRC not only urges the implementation of internal waste management, but also actively encourages suppliers to take actions. In our contracts with contractors, we require them to properly clean and dispose of the waste generated. Furthermore, the awareness-increasing session in meetings on interface agreements and work meetings with contractors, we supervise each contractor's implementation of waste treatment measures through on-site audits.

In 2022, THSRC invested approximately NT\$69 million in wastewater and waste treatment. The primary projects focused on enhancing the wastewater treatment plant management at Taichung Station. These projects included equipment maintenance and upgrades, equipment expansion and repairs, coagulants, precipitants, and disinfectants, water quality inspections, commissioning of sludge collection and disposal, and outsourcing of waste collection and disposal. Additionally, THSRC installed grease traps in Taoyuan, Hsinchu, Taichung, and Tainan to effectively separate oil and water from waste oil and sewage generated by station merchants during operations, thereby reducing the environmental impact.

## Unit: metric tons

	Stations		Maintenance Depots		Stations and Maintenance Depots		
	Amount of Waste (metric tons)	Amount of Resources Recycled (metric tons)	Amount of Waste (metric tons)	Amount of Resources Recycled (metric tons)	Amount of Resources and Waste Recycled (metric tons)	Total Amount of Waste (metric tons)	Resource and Waste Recycling Rate
2020	4,735.55	3,162.20 <sup>(Note)</sup>	551.59	872.58	4,034.78	9,321.92	43.3% <sup>(Note)</sup>
2021	3,891.98	495.29	442.27	1,117.82	1,613.10	5,947.35	27.1%
2022	4,288.59	621.99	565.92	830.23	1,452.22	6,306.73	23.0%

Note: In 2020, old air conditioners were replaced with more energy-efficient ones at the stations. Due to the large tonnage of old air conditioners, the weight of resources recycled increased, thereby increasing the recycling rate of resources and waste.

## Unit: metric tons

Environmental Indicator		2020	2021	2022
Total amount of general industrial waste <sup>(Note 1)</sup>		9,302.64	5,947.14	6,292.87
Total amount of general industrial waste recycled		4,034.78	1,613.10	1,452.22
Type and amount of waste recycled and disposed (qualified service providers were commissioned)	Waste paper	490.05	389.64	418.89
	Waste plastic	147.96	108.64	152.77
	Scrap metal	699.88	944.12	622.17
	Others (including scrap copper, scrap aluminum, waste lighting sources, waste lead storage batteries, and waste glass containers)	2,696.89	170.71	258.39
Total amount of general industrial waste incinerated		5,267.86	4,334.04	4,840.65
Type and amount of waste incinerated (qualified service providers were commissioned)	Domestic waste	3,867.21	3,104.97	3,380.79
	Liquid manure	1,236.29	1,012.10	1,210.95
	Waste wood	105.31	92.27	142.26
	Others (including waste lubricants, waste paint, and inorganic sludge)	59.05	124.71	106.65
Total amount of hazardous industrial waste <sup>(Note 2)</sup>		19.28	0.2	13.86
Total amount of hazardous business waste recycled and processed		19.28	0.2	13.86

Notes: 1. The waste from the headquarters is processed by the building management unit altogether, and the waste from trains is included in that from stations or maintenance depots for processing altogether, so the relevant data has been included in this table.

## Air Pollution Management

THSRC operates as a zero-emission carrier, emitting no air pollutants except for those generated during train maintenance at the Yanchao Main Workshop. In this regard, the Workshop is equipped with air pollution control equipment, including pulse bag dust collectors, activated carbon adsorption equipment, as well as catalyst incineration towers and other equipment, which are used to treat dust and volatile organic compounds (VOCs) generated during the spray painting process of trains. THSRC also obtained a stationary pollution source installation permit in October 2017, and a stationary pollution source operation permit in January 2019; additionally, a report is regularly filed every quarter in accordance with the Environmental Protection Administration's (EPA) "Administrative Measures for the Reporting of Stationary Pollutant Emissions in Public and Private Places." THSRC not only continues to perform environmental monitoring and environmental protection work through the Company's environmental management system, but conducts audits on the treatment of wastewater, waste and air quality at the Company's stations and maintenance depots through external environmental protection teams as well. In 2022, there was no punishment or penalty imposed by the competent authority due to environmental pollution. In 2022, the total air pollution emissions from THSRC was 6.91 metric tons. Please refer to the table below for the emissions of different types of gases:

Gas Category	Emissions in 2022
Nitrogen oxides (NOx)	No emission of this gas
Sulfur oxides (SOx)	No emission of this gas
Persistent Organic Pollutants (POPs)	No emission of this gas
Volatile Organic Compounds (VOC)	6.87 metric tons <sup>(Note 1)</sup>
Hazardous Air Pollutants (HAP)	No emission of this gas
Particulate Matter (PM)	0.04 metric tons <sup>(Note 2)</sup>

Notes: 1. Volatile organic compounds (VOC) are measured in kilograms and are calculated according to the percentage (% of VOC substances (X), such as toluene, xylene, ethylbenzene, etc., in various spray paint materials (M), such as  $M1 \times (X1Y1 + X2Y2 + X3Y3 + \dots) + M2(X1Y1 + X2Y2 + X3Y3 + \dots) + M3(X1Y1 + X2Y2 + X3Y3 + \dots) + \dots$

2. The data of particulate matter (PM10) in 2022 was sourced from the declared amount of the Environmental Protection Administration's Stationary Pollution Source Air Pollution Fee and Emissions Declaration Integrated Management System, which was calculated as activity intensity x (1-control efficiency%) x emission factor.

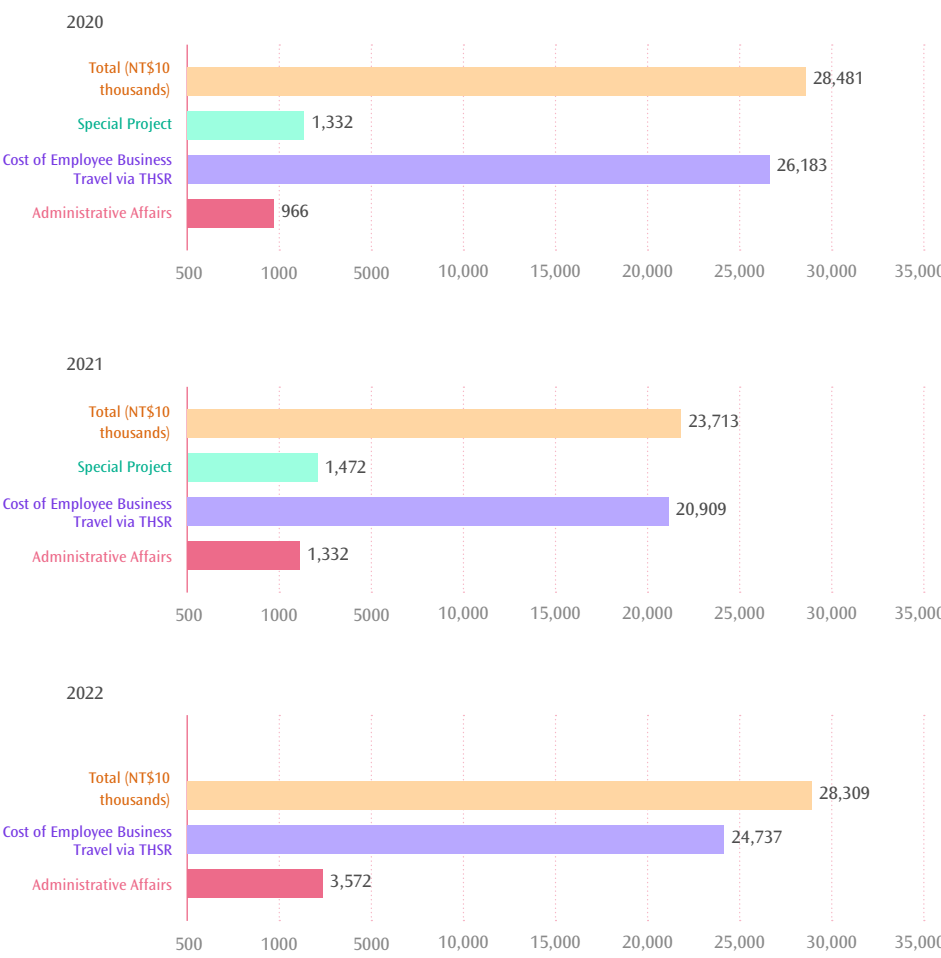
In addition to managing outdoor air pollution, the impact of the pandemic in recent years has led consumers to increasingly prioritize indoor air quality. In compliance with the "Indoor Air Quality Management Law" of the Environmental Protection Administration, THSRC has commissioned an inspection and measurement agency to conduct indoor air quality monitoring at each station every two years, based on guidelines outlined in the "Indoor Air Quality Inspection and Measurement Management Regulations for Publicly Announced Establishments." Monitoring of indoor air quality is conducted at all stations, with parameters including carbon dioxide, carbon monoxide, formaldehyde, total volatile organic compounds, bacteria, fungi, PM10, PM2.5, and ozone. The monitoring results have consistently met the "Indoor Air Quality Standards". The 2022 testing data is presented below:

Stations	Continuous Monitoring of Carbon Dioxide for 8 hours 1000 ppm	Continuous Monitoring of Carbon Monoxide for 8 hours 9 ppm	Formaldehyde Continuous Monitoring 1 hour 0.08 ppm	PM10 Continuous Monitoring 24 hours 75 ug/m3	Carbon Dioxide Patrol monitoring 1000ppm	Monitoring Date
01 Nangang Station	451.00	0.40	ND(<0.0090)	40.0	400~590	2021/12/01~02
02 Taipei Station	516.83	1.24	0.0087	25.59	513~619	2022/05/16~17
03 Banqiao Station	323.00	0.50	0.0087	46.00	460~596	2022/05/16~17
04 Taoyuan Station	451 479	0.5 0.5	ND(<0.0106)	19 13	436 464	2022/03/24~25
05 Hsinchu Station	462.00	0.60	ND(<0.0106)	26.00	418~553	2022/04/20~21
06 Miaoli Station	440.00	0.60	ND(<0.0090)	34.00	405~449	2021/12/02~03
07 Taichung Station	552 420	0.2 0.2	0.01 0.01	13 16	496~575	2022/06/07~08
08 Changhua Station	452.71	1.20	0.02	21.00	447~458	2021/11/03~04
09 Yunlin Station	456.00	0.20	0.02	19.00	417~465	2021/12/06~07
10 Chiayi Station	422 417	0.5 0.3	0.02 0.0087	9 23	460~662	2022/05/25~26
11 Tainan Station	372 467	0.3 0.6	0.01 0.01	6 12	522~655	2022/05/11~12
12 Zuoying Station	455.92	0.61	0.01	12.25	456.00	2022/05/27~28

To ensure optimal indoor air quality, HSR trains are equipped with a highly efficient "Circulation Ventilation System" that continuously draws fresh air from outside the train while in motion and at stops. On average, the system can replace the air in each car every 6 to 8 minutes. Fresh air is filtered through two stages in the air conditioning system before entering the cabin, while the air in the aisles and toilets is prioritized for removal. THSRC regularly cleans and replaces the filters to maintain air quality and promote passenger health, providing a fresh, clean, and comfortable travel environment.

### Caring for the Environment with Green Procurement

THSRC has implemented the concept of green procurement and collaborated with supply chain partners to enhance sustainable performance. In line with the "Green Procurement Declaration for Private Enterprises and Groups" announced by the Environmental Protection Department of the Executive Yuan, we will incorporate the procurement of products and services with environmental protection labels, green label products, carbon footprint label products, and carbon reduction labels into our green procurement programs. As THSRC has received carbon label certification, we will include the expenses of employees traveling on HSR in green procurement and actively promote energy conservation and carbon reduction in every operation link and value chain. THSRC not only mandates suppliers to provide products that comply with green procurement but also integrates the supplier's sustainability-oriented performance into the supplier selection criteria, while continuously verifying whether suppliers adhere to environmental regulations.



## Nurturing Talent and Value Cultivation

### Inclusive and Equal Employment

THSRC continues to attract a diverse range of professional talent, adhering to the principle of "the right person for the right job" as the core concept for recruitment, appointment, and remuneration design. The Company actively seeks to enhance workforce diversity and does not discriminate based on race, color, religion, gender, or nationality in talent selection. THSRC complies with relevant domestic laws, such as the Labor Standards Act, the Employment Service Act, and the Act of Gender Equality in Employment, when setting employee salaries, tenure, working conditions, and employment rights. This demonstrates THSRC's comprehensive and diverse employment system. The Company employs local talent, and 100% of senior management in its key operating locations in Taiwan are ROC nationals.

THSRC is committed to complying with regulations that support the employment and development of disadvantaged groups. Through various recruitment channels, we achieve the goal of diversifying our workforce. To this end, we have established a recruitment section on our website to hire staff with mental and physical disabilities based on job characteristics. In 2022, we employed 59 employees with disabilities, including 11 with severe disabilities, exceeding the legal requirement. Additionally, we recruited a total of 50 indigenous people.

In 2022, the turnover rate for all THSRC employees was 3.6%, representing an increase from 2.4% in 2021. This rise can be attributed primarily to the high turnover rate within the maintenance department. Moving forward, we remain committed to pursuing growth and creating a positive work environment that attracts top talent, thereby injecting diversity and vitality into the THSRC family.


#### Human Resources Structure

2022	Male	Female
Total labor force	3,078	1,600
Percentage of Male to Female	65.80%	34.20%
Total labor force (both male and female)	4,678	

2022		Male	Female
Fixed-Term Contract	Contract Employees	14	40
	Seconded Employees	—	—
	Outsourced Employees	—	—
Total Number of Employees on Fixed-Term Contracts		14	40
Total Number of Employees on Non-Fixed Term Contracts		3,064	1,560
Percentage of Male to Female		65.8%	34.2%
Total number of employees		3,078	1,600

Employee Category		2022		
		Male	Female	
Rank	Vice President and above	10	2	
	Assistant Vice President	14	4	
	Manager and Deputy Manager	161	41	
	Section Chief	570	155	
	General Employees	2,323	1,398	
Education	Vocational high school and below	174	22	
	University/Junior college	2,442	1,414	
	Masters	449	163	
	PhD	13	1	
Other Diversity Indicators		Indigenous employees	38	12
		Disabled employees <sup>(Note 4)</sup>	36	22
Age	Management Level	Under 30 years old	—	—
		30-50 Years old	71	29
		Over 50 Years Old	123	16
	Non-Management Level	Under 30 years old	376	247
		30-50 Years old	2,106	1,211
		Over 50 Years Old	402	97

Type	Male	Female	Northern Region	Central Region	Southern Region
Employees on Fixed-Term Contracts	14	40	16	22	16
Employees on Non-Fixed Term Contracts	3,064	1,560	2,171	849	1,604
Full-Time Workers	3,078	1,600	2,187	871	1,620
Total number of employees	3,078	1,600	2,187	871	1,620

- Notes:
1. Fixed-term contract employees are mostly front line interns (including station, service, and maintenance interns).
  2. Non-fixed term contract employees are full-time employees.
  3. The management level is defined as supervisors of section chief level and above.
  4. In 2022, no gig economy or part-time workers were employed.
  5. In 2022, no part-time employees were hired.
  6. The calculation formula is the number of people in the particular group/Total labor force.
  7. Due to the rounding of the data presented, the sum of data may not be exactly 100%.
  8. The calculation of data on employees with disabilities did not include employees on unpaid leave. In 2022, THSRC employed a total of 58 employees with disabilities, which was higher than the 1% employment requirement as stipulated in the prevailing regulations.
  9. For the data on the human resources structure from 2019-2021, see Tables 3 in the Appendices. 



## Statistics of New Employees

2022		Male		Female	
		Number	Percentage	Number	Percentage
Type	Train Staff	-	0.00%	-	0.00%
	Station Staff	33	14.86%	59	26.58%
	Operation Control Personnel	8	3.60%	-	0.00%
	Train Driver	-	0.00%	-	0.00%
	Maintenance Personnel	76	34.24%	2	0.90%
	Others	21	9.46%	23	10.36%
Age	Under 30 years old	97	43.69%	64	28.83%
	30-50 Years Old	40	18.02%	19	8.56%
	Over 50 Years Old	1	0.45%	1	0.45%
Total		138	62.16%	84	37.84%

Note: For the data on new employees from 2019-2020, see Table 4 in the Appendices. ↗

## Statistics of Resigned Employees

2022		Male		Female	
		Number	Percentage	Number	Percentage
Type	Train Staff	2	0.04%	7	0.15%
	Station Staff	13	0.28%	17	0.36%
	Operation Control Personnel	5	0.11%	1	0.02%
	Train Driver	3	0.06%	0	0.00%
	Maintenance Personnel	79	1.69%	2	0.04%
	Others	27	0.58%	12	0.26%
Age	Under 30 years old	50	1.07%	12	0.26%
	30-50 Years Old	64	1.37%	26	0.56%
	Over 50 Years Old	15	0.32%	1	0.02%
Total		129	2.76%	39	0.83%

Notes: 1. Only in the calculation of the turnover rate while interns, dispatch manpower, and contract employees were not included.

2. The turnover rate is calculated as: Annual number of resigned employees in the year/(opening+end of period total number of employees)/2. For the data on resigned employees from 2020~2021, see Table 5 in the Appendices. ↗

## Complete and Perfect Salary and Benefit System

THSRC values the rights and welfare of its employees and offers industry-competitive salaries and benefits, which are based on work experience, academic experience and expertise, without distinction based on gender, race, religion or political affiliation. The Company also has a transparent and fair remuneration policy, with salary adjustments based on criteria that take into account the interests of shareholders and the remuneration of employees.

The starting salary of THSRC junior employees in each job category is higher than the basic salary in Taiwan and does not differ due to gender. As most of THSRC's technical professionals are males, and their salaries are higher than other positions due to the nature of the professional services, there is a difference in the salary ratio of females to males in the general positions, with the ratio of salaries for section chief and managerial staff being comparable; Due to the relatively small number of staff at the Assistant Vice President or Vice President level, and the fact that salaries are influenced by the length of service in that position which resulted in a relatively large difference in the ratio of female to male salaries, but no significant difference, demonstrating the equality of THSRC's remuneration policy. Besides, in order to protect secondees' and contract employees' rights, their salaries are determined and approved by THSRC, and THSRC will inspect manpower agencies' labor contracts and salary-related documents to protect such employees' labor rights.

## Comparison with Basic Salaries in Taiwan

Items	Female	Male
Local Basic Salary (NT\$)	25,250	
Starting Salary for Junior Staff (NT\$)	33,800	33,800
Ratio of starting salary for junior staff to local basic salary	1.34	1.34

## Ratio of Basic Salaries of Females to Males <sup>(Note)</sup>

Rank	Female	Male
Vice President and above	1	1.11
Assistant Vice President	1	1.13
Manager and Deputy Manager	1	1.01
Section Chief	1	1.01
General Employees	1	1.07

Note: THSRC calculates the ratio of basic salary of females to males based on the fixed monthly salary paid to non-fixed term contract employees every month.

In 2022, there were 4,615 full-time non-supervisory employees in THSRC, a decrease of 45 people over the previous year. The total salary was NT\$4,377,305 thousands, the average salary was NT\$948 thousands, and the median salary was NT\$860 thousands. Compared with the previous year, the total salary increased by NT\$191,123 thousands, the average salary increased by NT\$50 thousands, and the median salary increased by NT\$48 thousands.

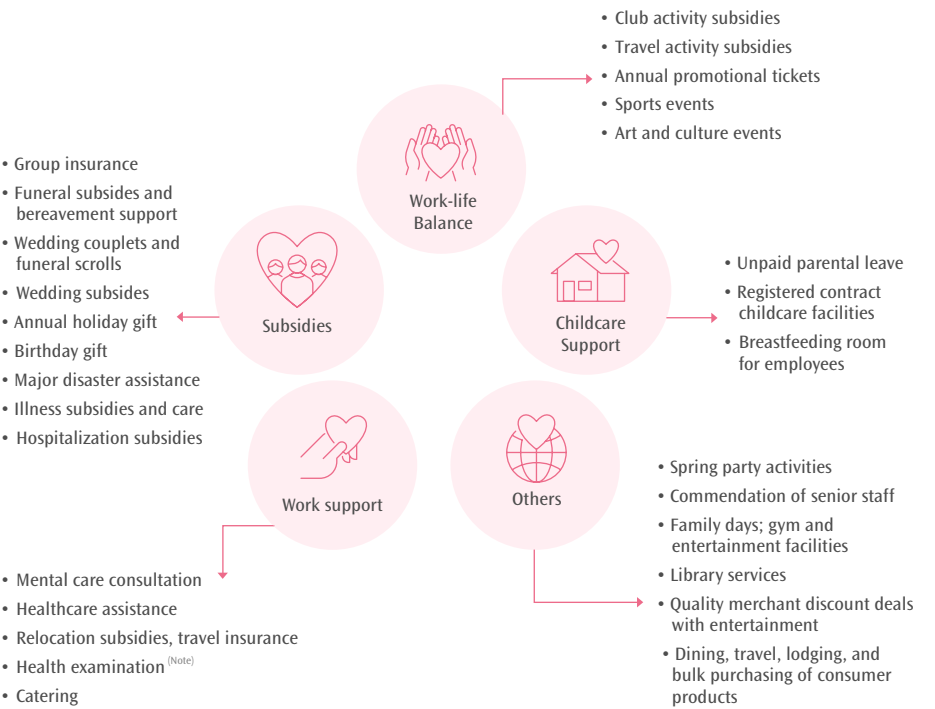
## Information on Salaries of Full-Time Non-supervisory Employees

Items	Unit	2021	2022	Annual variation
Number of full-time non-supervisory employees	Number	4,660	4,615	-0.97%
Total salary of full-time non-supervisory employees	NT\$ thousands	4,186,182	4,377,305	4.57%
Average salary of full-time non-supervisory employees	NT\$ thousands	898	948	5.57%
Median salary of full-time non-supervisory employees	NT\$ thousands	812	860	5.91%

The 2022 annual total salary of THSRC is calculated based on the salary information of full-time employees without executive positions. However, to meet the statistical requirements of "the top individual" and "other employees," executive positions are also included in the calculation. The highest paid individual in the Company earned an annual total salary 8.16 times higher than the median annual salary of employees. Additionally, the annual increase in the salary of the highest paid individual was 1.76 times higher than the annual increase in the median annual salary of employees.

THSRC firmly believes that a sound welfare system is key to strengthening labor partnership, in addition to providing a transparent and fair remuneration system. To help employees balance work and life, THSRC provides a variety of benefits, including childcare support, work-life balance, work support, and subsidies. We have established an employee welfare committee in accordance with the law and regularly review our internal welfare policy through market surveys conducted by external consulting companies to ensure competitiveness. In response to the COVID-19 pandemic and vaccination needs, we provide statutory infectious disease insurance and vaccine insurance for our colleagues. THSRC also explores ways to protect employees' wages and career development without restrictions, encourage employees " Care-Free about Pregnancy, Childbirth, and Childcare". For employees who apply for statutory unpaid leave, including parental, injury, illness, and military service, regardless of gender, if the Company implements a salary adjustment during the unpaid leave, the annual salary adjustment system can still be applied after reinstatement to protect their working conditions.

### THSRC Employee Benefits and Work Support Items



Note: THSRC's health examination measures are superior to those stipulated in the relevant laws and regulations, where general employees aged 45 years old and above undergo health examination once a year, and those aged under 45 years old undergo health examination once every two years, while train personnel undergo health examination once a year. The 2022 annual health examination for general and train personnel was completed from March to September, and 100% of train personnel completed the health examination.

## Comprehensive Employee Training

### Training Based on Three Major Competencies

THSRC places great emphasis on the development of employee competencies. To ensure the integration of training and practice, the Company plans employee education and training based on two main aspects: "safety" and "service". THSRC also strengthens the professional knowledge of the three major competencies, namely core competencies, professional competencies, and management competencies. To cultivate professional talents in the transportation industry and stimulate employee enthusiasm for learning, the Company combines multiple learning channels, including external training, online digital courses, and practical exercises. THSRC has established a "Training Management and Digital Learning System" and a mobile learning app to effectively monitor the learning process and enhance learning efficiency. In 2022, as the pandemic has been on a downward trend in the second half of the year, the internal training situation within the Company gradually returned to pre-pandemic levels. Some 122,315 learning sessions were conducted during the year, with a monthly average of 10,193 sessions, representing a 45% increase compared to 2021.

Type of Competencies	Core Competencies	Professional Competencies	Management Competencies
Key Content	Related training to shape employees' values, safety, quality, and services	Related training to enhance job knowledge and skills required by employees	Related training to advance management philosophy and thinking, strategic thinking, planning and organization, and leadership among supervisors
Applicable Personnel	All employees	All employees	Junior, middle, and senior supervisors
Progress	<ul style="list-style-type: none"> <li>▶ THSRC offers online courses, including train assistant, ethics and integrity education and training, confidential information protection operations, and information safety and management. These courses enable employees to acquaint themselves with THSRC's culture of integrity and respond prudently to information security incidents, thereby preventing unlawful activities.</li> </ul>	<ul style="list-style-type: none"> <li>▶ THSRC's frontline technical and service personnel are required to pass certifications and participate in incident simulation drills to ensure a consistently high level of sensitivity to transportation safety.</li> <li>▶ THSR train drivers are required to complete over 1,000 hours of professional driving courses and pass THSRC's internal training test to obtain driving certification. Additionally, they must pass the high-speed rail train driving license test administered by the MOTC before they can commence their duties as a train driver.</li> </ul>	<ul style="list-style-type: none"> <li>▶ To cultivate supervisors' competencies and strengthen management efficiency and quality, THSRC has formulated various strategic thinking and leadership training courses.</li> <li>▶ Planned a two-day "Customer-oriented Communication Influence Workshop" and "Continuous improvement &amp; Decision making quality enhancement Workshop" for individual managers.</li> <li>▶ All supervisors undergo scientific assessment to evaluate their managerial competence, and training is provided based on the gap between the assessment results and their current competencies. In 2022, 15 new supervisors were evaluated, bringing the total number of evaluated supervisors to 261 by the end of the year. To enhance management performance, training courses such as "communication ability" and "cognitive ability" will continue to be arranged, and "The Management Learning Passport" will remain in operation.</li> </ul>
Implementation Results in 2022	<ul style="list-style-type: none"> <li>▶ 100% of employees completed train helper training</li> <li>▶ 100% of employees completed ethics and integrity training</li> <li>▶ 100% of employees completed training in confidential information protection operations and information security and management</li> </ul>	<ul style="list-style-type: none"> <li>▶ 99% of railway maintenance personnel obtained professional certification</li> <li>▶ 100% of employees completed train personnel skill test training</li> </ul>	<ul style="list-style-type: none"> <li>▶ 100% completion rate for the "Performance Enhancement and Mentoring Workshop" and "Framework-Breaking Systems Thinking and Decision Making Workshop"</li> <li>▶ 100% of employees completed management ability evaluation training</li> </ul>



Supervisor Cognitive Training Course



## Internal Lecturer Cultivation

To enhance the professional knowledge and technical expertise of THSRC employees and to meet the growing demand for self-provision of professional courses, THSRC is committed to developing internal lecturers in areas such as safety, service, and technical services. These individuals are recommended or selected by senior colleagues or supervisors from relevant units and are qualified as internal lecturers after completing training courses and practical exercises. In 2022, THSRC successfully trained 70 qualified internal lecturers. The training primarily focuses on professional functions, with management functions as a supplementary component. In 2022, the total number of in-house training hours was 44,248, with 1,524 in-house lecturers participating in the courses.



Group photo of teachers and students of the internal lecturer training course



Internal lecturer training course



### Training Program

2022 Internal Lecturer Training



### Satisfaction (out of 5 points)

Average Satisfaction 4.8 ★★★★★



### Student Experience and Feedback

- It is evident from this course that the lecturer possesses systematic and modular teaching skills. Furthermore, the lecturer demonstrates the ability to collaborate effectively with colleagues across different units.
- The information provided was highly informative and proved invaluable in the preparation of course content. Collaborating with colleagues from other departments and sharing our final lesson plans was particularly useful in enhancing the overall quality of course content.
- The instructors possess extensive teaching expertise, and the course materials are both comprehensive and professional. As a result, I have gained knowledge and skills across various domains. This has been a valuable learning experience.

## Results of Education and Training Programs

To ensure the effectiveness of internal education and training, THSRC has established a curriculum satisfaction survey mechanism and devised an improvement plan based on the scores. In 2022, the overall employee satisfaction, regardless of training category, was 4.6 points out of 5, demonstrating THSRC's commitment to talent development and its deep trust and recognition among employees. Going forward, THSRC will integrate internal and external resources to enhance the organization's learning ability and employees' self-growth, as well as cultivate their all-round competence. The table below shows the number of training hours for different ranks and categories of THSRC employees in 2022. Due to the adjustment of annual training items, the number of training hours for new employees and employees in various positions has decreased compared to 2021:

2022	Male	Female	Total
All Employees at THSRC			
Number of Training Hours Per Capita (hours) <sup>(Note 1)</sup>	72.0	38.4 <sup>(Note 3)</sup>	60.5
Average Number of Training Hours Per Training Session (hours) <sup>(Note 2)</sup>	2.6	1.7	2.3
Average Number of Class Hours Per Different Job Rankings <sup>(Note 4)</sup>			
Vice President and above	9.4	14.4	10.2
Assistant Vice President	32.7	18.2	29.4
Manager and Deputy Manager	39.0	27.7	36.7
Section Chief	53.6	35.9	49.9
General Employees	79.3	39.1	64.2
Average Number of Class Hours Per Different Categories <sup>(Note 5)</sup>			
Train Staff	19.3	22.9	22.1
Station Staff	59.9	60.2	60.1
Operation Control Personnel	145.9	90.2	134.5
Train Driver	113.0	59.0	108.7
Maintenance Personnel	90.0	63.8	89.9
Others	33.0	24.3	29.6

- Notes: 1. Training hours per capita = Total training hours 283,152/Total number of trainees 4,678. The training hours per capita of males and females differ from each other mainly because of the ratio of males and females and different professional training attended due to job differences.
2. Average number of training hours per training session = Total training hours 283,152/Total number of training session 122,315. "Average number of training hours per training session" aims to present the number of training hours per training session for each person every year.
3. The calculation encompasses both fixed-term and non-term contract employees. Fixed-term contract employees primarily consist of front-line interns, including station, service, and maintenance interns. Non-term contract employees, on the other hand, are full-time employees.
4. In addition to course cancellations resulting from the pandemic, there was a reduction in training hours for general staff in 2022 compared to 2021. The majority of this decrease was observed among maintenance staff, primarily because they were not required to undergo skills assessment this year, which is conducted once every two years.
5. Average number of class hours per different job rankings is calculated as: Total number of training hours for a job ranking/Number of employees trained at the particular job ranking throughout the year.
6. Average class hours for different categories is calculated as: Total number of training hours for a particular category/Number of employees trained for a particular category throughout the year.
7. For the training hours from 2020-2021, please refer to Table 6 in the Appendices. ➤

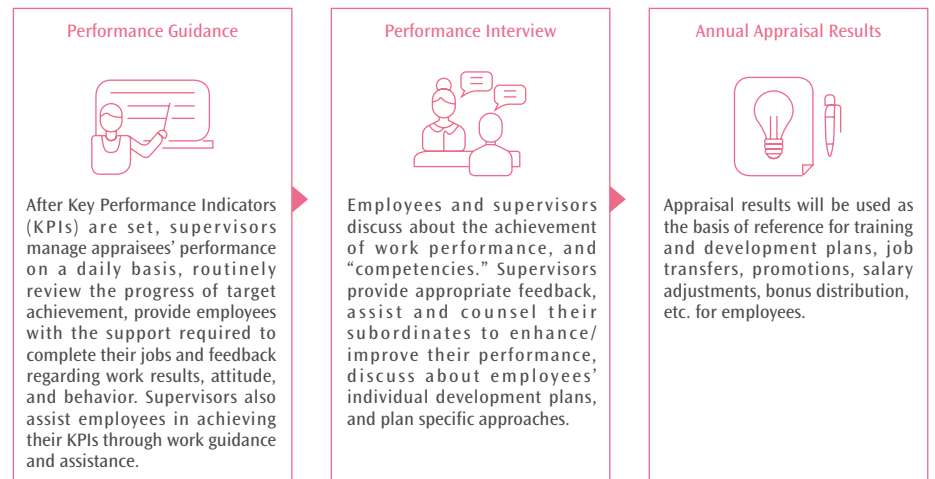
## Talent Management and Motivation

THSRC conducts an annual performance appraisal for all employees and supervisors, which determines their ratings based on the appraisal results. The ratings are classified into five levels, namely "Outstanding," "Significantly Exceeds Requirements," "Exceeds General Requirements," "Meets Requirements," and "Requires Improvement due to Inability to Perform Existing Work." Employees who receive the last rating are "required to undergo performance counseling to enhance their work", and unit supervisors provide necessary assistance and counseling to address the causes of poor performance. In 2022, the total number of full-time employees who underwent performance appraisal is 4,580, with only 14 employees who did not complete their appraisals due to their departure during the appraisal period. The number of completed appraisals accounted for 99% of the total number of appraisals due.

### Percentage of Employees Receiving Performance Evaluation by Gender and Age in 2022

Age Range	Female	Male
Under 30 years old	4.6%	7.0%
30-50 years old	26.8%	44.9%
Over 50 years old	3.0%	13.8%
Total	34.3%	65.7%

### THSRC's Performance Appraisal Process



### Promotion and Cultivation of High-Performing Talents

THSRC has been implementing the "Career Path" talent development program for some time now, with a commitment to building a comprehensive personnel development structure. The Company designs unique retention and career development paths for high-performing talents in front-line units and personnel in various positions. Additionally, THSRC plans relevant manpower allocation based on the results of the annual manpower inventory audit to meet the needs of each business unit. Based on the two foundations of organizational needs and personal development, we provide high-performing talents with annual promotion opportunities to enhance their professional level and achieve the goal of motivating and retaining talents. For those interested in management positions and who meet the Company's requirements, they can expand their personal career development and maximize their potential through the job promotion channel.

From 2022 onwards, THSRC has developed a specific career development path for maintenance and operation employees. Our aim is to enhance the efficiency of the organization's operation by nurturing future maintenance field supervisors through the experience of different duties and improving the communication skills of maintenance professionals. In 2022, a total of 61 maintenance and operation employees received training, with 41 having completed the training and 20 still undergoing training. In the lead up to 2022, we will conduct relevant training in accordance with the implementation principles of career development and exchange plans. This will aim to strengthen employees' cross-disciplinary professional knowledge, and cultivate a total of 9 station masters, 10 train supervisors, 9 chief controllers, 5 station supervisors, 7 station train controllers, and 1 train driver.

## Protection of Rights and Considerate Care

### Human Rights Policies and Employee Care

To uphold our corporate philosophy of respecting human rights, THSRC has complied with domestic labor and related laws and regulations. In 2018, we formulated a "Human Rights Policy" that was approved by the chairman and announced as the highest guiding principle of human rights governance for the Company. Our commitment to human rights extends beyond compliance with domestic laws and regulations. The Company also support and adhere to the principles and spirit of international human rights conventions such as the United Nations "Universal Declaration of Human Rights," the "Guiding Principles on Business and Human Rights," the "Global Compact," and the International Labour Organization's "Declaration of Fundamental Principles and Rights at Work." Furthermore, we have implemented a management approach to human rights issues that protects all employees who may be at potential risk and ensures that each employee is treated fairly and with respect.

### Human Rights Risk Management

THSRC's primary risk concerns include freedom of association, care for vulnerable groups, the prohibition of child labor, the elimination of all forms of forced labor, and the eradication of discrimination in employment and career advancement. To address these human rights risks, we have implemented a comprehensive management mechanism and internal regulations to monitor, track, and assess the effectiveness of risk mitigation and remediation measures. Our goal is to eliminate any violations and abuses of human rights and ensure that all employees are treated with dignity.

### 2022 Human Rights Concerns and Practices

Human Rights Concerns	Stakeholder	Human Rights Policy	Implementation of Human Rights Risk Mitigation Measures
Freedom of Association	Employees	To guarantee the freedom of employees to choose their purpose for association, to establish associations, and to decide whether or not to participate in the formation of associations and related affairs.	<ul style="list-style-type: none"> <li>▶ The freedom of association for employees is upheld, with over 100 distinct associations formed.</li> <li>▶ To protect the right to solidarity among staff. Currently, the Company has two trade union organizations: the Corporate Trade Union and the Industrial Trade Union. We regularly convene meetings with these unions to foster harmony and enhance labor-employer relations.</li> </ul>
Caring for the vulnerable	Employee/employee family/traveler/community resident	Demonstrate a commitment to public policy and welfare by actively participating in community development and education initiatives led by civic organizations, charities, and local government bodies.	<ul style="list-style-type: none"> <li>▶ Employment of individuals with disabilities and indigenous peoples in compliance with the law and offer group insurance, bereavement care, inpatient medical care, and major disaster relief.</li> <li>▶ To provide ride guidance services, accessible seats, elevators, parking spaces and accessible toilets. We are dedicated to providing a passenger-friendly, barrier-free environment and planning complete service packages.</li> <li>▶ The "High-Speed Educational Endowment Program" aims to enhance educational opportunities for economically disadvantaged individuals. The THSRC "Smiling Train Program" collaborates with local educational and charitable organizations to enable these groups to travel on THSR trains at no cost or at a reduced rate, thereby fulfilling their aspirations. Additionally, the "Annual THSRC Winter Outreach Blood Drive" is conducted to alleviate the winter blood bank crisis.</li> </ul>



Human Rights Concerns	Stakeholder	Human Rights Policy	Implementation of Human Rights Risk Mitigation Measures
Prohibition of child labor	Recruitment and employment in accordance with the law and no child labor is employed	Zero child labor under the age of 15	<ul style="list-style-type: none"> <li>▶ To protect children's right to education, the Company has excluded child labor under the age of 15 when selecting candidates, and no child labor is currently employed by the Company</li> </ul>
Elimination of all forms of forced labor	Employees	Employees must not be compelled to work through violent means, coercion, detention, or any other unlawful methods.	<ul style="list-style-type: none"> <li>▶ Personal identification documents will not be withheld when registering, and no fees are required to be paid in advance.</li> <li>▶ Unless otherwise stipulated by law (court deductions, employee deductibles, employee benefits, union dues, etc.), wages shall be paid in full.</li> <li>▶ Employees provide labor on their own initiative.</li> </ul>
Eliminating discrimination in employment	Employee/Job seekers	To avoid all forms of discrimination and differential treatment, to implement diversity in the workplace, and to promote equality at work	<ul style="list-style-type: none"> <li>▶ The company does not discriminate in any way in its recruitment.</li> <li>▶ Provide employee breastfeeding rooms to support breastfeeding policies.</li> <li>▶ Employees who apply for statutory leave without pay, including for childcare, injury, illness, and military service, will be subject to the annual salary adjustment system upon their return to work if they have not completed 183 days of service in that year. This policy applies to all employees, regardless of gender. In 2022, a total of 156 employees applied for childcare leave without pay, with 27 men and 129 women among them. Of those who took leave, 110 employees returned to work, resulting in a reinstatement rate of 93.6%. In 2021, 83 employees returned to work after taking leave, with 78 of them returning after one year. The retention rate for these employees was 94.0%.</li> </ul>
Putting an end to human rights violations	Employees	To guarantee that employees have proper avenues for clarification and recourse in case their lawful rights and interests are violated, and are not subjected to any type of unfavorable treatment.	<ul style="list-style-type: none"> <li>▶ Establish measures for preventing and controlling sexual harassment, as well as regulations for addressing grievances, which should be made public in the workplace. Additionally, implement a two-tier complaint handling mechanism and a strong internal grievance system to ensure that all employee issues are handled appropriately.</li> <li>▶ Individuals who violate or fail to comply with laws, regulations, and internal company policies will be subject to disciplinary action in accordance with relevant reward and punishment measures.</li> </ul>

## Training in Human Rights Protection

THSRC has organized several human rights protection training courses, which include preventing unlawful infringement in the workplace and workplace sexual harassment prevention. A total of 1,078 individuals have completed the training. Additionally, we have planned seminars and training courses tailored to the specific needs of different job duties to assist employees in reducing stress and promoting a harmonious working environment.

Course Title	Course Content	Participants	Batch	Training Hours	Number of Participants
Illegal Workplace Assault Prevention and Interpersonal Boundaries and Communication	<ol style="list-style-type: none"> <li>1 The impact of relevant laws and regulations on the workplace</li> <li>2 Illegal assault &amp; sexual harassment incident response</li> <li>3 Interactive strategies to prevent unlawful infringement</li> <li>4 Workplace interaction and preparation for communication</li> <li>5 Establishment and Communication of Correct Interaction in the Workplace</li> </ol>	All employees	4	28	173
"Gender Friendly Workplace Seminar - Prevention of Sexual Harassment in the Workplace Course "	<ol style="list-style-type: none"> <li>1 Potential bias and risk awareness in the workplace</li> <li>2 Identify sexual harassment hazards in the workplace</li> <li>3 The similarities, differences, application, and implications of the three administrative laws</li> <li>4 Handling Sexual Harassment</li> </ol>	Supervisor and investigating members	6	13	206
Communication from the Heart: Transposition Thinking in the Workplace	<ol style="list-style-type: none"> <li>1 Elements of communication</li> <li>2 The four steps to empathy</li> <li>3 Significance of transposition thinking</li> </ol>	All employees	1	2	147
"Rotate" the Inner Spotlight: Tips for Workplace Transitions	<ol style="list-style-type: none"> <li>1 Be aware of the "thought" in your mind</li> <li>2 Checking on your "thought"</li> <li>3 The ingenious trick to transition</li> </ol>	All employees	1	2	144
How to Successfully "Transit" Into Retirement Life	<ol style="list-style-type: none"> <li>1 Five emotional stages of retirement</li> <li>2 How to make a successful transition to retirement</li> <li>3 The importance of life planning</li> </ol>	All employees	1	2	103
"Retirement Financial Planning" Made Easy for Working Class	<ol style="list-style-type: none"> <li>1 Take it slow to make it fast: characteristics of retirement planning</li> <li>2 Create a viable retirement goal</li> <li>3 Characteristics of common financial instruments</li> <li>4 How to make use of market psychology to increase profitability</li> </ol>	All employees	1	2	165
Communication With the Elderly	<ol style="list-style-type: none"> <li>1 A psychological approach to understand the mentality, physical changes and needs of the elderly</li> <li>2 Effective empathy and communication skills in daily interactions with elderly</li> <li>3 Long-term care</li> </ol>	All employees	1	2	140
Total			15	51	1,078

## Labor Relations and Employee Care

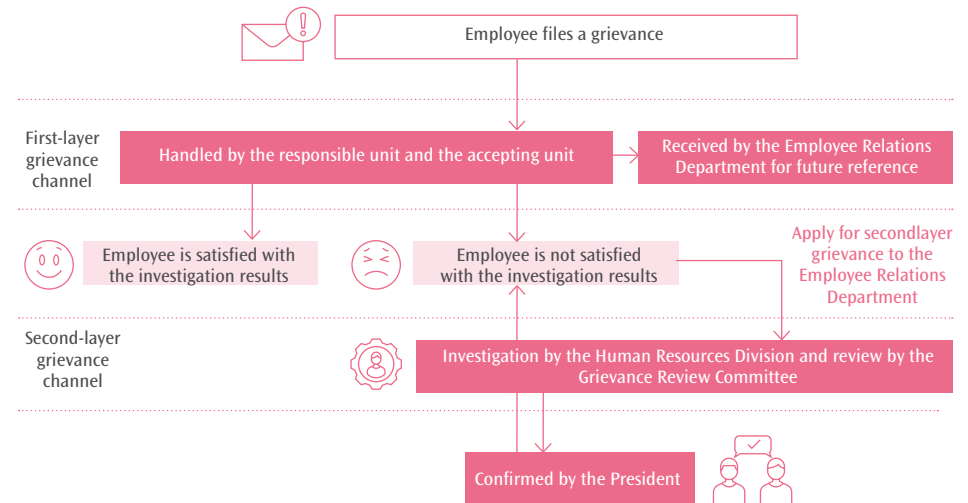
THSRC highly values the opinions and rights of all employees and recognizes that effective two-way communication is a crucial component of sustainable business operations. On March 31, 2022, THSRC achieved a significant milestone by signing a collective agreement with the corporate trade union for the first time. This achievement comes after nearly six years of negotiations and demonstrates the commitment of THSRC and the corporate trade union to collaborate and enhance the rights and interests of employees. The collective agreement includes fundamental regulations on the agreement's status, validity, and scope of application, as well as 13 articles on business leave for trade union councils and supervisors, official leave for the four statutory meetings, provision of clubhouse facilities, assistance in commuting to meetings, and assistance in labor education and training. This agreement applies to approximately 1,800 employees. As the current collective agreement's content is based on the Company's existing labor conditions, the labor conditions and benefits of other employees not covered by this agreement, except for labor education activities, remain unaffected.

THSRC acknowledges and upholds the right of its employees to freely associate and conducts regular meetings to engage with both corporate and industrial trade unions, ensuring that their voices are heard. As of 2021, 38% of employees have joined trade unions. To better understand the needs of our employees, we hold regular meetings with THSRC unions and quarterly labor meetings at 19 business sites. Corporate trade unions convene monthly, while industrial trade unions meet every two months. In 2022, discussions will cover topics such as working days and holidays, special leave provisions, overtime procedures, and variable working hours regulated under standard working hours. Apart from trade unions and labor-management conferences, we have established various channels for complaints and communication, including a sexual harassment prevention and complaint channel (email: helpme@thsrc.com.tw, telephone: 02-87251319, fax: 02-87251329).

The chart below illustrates the procedure for addressing employee grievances at THSRC. In 2022, a total of 14 complaints were filed, primarily concerning interpersonal and management matters. All cases were resolved in accordance with the established employee complaint process, and all responses and cases were concluded. THSRC endeavors to enhance awareness of the process through trade union and labor-management conferences. The internal complaint mechanism has resulted in a substantial rise in the number of grievances. Going forward, THSRC will remain committed to proactively addressing employee complaints to foster harmonious labor-management relations and cultivate a transparent workplace environment.

THSRC is dedicated to eradicating sexual harassment and ensuring the physical and mental well-being of its employees in the THSR workplace. To achieve this, physical and online education and training will be provided to supervisors and colleagues. Units where sexual harassment occurs will receive specialized education and training, and psychological rehabilitation and counseling will be offered to victims. In 2022, 206 supervisors at or above the level of section chief participated in six sessions of sexual harassment prevention and education training courses. Additionally, 4,678 peers attended online e-learning courses, achieving a 100% participation rate.

In 2022, THSRC received a total of four sexual harassment complaints, all of which have been addressed and resolved. THSRC has established procedures for handling sexual harassment complaints, including deliberations and other measures. Immediate psychological counseling is provided to victims of such incidents, and all staff members are continuously educated on the prevention of sexual harassment and related legal issues. A Sexual Harassment Complaints Committee has been established, consisting of 13 members on a rotating basis, including internal members, external experts, and academics with legal backgrounds who serve as investigation and deliberation members. THSRC has developed a reference list of proposed sanctions and a scale of sanctions for sexual harassment cases to ensure open and fair criteria for scrutiny and to protect the physical and psychological safety of workers in the THSRC workplace.



THSRC has implemented internal equipment and care measures in compliance with the "Act of Gender Equality in Employment" and "Labor Health Protection Regulations" to ensure employee well-being. Additionally, the Company has established the "Mental Health Protection Regulation" to cater to the diverse needs of its employees. In 2022, THSRC introduced an external "employee support program" to create a more employee-friendly work environment. This program aims to assist employees in addressing various issues, provide timely support and assistance, and maintain their physical and mental health. Further details are as follows:

Act of Gender Equality in Employment	<ul style="list-style-type: none"> <li>THSRC has established baby care rooms and breastfeeding rooms for employees, encouraging and supporting breastfeeding policies</li> </ul>
Labor Health Protection Regulations	<ul style="list-style-type: none"> <li>THSRC has established infirmaries at its headquarters, Operation Management Center (OMC) building, and maintenance bases. Additionally, the Company has set up health rooms at HSR stations that exceed the standards required by relevant laws and regulations. These facilities are intended to provide employees with access to emergency medical assistance.</li> </ul>
Mental Health Protection Regulations	<ul style="list-style-type: none"> <li>In the event of an accident, team supervisors, accident investigation units, and human resources personnel will collaborate to ensure the mental health protection of employees.</li> <li>We collaborate with pertinent departments to offer health consultations, work allocation recommendations, and mental health consultations to employees who are facing mandatory retirement, major injuries or illnesses, or are adjusting to reinstatement to duty. In 2022, we provided assistance to a total of 228 employees.</li> <li>According to the relevant government policies to protect employees' physical and mental health and employees' needs, we have formulated employee mental health lectures.</li> </ul>
Employee Support Program	<ul style="list-style-type: none"> <li>Provide service cards, posters, electronic direct mailers, and publicity seminars to promote and introduce the employee support program</li> <li>Provide 24-hour telephone consultation, counseling, crisis intervention, and protection plans to assist employees in resolving organizational and personal issues that may affect work performance A total of 91 employees were consulted.</li> <li>Provide a physical and mental health care platform which links relevant welfare and health information to allow employees to seek suitable assistance resources based on personal needs.</li> <li>Provide monthly physical and mental related publicity, self-assessment of emotional stress, and other new knowledge of mental health, and plan to conduct mental health lectures based on employees' mental health needs.</li> <li>In response to the impact of the COVID-19 pandemic in 2022, we provided peer care services, and took care of a total of 102 employees</li> </ul>

## Occupational Safety and Health

### Occupational Safety Management Mechanism and Effectiveness

To promote a safety culture that is “people-oriented”, THSRC has implemented an occupational safety and health management system since its inception and continues to enhance its performance. In 2017, the Company achieved dual certification for the Taiwan Occupational Safety and Health Management System (TOSHMS) CNS 15506 and the International Certification of Occupational Safety and Health Management System OHSAS 18001, following a successful external accreditation. In 2020, THSRC passed an external review and obtained certification for (TOSHMS) CNS 45001 and ISO 45001, which have been routinely validated annually since. The Company's occupational safety and health management system encompasses stations, maintenance depots, facilities, and office spaces. At the end of 2022, the system covered 4,678 workers and 157,941 contractors. In 2018, THSRC received the recognition of the Ministry of Labor for “Occupational Safety and Health Management System Performance”, furthering its goal of creating a safe and sustainable labor operation.

THSRC has formulated the “Safety and Health Policy” and regularly convenes the “Occupational Safety and Health Committee”. The committee comprises one chairman, one executive secretary, and 17 members, including seven labor representatives, accounting for one-third of all committee members. The Company also holds occupational safety and health management meetings to encourage all units and labor representatives to jointly review various occupational safety and health issues. The resolutions are announced through internal and external websites.

We have implemented various systems and policies to enhance our company's overall occupational safety awareness. Additionally, we have continued to provide employee safety and health training, focusing on seven special hazardous operations aspects: production machinery, mobile elevating work platforms, hoists, construction, hypoxia, electric welding, and chemical use and disposal. This training is aimed at strengthening our employees' emergency response capabilities and confirming the implementation of the contractor's safety and health training through supporting documents. In 2022, a total of 534 employees completed these training sessions, totaling 2,988 hours. Please refer to the following table for detailed training information:

Category of Training	Training Content	Number of Employees Trained	Number of Training Hours
Initial training for maintenance personnel	► Production machinery, mobile elevating work platforms, hoists, construction, hypoxia operations, electric welding, and chemical use and disposal	77	1,617
On-the-job training for maintenance personnel	► Mobile elevating work platforms, construction operations, hypoxia operations and confined spaces, and chemical use and disposal	457	1,371
Total		534	2,988

THSRC has implemented the “Hazard Identification, Risk Assessment, and Risk Control Procedure” to address occupational hazards and reduce the likelihood and severity of Occupational accident. This procedure involves identifying hazards, inspecting existing protective facilities, conducting risk assessments, and implementing control measures. THSRC has also adopted a hierarchical control system to eliminate hazards and minimize risks. Each unit has trained hazard assessment personnel who disclose hazard assessment information on the internal platform and re-check the effectiveness of hazard control measures annually to continuously mitigate and control the risk of each operation. In 2022, THSRC completed over 14,122 hazard identifications and risk assessments.

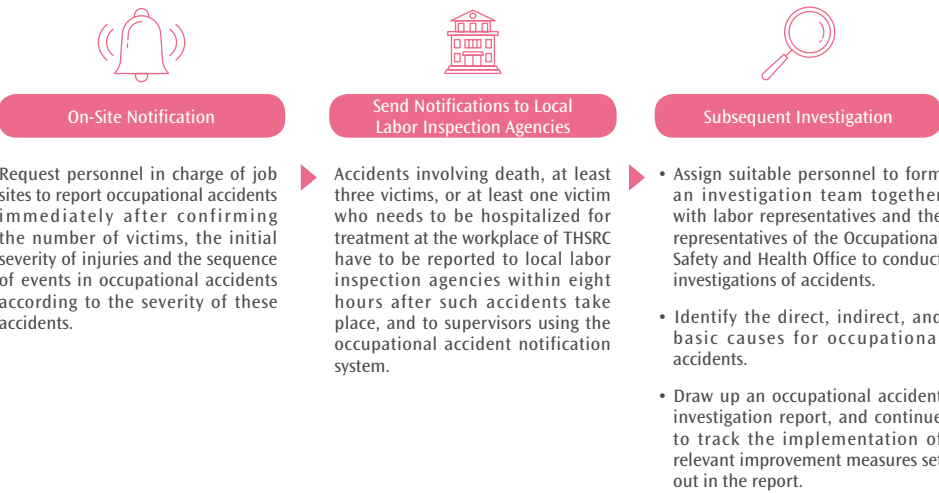
### Hazard Identification, Risk Assessment, and Risk Control Procedure



THSRC encourages all workers to actively report any situations that may cause occupational safety and health risks. We require all units to report false alarms and occupational injuries truthfully, to eliminate concealment, discover the true root cause, and improve potential hazards and risks. We ensure smooth reporting of occupational disasters and accidents through company regulations and announcements. In 2022, there were 187 confirmed occupational safety and security incidents. THSRC encouraged the reporting of false alarm incidents to increase the integrity of the scope of hazard assessment of each unit and provide a safer working environment, as well as increase the completeness of the risk assessment scope of each unit and further provide a safer working environment. After understanding the actual situation, we continue to improve work safety through environmental optimization, safety publicity, and regular maintenance of protective equipment.

If a worker discovers that there is a risk of immediate harm when performing his/her duties, the “Occupational Safety and Health Act” shall prevail in priority, and the worker can stop the operation and retreat to a safe place. The immediate supervisor who is informed will initiate subsequent measures to eliminate hazardous situations to ensure the safety of workers. In case of a disaster, after the internal and local competent authorities are informed, THSRC will immediately initiate an investigation process as per the “Occupational Accident Notification and Investigation Process,” with the aim of handling the incident effectively and alleviating the negative impact as quickly as possible. During the investigation, the immediate unit supervisor of said worker will lead the occupational accident investigation team to carry out the investigation jointly with labor representatives to ensure labor rights.

### Occupational Accident Notification and Investigation Process



THSRC not only implements internal occupational safety and health management but also actively collaborates with its supplier partners to create a safe and healthy workplace. In January 2020, the Company introduced a formal occupational safety and health management system for contractors, which is built through the contractors' management system. The system incorporates all the steps of "management regulations signing, pre-construction safety and health education, personnel and equipment checking and inspection, construction work management, high-risk operation control, non-compliance management, and factory evaluation" into its management to minimize the operational risk of contracted personnel.

To effectively manage THSRC's occupational safety and health performance, we have established measurable and trackable indicators for evaluation. We have also implemented periodic and non-periodic inspections and audits to ensure the effectiveness and feasibility of our internal management mechanism. The table below outlines the achievement of our occupational safety and health management goals for THSRC employees, contractors, and suppliers, as well as our occupational safety indicators for 2022.

### Occupational Safety and Health Management Goals <sup>(Note 1)</sup>

2022		Target	Actual Data		
			Male	Female	Total
THSRC Employees	Frequency-severity indicator for occupational accidents at the workplace <sup>(Note 2)</sup>	0.08	0.06	0.05	0.11
	Frequency-severity indicator for traffic related accidents outside the workplace <sup>(Note 3)</sup>	0.17	0.03	0.09	0.12
Contractors/ Suppliers	Number of people in fatal accidents	0	0	0	0
	Number of people in accidents involving at least three victims <sup>(Note 4)</sup>	0	0	0	0

Notes: 1. The settlement date for occupational safety and health management targets was December 31, 2022.

2. 
$$\text{Frequency-severity indicator} = \sqrt{\left( \frac{\text{Disabling injury frequency rate FR} \times \text{Disabling injury severity rate SR}}{1,000} \right)}$$

3. In 2022, THSRC employees experienced a total of 10 traffic accidents outside the workplace.

4. In 2022, there were zero disasters involving contractors that required hospitalization.

In 2022, THSRC reported no fatalities or serious injuries resulting from occupational accidents among its employees. The number of occupational accidents causing incapacity in the workplace was 12. Falls were the primary cause of occupational injuries, followed by improper actions by personnel. Workers who are not employees but whose work and/or workplace is controlled by the organization did not experience any occupational injuries resulting in "death" or "affecting more than three people". THSRC regularly publicizes the occupational accident cases and false alarms that happened to colleagues through multiple communication methods such as email, occupational safety and health bulletin board, agreement organization meeting, and toolbox meeting. As well as inviting occupational safety experts to give safety culture lectures to establish a safety culture. The management level strengthens on-site management and inspections, strives to instantly eliminate and improve unsafe conditions, and reminds colleagues to pay attention to work safety in real time. Under the principle of "non-hidden reporting", all occupational accidents on THSRC have been reported accurately in 2022, as well as no occupational disease-related incidents. In the future, we will continue to optimize occupational safety and health management measures to raise employees' awareness of safety protection.

### Occupational Safety Index

2022	Employees	Contractors
Number of deaths resulting from occupational injuries	0	0
Ratio of deaths resulting from occupational injuries <sup>(Note 2)</sup>	0	0
Number of severe occupational injuries	0	0
Ratio of severe occupational injuries <sup>(Note 3)</sup>	0	0
Number of occupational injuries on record	12	0
Ratio of occupational injuries on record <sup>(Note 4)</sup>	0.25	0
Main categories of occupational injuries	Fall (6)	—

Notes: 1. This table has been computed in compliance with the Occupational Safety and Health Act, the definition of occupational accident, and the indicators released by the Global Reporting Initiative (GRI).

2. Ratio of deaths resulting from occupational injuries = (Number of fatal occupational injuries/Total working hours) x 200,000.

3. Ratio of severe occupational injuries = (Number of severe occupational injuries/Total working hours) x 200,000. Note: 0 employees for 0 day; 0 contractors for 0 days.

4. Ratio of occupational injuries on record = (Number of reported occupational accidents/Total working hours) x 200,000. Note: 12 employees for 94 days; 0 contractors for 0 days. Have been deducted from Notes 2 and 3.

5. Total working hours for employees were 9,313,624 hours. For contractors, the total working hours were calculated as: annual cumulative number of people entering and leaving the venue (157,941 people) \* 8 hours per day = 1,263,528 hours

### Employee Health and Safety Management Measures

In addition to implementing workplace safety measures, THSRC has organized health promotion lectures, courses, and strengthened relevant training for new employees to safeguard the health and well-being of internal partners. The health promotion activities carried out in 2022 are as follows:



## Health Promotion Activities

2022	
Infectious disease prevention	<ul style="list-style-type: none"> <li>▶ A total of 489 people received publicly funded influenza vaccinations.</li> <li>▶ Health screenings provide free measles antibody screenings to enhance immunization boosting measures.</li> </ul>
COVID-19 pandemic prevention management	<ul style="list-style-type: none"> <li>▶ The pandemic response team will continue to pay attention to the situation and formulate responses in a timely manner as necessary.</li> <li>▶ We continue to encourage employees to vaccinate to improve protection, and frontline personnel (including contractors) currently have a 99% vaccination rate for the third dose of COVID-19 vaccine.</li> <li>▶ Five rapid antigen test kits were distributed to each employee.</li> <li>▶ Provide pandemic prevention supplies and related health education information for employees traveling abroad.</li> <li>▶ Boosted the cleaning and disinfection of the office areas in each site to provide a safe working environment for our staff.</li> </ul>
Occupational health services	<ul style="list-style-type: none"> <li>▶ The driving staff undergoes 100% pre-employment and in-service health checks. The participation rate for in-service general staff health screening reached 95%, with a total of 3,268 people.</li> <li>▶ The number of on-site visits by specialist doctors in 2022 was 147 people.</li> <li>▶ Provided psychological care and counseling for colleagues diagnosed with COVID-19.</li> </ul>
Chronic disease prevention and health education promotion	<ul style="list-style-type: none"> <li>▶ Fifteen educational articles on health were distributed through e-newsletters, High-Speed Vision, and occupational safety articles. These articles covered a variety of topics, such as tobacco harm prevention, infectious disease prevention, exercise protection, metabolic syndrome, new blood pressure standards, and weight management.</li> <li>▶ Based on the previous year's staff health screening results for cardiovascular risk and workload assessment, we identified potential patients for care. We then conducted occupational medicine interviews and follow-ups, achieving a 100% completion rate.</li> </ul>
Healthy weight management	<ul style="list-style-type: none"> <li>▶ Given that obesity is a leading contributor to chronic illnesses, our organization has sustained the "Smart Eating, Happy Moving, and Making Friends to Lose Weight" initiative. A total of 777 people engaged in the weight loss program, resulting in a collective weight loss of 2,652 kg and a reduction of 5,109 cm in waist circumference.</li> </ul>
Maternal Health Protection	<ul style="list-style-type: none"> <li>▶ The "Pampering Pregnant Mothers" campaign aims to promote maternal protection by encouraging pregnant women to schedule appointments with specialist doctors for consultations. These consultations assist women in becoming aware of workplace risks, adapting to work, and addressing work placement issues. The campaign successfully completed 65 consultations, resulting in a consultation rate of 63.8%. This represents a 12% increase compared to the previous year.</li> </ul>
Fitness testing and core muscle group training	<ul style="list-style-type: none"> <li>▶ In response to the Taiwan iSports Certification of the Ministry of Education's Sports Administration, we continue to hold technology fitness tests.</li> </ul>
Health seminars	<ul style="list-style-type: none"> <li>▶ Utilizing the "live + video" approach, we delivered 13 health lectures covering a range of topics including brain and cardiovascular diseases, cancer and chronic diseases, prevention of sedentary diseases, weight management, and meditation for stress reduction in the post-pandemic era. The program attracted a total of 1,076 participants, reflecting a 27% increase in participation rate compared to the previous year.</li> </ul>
Healthy workplace certification	<ul style="list-style-type: none"> <li>▶ We have proactively implemented a smoke-free workplace environment and are promoting health promotion measures through the Health Promotion Administration's certificate extension of the "Healthy Workplace Certification - Health Promotion Label."</li> </ul>

Note: Non-full-time employees are also entitled to health promotion activities (except for annual health examination).

## "T-SPORT" series of activities for THSRC personnel

In 2022, as the pandemic has been on a downward trend, THSRC devised a program called "T-SPORT" to promote healthy exercise habits and alleviate stress among its employees. The initiative aimed to foster team bonding and enhance staff cohesion through healthy cooperation and competition. The outcomes of the project are outlined below:

### Summer Marathon

Since the onset of the pandemic in 2020, the "Summer Marathon" online event was launched to encourage colleagues to upload their mileage records and share photos of their athletic achievements on the online platform via smart carriers. The objective was to promote a non-competitive, healthy sporting mentality among THSRC personnel, and to encourage departmental colleagues to engage in fitness activities, strengthen cohesion and identity, and maintain a robust physique. The event garnered participation from 6,183 employees, with 4,760 individuals completing the race, resulting in a completion rate of 77%. The total mileage covered by participants was an impressive 316,955 kilometers.

### Mini Football Fun

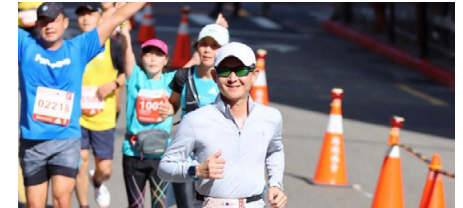
With the professional guidance of the "Football Association of the Republic of China," our focus was to increase parent-child interaction and promote family harmony, in line with the social objective of promoting local care. A total of 60 groups of parents and children participated in the activity, creating lasting memories for all involved.

### Ball Games

The sports activities comprised "badminton," "billiards," and "slow-pitch softball" tournaments, with a total of 32 teams and approximately 500 employees participating with great enthusiasm. These events have provided an opportunity for colleagues to improve their physical health and communication skills in the post-pandemic era.



Promoting the personal health of colleagues through active communication which will also enhance bonding between colleagues



Motivating THSRC staff to participate in various sports events and be strong physically

## Carrying for Society and Developing Local Area

THSRC has been operating for over a decade, providing convenient transportation services that promote intercity exchanges and activate local industry development. In addition to fulfilling our responsibilities in the travel industry, THSRC has also invested in the social welfare sector, aiming to contribute to society through our corporate influence and fulfill our responsibility as a social citizen. In 2022, we invested nearly NT\$8 million in sponsorships for various social welfare activities to promote co-prosperity in Taiwan. Furthermore, in the spirit of humanitarian care, THSRC responded to the Ministry of Foreign Affairs' call to launch the "Ukrainian Refugee Assistance Program." Upon approval from the board of directors, we announced a donation of NT\$3 million on our corporate website to a designated account, aimed at helping people displaced by the war in Ukraine maintain their basic living and health needs.

THSRC has been a longstanding supporter of railway culture and has invested in the development of the arts. In 2022, the Company supported the preservation and refurbishment of the "0 Series Shinkansen" and commissioned the National Science and Technology Museum to conduct research on the 0 Series cars. This project won the "Gold Award" in the 15th Arts & Business Awards. Further details on THSRC's initiatives to promote arts and culture, social care, and ecological restoration will be provided in subsequent sections.

## Enhancing Arts and Culture

### Taiwan High Speed Rail x National Culture and Arts Foundation "The Scenic Soundtrack of Taiwan 2022" Art Project

THSRC and the National Culture and Arts Foundation have once again collaborated to create "The Scenic Soundtrack of Taiwan 2022," an arts project for Taiwan's high-speed rail. The project's core concept of "Unexpected Encounters with Art" is exemplified by the transformation of the Bunun's "Song of Sacrificial Guns Before Hunting," which contains the concept of blessing, into a radio prompt on THSRC trains. Singers from multicultural backgrounds have also created the theme song "Slowly and Happy" for The Scenic Soundtrack of Taiwan 2022 in three native languages, combining the ancient ecological characteristics of Yunlin, Changhua, Miaoli, and other places.

In addition to music, the project has launched four limited edition commemorative tickets inspired by vintage cassettes, providing travelers with a collection. The project also features a large-scale sound and light installation art consisting of five LEDs for "The Scenic Soundtrack of Taiwan 2022", showcasing the art team's in-depth investigation of dynamic lights and shadows of insects collected during their expedition to the ancient paths of the region. Using a special "light body sampling" technique, the audience will feel as though they are on the scene of an ancient trail.



THSRC Chairman Yao-Chung Chiang (center) and the National Culture and Arts Foundation Chairman Man-Li Lin (third right) jointly announced that the both parties work together once again on the THSRC art project "The Scenic Soundtrack of Taiwan 2022"

### "THSR ART Together Program"

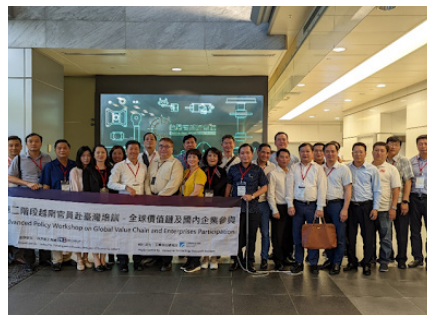
Since 2015, THSRC has been promoting the "THSR ART Together Program" to provide a platform for domestic arts and cultural groups to perform and to increase opportunities for people to participate in and learn about the domestic arts and cultural industry. The program invites schools, art groups, and individuals with performance experience to perform at stations throughout Taiwan. As of the end of 2022, the project has facilitated 588 performances with a total of 17,397 participants at various THSR operating bases. This initiative provides passengers with the opportunity to experience arts and cultural performances up close and promotes the beauty of Taiwan's arts and culture to the public.



2022 "THSR ART Together" performance group at Chiayi County Lunwei Tianshe Bamboo Weaving Development Association - Buh-maa jenn (traditional Hakka song and dance)

### Promotion of Railway Culture — Taiwan High Speed Rail Museum (THSR Museum)

THSRC is committed to preserving railway culture and has been at the forefront of collecting railway cultural relics since the construction period. In 2003, the Company launched the "THSR Memorabilia Collection Project" and showcased the collection of cultural relics at the "Taiwan High Speed Rail Museum," which serves as a historical testament to Taiwan's high-speed rail from its inception. The first generation museum was exhibited at the HSR Hsinchu station from August 2004 to the end of October 2006. The second generation museum was opened at the Taoyuan THSR Operation Management Center on January 5, 2017, in celebration of the 10th anniversary of the HSR's opening. To date, it has received over 164,505 visits and has become a vital platform for promoting high-speed railway culture and public services.



THSR Museum is a key destination for domestic and foreign guests

## Promotion of Social Care

### The High-Speed Educational Endowment Program

THSRC has always been committed to supporting disadvantaged groups and has actively collaborated with non-profit organizations. Since 2010, we have partnered with several foundations to implement the "High-Speed Education Endowment Program", which serves as a fundraising platform. All funds raised are then handed over to the annual collaboration unit for coordinated use. To date, THSRC has organized 13 consecutive sessions of activities, with a cumulative donation of over NT\$159 million. This has successfully aided more than 28,000 children in need. In 2022, THSRC and the Children Are Us Foundation raised over NT\$11 million to support children with intellectual disabilities in becoming self-sufficient and achieving a better future through study programs.



2022 High-Speed Educational Endowment Program Press Conference

### Annual THSRC Winter Outreach Blood Drive

Since 2012, THSRC has organized a "Annual THSRC Winter Outreach Blood Drive" at its headquarters and stations at the end of each year. The event has garnered active participation from numerous enthusiastic employees, caring travelers, and the public, adding warmth to society. In 2022, a total of 3,297 people responded to the event, donating 4,823 units of blood. Cumulatively, the event has raised more than 22,743 units of blood, creating a warm atmosphere during the cold winter months when blood inventory levels were insufficient.



THSRC enthusiastically invites the public to donate blood

### THSRC Smiling Train Program

Since 2009, THSRC has implemented the "THSRC Smiling Train Program," collaborating with non-profit and social welfare organizations worldwide to offer free or discounted HSR train travel to disadvantaged individuals. This initiative has enabled them to experience the convenience and efficiency of HSR service while also providing opportunities to explore the unique customs and beauty of various counties and cities in Taiwan. As of 2022, the "THSRC Smiling Train Program" has aided 816 disadvantaged groups, with a total of 145,479 passengers benefiting from the program.



2022 "THSRC Smiling Train Program" helps the Syin-Lu Social Welfare Foundation reduce the inconvenience and burden of going out for people with physical and mental disabilities

### HSR Camps

Since 2008, THSRC has been organizing winter and summer "HSR Camp" activities for students. The camp activities are categorized into four groups based on school age: college, high school vocational, junior high school, and national. Each group conducts one session during the winter holidays and two sessions during the summer holidays, totaling 12 sessions annually. In 2022, 309 students participated in the events, "HSR Camp" not only offers young students an insight into the railway industry but also provides them with the opportunity to learn about railway industry expertise.



Students enthusiastically participated in the 2022 HSR Camp (winter) activities



## Promotion of Ecological Restoration

### Local Commitment to Pheasant-Tailed Jacana Preservation

To safeguard the habitat and survival of the Pheasant-Tailed Jacana, THSRC has collaborated with government and non-governmental organizations to establish the "Pheasant-Tailed Jacana Ecological Education Park". We not only actively collaborate with experts and scholars, but also seek the participation of volunteers. Over the past 21 years, THSRC has invested over NT\$68 million in Pheasant-Tailed Jacana preservation. According to statistics from the Wild Bird Society of Tainan, the number of Pheasant-Tailed Jacana groups in the park's habitat has significantly increased from 9 (including females, males, and fledglings) in a single year in 2000 to 105 in a single year in 2022. The expansion of the Pheasant-Tailed Jacana population's habitat area has resulted in a rise in the number of Pheasant-Tailed Jacanas in the Greater Tainan region from 275 in 2009 to 2,603 in 2022, demonstrating the effectiveness of our promotion of Pheasant-Tailed Jacana preservation.

THSRC has not only constructed a "Pheasant-Tailed Jacana Preservation Park" but has also actively promoted ecological education, assisted in the creation of park instruction facilities, and designed display and interactive areas to showcase the effects of restoration efforts. Since its establishment, the "Pheasant-Tailed Jacana Ecological Education Park" has received nearly 273,000 visitors up until 2022. This park not only offers the public an opportunity to learn about the ecology of Pheasant-Tailed Jacanas but has also gained recognition from international ecological conservation organizations, making it a rare and successful example of "coexistence between development and conservation".

### Co-planting Beauty – Low-Carbon Sustainable Activity

THSRC is actively implementing its corporate ESG strategy and responding to the government's 2050 net-zero transition goal. In 2022, for the first time, it will collaborate with the Council of Agriculture's Forest Bureau to carry out the "Co-planting Beauty – Low-Carbon Sustainable Activity." This initiative aims to have a positive social impact and further the Company's commitment to environmental sustainability.

On April 22, 2022, World Earth Day, THSRC announced its collaboration with the Hsinchu Forest District Office, Tungshih Forest District Office, and Pingtung Forest District Office of the Forestry Bureau to promote station seedling gifting activities. The aim is to actively enhance people's awareness of green consumption and take advantage of green transportation. A total of 3,600 seedlings of Taiwan's native species, such as *Vaccinium wrightii* Gray, Taiwan camellia, and Chinese holly, were distributed simultaneously at THSR Taoyuan station, Taichung station, and Zuoying station. To reduce the possible waste of traditional plastic pots, seedlings made of environmentally friendly decomposable pulp were used. Additionally, THSRC promotes the use of THSR digital tickets and encourages passengers to contribute to the planet's well-being by adopting a green lifestyle.

THSRC collaborated with the Forestry Bureau, Council of Agriculture, Executive Yuan to implement a three-year plan aimed at reforesting 1.35 hectares of state-owned forest land in the Xiluo township, Puxin section of Yunlin county, and 5 hectares in Hengchun township, Pingtung county. In early May 2022, the chairman of the board of directors, accompanied by the president and 150 staff members, planted 3,807 saplings of Taiwan's native wind and sand-fixing species, including Taiwanese rain tree, priyangu, neem, *Heliotropium arboreum*, beach naupaka, and *Hibiscus tiliaceus*, at the reforestation site in Yunlin. This initiative was undertaken to demonstrate our unwavering commitment to environmental protection.



THSRC distributed native species of tree seedlings



The Chairman of THSRC Chiang Yao-Chung visited the Xiluo township, Puxin section of Yunlin county to plant trees with the "Co-Planting Beauty" program

### "Trash Collection" - Sustainable Beach Action

Since 2016, THSRC has been promoting "Trash Collection" public welfare beach activities, which have received more than 3,200 enthusiastic responses and resulted in the removal of 15,658 kg of marine garbage. Starting in mid-September 2022, THSRC has organized four "Beach Cleanup" events from north to south, including Yilan Zhuang Estuary Wetland, Miaoli Waipu Fishing Harbor, Changhua Shenguang Wetland, and Pingtung Yanpu Fishing Harbor. The aim is to encourage all THSRC personnel in Taiwan to participate in beach clean-up activities, promoting the concept of environmental protection, fostering enthusiasm for ESG goals, and realizing the vision of low-carbon living.




The Chairman of THSRC Yao-Chung Chiang leading employees in cleaning up the beaches and getting more people to join in the fight for a better Taiwan



THSRC personnel come together to work for the sustainable future, to implement the concept of environmental protection, and to build enthusiasm for ESG commitment

## Disclosure of Sustainability Accounting Standards Board (SASB) Indicators




Topic	Metric	Unit Of Measure	Code	2022	Other Explanations
Activity Metrics	Number of carloads transported	Number	TR-RA-000.A	54,162,008	Due to the nature of THSRC's business, transportation services are mainly measured by number of people. Therefore, the data provided here is the total number of passengers who took THSR trains in 2022.
	Amount of postal services transported	Number	TR-RA-000.A	N/A	Due to the nature of THSRC's business, transportation services are mainly measured by number of people. The contract signed with the post office is calculated based on the number of passengers, so there are no data available on the volume of postal services.
	Number of intermodal units transported <sup>6</sup>	Number	TR-RA-000.B	N/A	Due to the nature of THSRC's business, transportation services are mainly measured by number of people, and there are no transportation services for goods, so this indicator is not applicable.
	Track miles Track miles include the total length of the route available for the operation of the trains, and include multi-track routes for the calculation. For example, if there are two tracks for each mile of route, it should be counted as 2 track miles	Miles	TR-RA-000.C	The total length of track miles is 438.6 miles (701.766 kilometers in total for the northbound and southbound mainline of THSRC)	This data calculated here covers the mainline and the sub-line, and the calculation unit is Miles.
	Revenue Ton Mile (RTM) Revenue per ton mile (RTM) is defined as the revenue earned from transporting one metric ton of cargo one kilometer. Revenue in metric ton mile (RTM) is calculated as the number of transport miles per stage * revenue per metric ton of cargo	Amount	TR-RA-000.D	NT\$6.14	Due to the nature of THSRC's business, transportation services are mainly measured by number of people, and there is no transportation of goods. Therefore, this indicator is presented as "revenue per passenger-mile", which is calculated as follows: <ul style="list-style-type: none"> <li>• NT\$35,640,556,000 in ticketing revenue in 2022</li> <li>• 54,162,008 passengers in 2022</li> <li>• The average travel distance per passenger in 2022 was 172.41 kilometers</li> <li>• Ticketing revenue per passenger = Ticketing revenue/ Number of passenger = NT\$658.04</li> <li>• Revenue per passenger traveling 1 kilometer = Ticketing revenue per passenger/Average travel distance per passenger = NT\$3.82</li> <li>• Revenue per passenger traveling 1 mile = Revenue per passenger traveling 1 kilometer/0.6214 = NT\$6.14</li> </ul>
	Number of Employees	Number	TR-RA-000.E	4,678	THSRC employees calculated here cover contract employees, secondees employees, outsourced employees and employees on non-fixed term contracts.
Greenhouse Gas Emissions	Gross global Scope 1 emissions	Metric tons CO <sub>2</sub> e	TR-RA-110a.1	1,068.73 metric tons CO <sub>2</sub> e	The calculation method adopted by THSRC for Scope 1 greenhouse gas emissions at the 12 stations complies with the ISO 14064-1 specification. In 2022, we voluntarily conducted organizational greenhouse gas emission inventory audit and external verification at the 12 stations, and successfully obtained the ISO 14064-1 Verification Statement. Emission factors for gasoline and diesel fuel were corresponding factors from Version 6.0.4 of the Greenhouse Gas Emission Factor Management Table published by the Environmental Protection Administration; the Global Warming Potential (GWP) was taken from the fourth assessment report of the Intergovernmental Panel on Climate Change.  For more information on greenhouse gas emissions, please refer to the subchapter entitled "Low-carbon Train Operation and Environmental Sustainability" of the report. 



## Disclosure of Sustainability Accounting Standards Board (SASB) Indicators

Topic	Metric	Unit Of Measure	Code	2022	Other Explanations
Greenhouse Gas Emissions	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	—	TR-RA-110a.2	The electricity which is a Scope 2 emission, using to carry passengers is the major energy consumption by THSRC. The direct GHG emissions in scope 1 mainly come from the use of gasoline and diesel fuel and the escape of air-conditioning refrigerants, which are used for engineering maintenance vehicles and emergency generators at the stations. The overall ratio is relatively low, accounting for only 1% of the total energy consumption, so there is no further emission reduction target for Scope 1. However, in accordance with the Greenhouse Gas Reduction and Management Act, the Company shall follow the “Periodic Regulatory Goals of the Greenhouse Gas Emissions” approved by the government and cooperate with the competent authorities in rail transportation and station operations in pursuing greenhouse gas reduction policies and setting reduction targets. The current target is to set the annual carbon reduction rate at greater than 1.5% by 2023, using the amount of carbon dioxide emissions per passenger-kilometer as an indicator.	For more information on greenhouse gas emissions, please refer to the subchapter entitled “Low-carbon Train Operation and Environmental Sustainability” of the report. 📖
	(1) Total fuel consumed (2) percentage renewable	Gigajoules (GJ), Percentage (%)	TR-RA-110a.3	(1) 2,248,863.39 GJ (2) 0.027(%)	1. The calculation of total energy use by THSRC covers the total energy used directly during the reporting period. The data is sourced from the energy product unit heating value table announced in the Energy Statistics Handbook 2016 of the Bureau of Energy 2. The proportion of renewable energy to total energy use by THSRC is calculated as (Renewable energy use/Total energy use), which is disclosed in percentage (%) as the unit For more information on energy use, please refer to the subchapter entitled “Low-carbon Train Operation and Environmental Sustainability” of the report. 📖
Air quality	(1) Total emissions of air pollutants (2) NOx (excluding N2O) (3) Particulate material (PM10)	Metric tons	TR-RA-120a.1	(1) 6.91 metric tons (2) 0 metric tons (3) 0.04 metric tons	1. The air pollutants disclosed by THSRC cover the air pollutants directly emitted in the course of business operations, including stationary and mobile pollution sources, production plants, office buildings, and transportation fleets, which are calculated using the mass balance method 2. The emission of NOx is mainly caused by the high-temperature combustion of vehicles, thermal power plants and boilers, and THSRC uses externally purchased or acquired electricity during the entire operation of the trains, so there is no emission of nitrogen oxides 3. The data of particulate materials (PM10) in 2022 was sourced from the amount reported in the “Stationary Source Air Pollution Control Fees and Emissions Reporting Integrated Management System” of the Environmental Protection Administration. The calculation method is activity intensity x (1 - control efficiency %) x emission factor For more information on air quality, please refer to the subchapter entitled “Air Pollution Management” of the report. 📖
Employee Health and Safety	(1) Total Recordable Incident Rate (TRIR) (2) Fatality rate (3) Near Miss Frequency Rate (NMFR)	%	TR-RA-320a.1	(1) 0.25 (2) 0 (3) 4	The indicator calculated here covers THSRC’s employees and contractors. The calculation formula of the indicator is as follows: 1. Total Recordable Incident Rate (TRIR) is calculated as: (Number of recordable incident/Total working hours) × 200,000 The 2022 data is calculated as: (12/9,313,624)*200000=0.25 2. Fatality rate of work-related injuries is calculated as: (Number of recordable fatalities/Total working hours) × 200,000 The 2022 data is calculated as (0/9,313,624) × 200000 = 0 3. Near Miss Frequency Rate (NMFR) is calculated as: (Count of near miss incidents/Total man-hours) × 200,000 The 2022 is calculated as (187/9,313,624) × 200,000 = 4

## Disclosure of Sustainability Accounting Standards Board (SASB) Indicators

Topic	Metric	Unit Of Measure	Code	2022	Other Explanations
Competitive Behavior	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	NTD	TR-RA-520a.1	0	The Company has no legal proceedings related to the anti-competitive conduct provisions in 2022. High-speed rail transportation is a key infrastructure in Taiwan. THSRC plays a role as a service provider. For a long time, legal compliance has been regarded as a material topic of sustainable development. We not only formulate legal compliance promotion plans, but also track legal compliance risks through quarterly legal compliance representative meetings, and regularly report the tracking results to the Board of Directors to minimize regulatory risks. For more information on legal compliance, please refer to the subchapter titled "Sustainable Governance and Ethical Corporate Management" of the report. 
Accident & Safety Management	Number of accidents and incidents	Number	TR-RA-540a.1	0	The statistical standards for the number of accidents and incidents refer to the definitions in Chapter 6 of the "Railway Rules", and the scope of disclosure covers collisions, derailments, fires, railway crossings, casualties, equipment damage, operation interruptions, and other accidents. In 2022, there were no major traffic accidents nor general traffic accidents that occurred in THSRC.  THSRC has always regarded operational safety as its highest responsibility since it began operations and has consistently regarded safety management as a material topic of sustainable development. We have not only built an operational safety management system with risk management as the backbone, but also review the implementation of safety management through the Safety Committee to ensure operational safety. For more information on operational safety and risk management, please refer to the subchapter entitled "Safety Services and Responsible Transportation" of the report. 
	Number of (1) accident releases and (2) nonaccident releases (NARs)	Number	TR-RA-540a.2	(1) 0 (2) 0	THSRC mainly provides human-based transportation services. Hazardous substances are not handled and transported in its general operation and transportation process, so this indicator is not applicable.
	Number of Federal Railroad Administration (FRA) recommended violation defects	Number	TR-RA-540a.3	4	The proposed calculation of the number of violations and failures refers to the provisions of Article 47 of the "Implementation Measures for the Supervision of Local Private and Special Railways." The Railway Bureau of the Ministry of Transportation and Communications regularly inspects the violations and failures of high-speed railways, including the organizational status, operating status, financial status, engineering status, driving safety management status, locomotive and vehicle maintenance status, route construction and maintenance status, and other related matters.  In 2022, the Railway Bureau conducted an annual periodic inspection (proposed four areas for improvements) and an interim inspection (no improvements proposed). For more information on quality management, please refer to the subchapter entitled "Convenience, Attentiveness, and Maintaining Relationships" of the report. 
	Frequency of internal railway integrity inspections (Number of inspections per week × Inspected track miles/Total main track miles)	%	TR-RA-540a.4	50%	This indicator is calculated on the basis of (Number of inspections per week × Inspected track miles)/(Total main track miles). In 2022, a track length of 175.442 kilometers of THSRC were inspected twice a week (including northbound and southbound mainline tracks). The total main track length is 701.766 kilometers, so by introducing the calculation formula, the railway integrity frequency (Inspection twice a week × 175.442 kilometers) / (701.766 kilometers) = 50%. For more information on operational safety and risk management, please refer to the subchapter entitled "Safety Services and Responsible Transportation" of the report. 

## Appendices

Table 1 THSRC Industry Associations Participation in 2022

Industry Association Participated	Description
International Union of Railways (UIC)	Exchange and collaboration with international railway operators
International High Speed Rail Association	Exchange and collaboration with international high-speed rails
Chung-Hwa Railway Industry Development Association	Development and promotion of the railway industry
Chinese Institute of Transportation	Development and promotion of the railway industry
Rail Engineering Society of Taiwan	Development and promotion of the railway industry
Supply Management Institute, Taiwan	Exchange in procurement-related expertise and participation in related courses
Taiwan Railway Economy Development Association	Development and promotion of the railway industry
Chinese Society for Quality	Exchange in quality management and participation in related courses
Taiwan Visitors Association	Tourism development and business promotion and exchange
Intelligent Transportation Society of Taiwan	Development and promotion of the transportation industry
Chinese Institute of Engineers	Exchange and promotion of civil engineering technology
Taiwan Stock Affairs Association	Exchange in stock affairs-related expertise and regulatory advancement
Taiwan Corporate Governance Association	Development and exchange in corporate governance
The Institute of Internal Auditors - Chinese Taiwan	Development and promotion of internal audit
Computer Audit Association	Development and exchange in corporate governance
Association of Industrial Relations, R.O.C.	Development of labor relations and participation in regulatory courses
Accounting Research and Development Foundation	Exchange and promotion of accounting business
Taiwan Railways Tourism Association	Development of railway tourism and business promotion and exchange
Chinese East Asia Economic Association	Tourism development and business promotion and exchange
Chinese Society of Mechanical Engineers	Development and promotion of the railway industry
Center for Corporate Sustainability - Taiwan Institute for Sustainable Energy	Development and promotion of sustainability

Table 2 Information on Members of the Board of Directors

Title	Name	Elected (Taking Office) (9th Term)	Diversified Core Competencies						
			Financial Accounting	Legal Practice	Marketing, Technology	Operation Management	Leadership Decision Making	Industrial Knowledge and Operation	Crisis Management and International Market View
Chairman	Representative: Yao-Chung Chiang China Aviation Development Foundation	2023/5/25			●	●	●	●	●
Director	Representative: Chin-Hong Pan Ministry of Transportation and Communications	2023/5/25	●			●	●	●	●
Director	Representative: Zheng-Jun Yang Ministry of Transportation and Communications	2023/5/25				●	●	●	●
Director	Representative: Yu-fen Hong China Aviation Development Foundation	2023/5/25			●	●	●	●	●
Director	Representative: Wei-Cheng Hsieh China Aviation Development Foundatio	2023/5/25				●	●	●	●
Director	Representative: Chao-Tung Wong China Steel Corporation	2023/5/25			●	●	●	●	●
Director	Representative: Ming-Chou Yamg Taiwan Sugar Corporation	2023/5/25			●	●	●	●	●
Director	Representative: Shien-Quey Kao Management Committee of National Development Fund, Executive Yuan	2023/5/25	●		●	●	●		●
Director	Representative: Mao-Hsiung Huang TECO Electric & Machinery Co., Ltd.	2023/5/25			●	●	●	●	●
Director	Representative: Chu-Min Hung Taipei Fubon Commercial Bank Co., Ltd.	2023/3/14			●	●	●	●	●

Table 2 Information on Members of the Board of Directors

Title	Name	Elected (Taking Office) (9th Term)	Diversified Core Competencies						
			Financial Accounting	Legal Practice	Marketing, Technology	Operation Management	Leadership Decision Making	Industrial Knowledge and Operation	Industrial Market View  Crisis Management and International Market View
Former Director	Representative: Wen-Jong Chi  Ministry of Transportation and Communications	Took office on April 26, 2021  (Resigned on May 25, 2023)			●	●	●	●	●
Former Director	Representative: Lee-Ching Ko  China Aviation Development Foundation	Took office on May 21, 2021  (Resigned on May 25, 2023)			●	●	●	●	●
Former Director	Representative: Chao-Yi Chen  Taiwan Sugar Corporation	2020/5/21			●	●	●	●	●
Former Director	Representative: Kuo-Chih Liu  Taipei Fubon Commercial Bank Co., Ltd.	2020/5/21  (Resigned on March 14, 2023)			●	●	●	●	●
Independent Director	Kenneth Huang-Chuan Chiu	2023/5/25		●		●	●		●
Independent Director	Ming-Te Wang	2023/5/25			●	●	●	●	●
Independent Director	Tui Tsai	2023/5/25					●	●	●
Independent Director	Pai-Ta Shih	2023/5/25	●			●	●	●	●
Independent Director	Yung-Cheng (Rex) Lai	2023/5/25					●	●	●

Table 3 Human Resource Structure (1)

		2020		2021	
		Male	Female	Male	Female
Fixed-Term Contract	Contract Employees	17	48	7	29
	Seconded Employees	0	0	0	0
	Outsourced Employees	2	2	0	0
Total Number of Employees on Fixed-Term Contracts		19	50	7	29
Total Number of Employees on Non-Fixed Term Contracts		3,050	1,581	3,067	1,565
Percentage of Male to Female		65.86%	34.14%	65.85%	34.15%
Total Number of Employees		3,069	1,631	3,074	1,594

Table 3 Human Resource Structure (2)

			2020		2021	
			Male	Female	Male	Female
Rank		Vice President and above	0.19%	0.02%	0.24%	0.04%
		Assistant Vice President	0.32%	0.06%	0.32%	0.09%
		Manager and Deputy Manager	3.53%	0.87%	3.42%	0.86%
		Section Chief	10.96%	3.00%	11.63%	3.13%
		General Employees	50.30%	30.74%	50.24%	30.03%
Education		General and vocational high school and below	3.91%	0.53%	3.81%	0.34%
		University/Junior college	51.51%	30.77%	52.08%	30.31%
		Masters	9.57%	3.38%	9.67%	3.47%
		PhD	0.30%	0.02%	0.30%	0.02%
Other Diversity Indicators		Indigenous Employees	0.91%	0.27%	0.86%	0.21%
		Disabled Employees	0.77%	0.34%	0.73%	0.34%
Age	Management Level	Under 30 Years Old	0.00%	2.19%	0.00%	0.00%
		30-50 Years Old	2.00%	2.03%	2.19%	0.75%
		Over 50 Years Old	2.06%	12.19%	2.03%	0.21%
	Non-Management Level	Under 30 Years Old	11.28%	43.29%	12.19%	9.47%
		30-50 Years Old	43.49%	6.15%	43.29%	22.39%
		Over 50 Years Old	6.47%	52.08%	6.15%	1.33%

Notes: 1. The management level is defined as supervisors of section chief level and above.  
2. The calculation formula is the number of people in the particular group/total labor force.  
3. Due to the rounding of the data presented, the sum of the data may not be exactly 100%.



Table 4 Statistics on New Employees

		2020		2021		2020		2021	
		Male	Female	Male	Female	Male	Female	Male	Female
		Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Category	Train Staff	2	0.04%	6	0.13%	6	0.13%	3	0.06%
	Station Staff	46	0.98%	68	1.45%	34	0.73%	32	0.69%
	Operation Control Personnel	4	0.09%	3	0.06%	0	0.00%	0	0.00%
	Train Driver	0	0.00%	0	0.00%	0	0.00%	0	0.00%
	Maintenance Personnel	91	1.94%	0	0.00%	48	1.03%	1	0.02%
	Others	44	0.93%	7	0.15%	21	0.45%	10	0.22%
Age	Under 30 Years Old	139	2.96%	77	1.64%	88	1.89%	37	0.79%
	30-50 Years Old	45	0.96%	6	0.13%	21	0.45%	8	0.17%
	Over 50 Years Old	3	0.06%	1	0.02%	0	0.00%	1	0.03%
Total		187	3.98%	84	1.79%	109	2.34%	46	0.99%

Table 5 Statistics on Employee Turnover

		2020		2021		2020		2021	
		Male	Female	Male	Female	Male	Female	Male	Female
		Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Category	Train Staff	1	0.02%	7	0.15%	0	0.00%	8	0.17%
	Station Staff	3	0.06%	17	0.36%	6	0.13%	9	0.19%
	Operation Control Personnel	5	0.11%	2	0.04%	4	0.09%	0	0.00%
	Train Driver	1	0.02%	0	0.00%	1	0.02%	0	0.00%
	Maintenance Personnel	34	0.72%	0	0.00%	40	0.86%	0	0.00%
	Others	28	0.60%	15	0.32%	30	0.64%	14	0.30%
Age	Under 30 Years Old	35	0.74%	24	0.51%	26	0.56%	6	0.13%
	30-50 Years Old	21	0.45%	13	0.28%	36	0.77%	20	0.43%
	Over 50 Years Old	16	0.34%	4	0.09%	19	0.41%	5	0.11%
Total		72	1.53%	41	0.87%	81	1.74%	31	0.66%

Note: The turnover rate is calculated as: Annual turnover/Total number of employees at the end of the period.

Table 6 Training Hours

	2020			2021		
	Male	Female	Total	Male	Female	Total
	All Employees at THSRC					
Average Number of Training Hours Per Capita	243.9	156.2	212.8	173.1	44.2	119.0
Average Number of Training Hours Per Training Session	6.8	5.4	6.3	9.0	3.2	7.4
Average class Hours for Different Ranks						
Vice President and above	16.4	14.0	16.1	13.4	11.6	13.1
Assistant Vice President	30.3	27.5	29.8	34.3	44.1	36.3
Manager and Deputy Manager	122.9	35.4	105.9	42.8	33.3	40.9
Section Chief	94.8	66.2	88.5	90.8	26.9	77.2
General Employees	264.4	162.4	226.7	202.9	39.4	142.0
Average Number of class Hours for Different Categories						
Train Staff	71.7	97.0	92.4	93.4	45.8	55.5
Station Staff	226.4	239.6	235.0	77.5	49.5	59.7
Operation Control Personnel	739.6	817.1	755.5	150.8	215.6	164.4
Train Drivers	989.8	1,135.7	1,003.8	188.3	19.3	175.3
Maintenance Personnel	224.5	51.8	223.3	290.4	160.8	290.1
Others	128.4	35.5	104.7	42.6	25.4	35.9

## 2022 Statement on Greenhouse Gas Emission Inspection at 12 HSR Stations

Statement TW22/00419GG

**SGS**

**Greenhouse Gas Verification Statement**

The inventory of Greenhouse Gas emissions in year 2021 of  
**TAIWAN HIGH SPEED RAIL CORPORATION**  
 (SF, No. 66, Jingao 2nd Rd., Nangang Dist., Taipei City 115, Taiwan (R.O.C.))

has been verified in accordance with ISO 14064-3:2006 as meeting the requirements of  
**ISO 14064-1:2018**

Direct emissions  
 503,908.7 tonnes of CO<sub>2</sub>e  
 Indirect emissions  
 52,263.097 tonnes of CO<sub>2</sub>e  
 Direct emissions and indirect emissions  
 52,767.006 tonnes of CO<sub>2</sub>e

Authorized by

Stephen Pao  
 Knowledge Deputy General Manager  
 Date: 09 November 2022  
 Version 2

TOP604-15-4-2207  
 638 Taiwan RAIL  
 No. 136-1, Wu Kung Road, New Taipei Industrial Park, Wu Ku District,  
 New Taipei City 24603, Taiwan  
 T: (02) 22952279 F: (02) 22959453 www.sgs.com

The Statement is not valid without the full verification scope, objectives, criteria and findings available on the Statement.

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Statement TW22/00419GG, continued

**SGS**

The emission of each category is described as below: Unit: tonnes of CO<sub>2</sub>e

Inventory categories	Description	GHG Emissions
Direct emissions	This direct GHG emissions are the sum of owned or controlled by the organization within the organization.	503,908.7
Imported energy	Indirect emissions from imported electricity	43,397.6933
Transportation	No significant emissions	—
Indirect emissions	Products used by an organization	Indirect emissions from upstream energy resources and solid and liquid waste treatment
Associated with the use of products from the organization	No significant emissions	—
Other sources	No significant emissions	—
Direct emissions and indirect emissions		52,767.006

The emission of each site is described as below: Unit: tonnes of CO<sub>2</sub>e

Site	Direct emissions	Indirect emissions	Total GHG emissions
Nangang Station	21,3065	10,106.0591	10,127.366
Taipei Station	4,6805	7,466.4262	7,471.087
Banqiao Station	13,4564	6,541.4755	6,554.932
Taoyuan Station	1,5818	3,889.4744	3,891.056
Hsinchu Station	0,9897	3,547.4004	3,548.390
Miaoli Station	0,9046	1,331.8830	1,332.788
Taichung Station	79,4262	5,963.2915	6,042.718
Changhua Station	22,8158	1,492.7476	1,515.563
Yulin Station	0,9853	1,605.3962	1,606.372
Chiayi Station	64,8446	3,101.9796	3,166.824
Tainan Station	68,9078	2,362.3939	2,431.302
Zuying Station	224,0095	4,854.6003	5,078.610

The Statement is not valid without the full verification scope, objectives, criteria and findings available on the Statement.

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Statement TW22/00419GG, continued

**SGS**

SGS has been contracted by National Cheng Kung University Industrial Sustainable Development Center (hereinafter referred to as "NCKU-ISDC"), No. 1, Daxue Rd., East Dist., Tainan City, Taiwan (R.O.C.) for the verification of direct and indirect Greenhouse Gas emissions in accordance with  
**ISO 14064-3:2006**

as provided by TAIWAN HIGH SPEED RAIL CORPORATION (hereinafter referred to as "TAIWAN HIGH SPEED RAIL") - SF, No. 66, Jingao 2nd Rd., Nangang Dist., Taipei City 115, Taiwan (R.O.C.), in the GHG Assertion in the form of GHG report covering GHG emissions of the period 01 January 2021 to 31 December 2021.

**Roles and responsibilities**

The management of TAIWAN HIGH SPEED RAIL is responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in accordance with that system, including the calculation and determination of GHG emissions information and the reported GHG emissions.

It is SGS's responsibility to express an independent GHG verification opinion on the GHG emissions as provided in the GHG Assertion for the period 01 January 2021 to 31 December 2021.

SGS conducted a third-party verification of the provided GHG assertion against the principles of ISO 14064-1:2018, ISO 14064-3:2006 and TW EPA Guidelines for GHG Validation and Verification (2010.12) in the period 21 July 2022 to 17 August 2022. The verification was based on the verification scope, objectives and criteria as agreed between NCKU-ISDC and SGS on 21 April 2020.

**Level of Assurance**

The level of assurance for category 1 and category 2 agreed is that of reasonable assurance. Category 3 till category 6 agreed is that of limited assurance.

**Scope**

NCKU-ISDC has commissioned an independent verification by SGS Taiwan of reported GHG emissions of TAIWAN HIGH SPEED RAIL arising from the high-speed rail transportation service activities, to establish conformance with ISO 14064-2018 principles within the scope of the verification as outlined below.

The Statement is not valid without the full verification scope, objectives, criteria and findings available on the Statement.

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Statement TW22/00419GG, continued

**SGS**

This engagement covers verification of emission from anthropogenic sources of greenhouse gases included within the organization's boundary and is based on ISO 14064-3:2006.

- Title or description activities: GHG verification for TAIWAN HIGH SPEED RAIL in year 2021.
- Location/boundary of the activities:

Location	Address
Nangang Station	No. 313, Sec. 1, Nangang Rd., Nangang Dist., Taipei City 115, Taiwan (R.O.C.)
Taipei Station	No. 3, Beijing W. Rd., Zhongzheng Dist., Taipei City 100, Taiwan (R.O.C.)
Banqiao Station	No. 7, Sec. 2, Xiamen Blvd., Banqiao Dist., New Taipei City 220, Taiwan (R.O.C.)
Taoyuan Station	No. 6, Sec. 1, Gaolie N. Rd., Zhongli Dist., Taoyuan City 330, Taiwan (R.O.C.)
Hsinchu Station	No. 6, Gaolie 7th Rd., Zhubei City, Hsinchu County 302, Taiwan (R.O.C.)
Miaoli Station	No. 268, Gaolie 3rd Rd., Houliang Township, Miaoli County 356, Taiwan (R.O.C.)
Taichung Station	No. 3, Zhong 2nd Rd., Wuli Dist., Taichung City 414, Taiwan (R.O.C.)
Changhua Station	No. 98, Sec. 2, Zhong 2nd Rd., Tiaozhong Township, Changhua County 520, Taiwan (R.O.C.)
Yulin Station	No. 301, Zhongyan E. Rd., Hualien Township, Yulin County 632, Taiwan (R.O.C.)
Chiayi Station	No. 168, Gaolie W. Rd., Taibao City, Chiayi County 612, Taiwan (R.O.C.)
Tainan Station	No. 100, Guiren Blvd., Guiren Dist., Tainan City 711, Taiwan (R.O.C.)
Zuying Station	No. 106, Gaolie Rd., Zuying Dist., Kaohsiung City 813, Taiwan (R.O.C.)

- Physical infrastructure, activities, technologies and processes of the organization: The high-speed rail transportation service.
- GHG sources, sinks and/or reservoirs included: Sources as presented in the inventory spreadsheet provided by TAIWAN HIGH SPEED RAIL.
- Types of GHGs included: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>.
- The IPCC 2013 AR5 GWP values are applied in this inventory.
- Emission factor:
  - Direct emissions: Greenhouse Gas Emission Factor Table (6.0.4), EPA.

The Statement is not valid without the full verification scope, objectives, criteria and findings available on the Statement.

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Statement TW22/00419GG, continued

**SGS**

- Indirect emissions:
  - Electricity emission factor is 0.509 kgCO<sub>2</sub>e/kWh (Announced by Bureau of Energy, Ministry of Economic Affairs in 2022).
  - The secondary database has Carbon Footprint Information Platform.
- Directed actions: NA
- GHG information for the following period was verified: 01 January 2021 to 31 December 2021
- The version of inventory sheet: 18 August 2022
- The version of GHG assertion: First edition
- Intended user of the verification statement: Private

**Objective**

The purposes of this verification exercise are, by review of objective evidence, to independently review:

- Whether the GHG emissions are as declared by the organization's GHG assertion
- The data reported are accurate, complete, consistent, transparent and free of material error or omission.

**Criteria**

Criteria against which the verification assessment is undertaken are the principles of ISO 14064-1:2018 and TW EPA Guidelines for GHG Validation and Verification (2010.12).

**Materiality**

The materiality required of the verification was considered by SGS to 5%, based on the needs of the intended user of the GHG Assertion.

**Conclusion**

TAIWAN HIGH SPEED RAIL provided the GHG assertion based on the requirements of ISO 14064-1:2018. The GHG information for the period 01 January 2021 to 31 December 2021 disclosing emissions of 52,767.006 metric tonnes of CO<sub>2</sub>e equivalent and 0.0000 metric tonnes of direct CO<sub>2</sub>e emissions from the combustion of biomass are verified by SGS to a reasonable level of assurance, consistent with the agreed verification scope, objectives and criteria.

The Statement is not valid without the full verification scope, objectives, criteria and findings available on the Statement.

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Statement TW22/00419GG, continued

**SGS**

The emission of each category is described as below: Unit: tonnes of CO<sub>2</sub>e

Inventory categories	Description	GHG Emissions
Direct emissions	This direct GHG emissions are the sum of owned or controlled by the organization within the organization.	503,908.7
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Hsinchu Station	0,9897	3,547.4004	3,548.390
Miaoli Station	0,9046	1,331.8830	1,332.788
Taichung Station	79,4262	5,963.2915	6,042.718
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Yulin Station	0,9853	1,605.3962	1,606.372
Chiayi Station	64,8446	3,101.9796	3,166.824
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The Statement is not valid without the full verification scope, objectives, criteria and findings available on the Statement.

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Statement TW22/00419GG, continued

**SGS**

SGS's approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions information and the controls in place to mitigate these. Our examination includes assessment, on a test basis, of evidence relevant to the amounts and disclosures in relation to the organization's reported GHG emissions.

We planned and performed our work to obtain the information, explanations, and evidence that we considered necessary to provide a reasonable level of assurance that the GHG emissions of category 1 and category 2, and limited level of assurance of category 3 till category 6 for the period 01 January 2021 to 31 December 2021 are fairly stated.

We conducted our verification with regard to the GHG assertion of TAIWAN HIGH SPEED RAIL which included assessment of GHG information system, monitoring and reporting plan/protocol. This assessment included the collection of evidence supporting the reported data, and checking whether the provisions of the protocol references, were consistently and appropriately applied.

In SGS's opinion the presented GHG assertion

- is materially correct and is a fair representation of the GHG data and information, and
- is prepared in accordance with ISO 14064-1:2018 and TW EPA Guidelines for GHG Validation and Verification (2010.12) on GHG quantification, monitoring and reporting.

**Confidentiality**

The reports and attachments may contain relevantly confidential information of the clients. In addition to being submitted as governmental application or certification documents, the reports and attachments are not allowed to be edited, duplicated, or published without the clients' agreement in written form.

**Avoidance of Conflict of Interest**

The reports and attachments are completely complied with the standards and procedures that related authorities established. The reports and attachments of auditing process are conducted with fairness and honesty. If not, the auditing institution not only has to bear the relevant compensation duties, but also to receive legal charge and punishment.

This statement shall be interpreted with the GHG assertion of TAIWAN HIGH SPEED RAIL as a whole.

The Statement is not valid without the full verification scope, objectives, criteria and findings available on the Statement.

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Statement TW22/00419GG, continued

**SGS**

**Verifier Group**

Above statements coincide with auditing process with fairness and impartiality and aim at the emission of year 2021 of clients.

Lead Verifier: *Kyle Lu*

Verifier: *James L. Lu*

Note: This Statement is issued, on behalf of, by SGS Taiwan Ltd. ("SGS") under its General Conditions for Greenhouse Gas Verification Services available at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). The findings recorded herein are based upon an audit performed by SGS. A full copy of this statement, the findings and the supporting GHG Assertion may be consulted at TAIWAN HIGH SPEED RAIL CORPORATION: SF, No. 66, Jingao 2nd Rd., Nangang Dist., Taipei City 115, Taiwan (R.O.C.). This Statement does not release Client from compliance with any relevant, national or regional acts and regulations or with any guidelines issued pursuant to such regulations. Obligations to the contrary are not binding on SGS and SGS shall have no responsibility vis-à-vis parties other than its Client.

The Statement is not valid without the full verification scope, objectives, criteria and findings available on the Statement.

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## Opinion Statement



### INDEPENDENT ASSURANCE OPINION STATEMENT

#### 2022 Taiwan High Speed Rail Sustainability Report

The British Standards Institution is independent to Taiwan High Speed Rail Corporation (hereafter referred to as THSR in this statement) and has no financial interest in the operation of THSR other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance opinion statement has been prepared for the stakeholders of THSR only for the purposes of assuring its statements relating to its sustainability report, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by THSR. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to THSR only.

#### Scope

The scope of engagement agreed upon with THSR includes the followings:

1. The assurance scope is consistent with the description of 2022 Taiwan High Speed Rail Sustainability Report.
2. The evaluation of the nature and extent of the THSR's adherence to AA1000 AccountAbility Principles (2018) and the reliability of specified sustainability performance information in this report as conducted in accordance with type 2 of AA1000AS v3 sustainability assurance engagement.
3. The verification of disclosure to be reliable with the applicable SASB industry(s) standard(s) in this report as conducted in accordance with type 2 of AA1000AS v3 sustainability assurance engagement.

This statement was prepared in English and translated into Chinese for reference only.

#### Opinion Statement

We conclude that the 2022 Taiwan High Speed Rail Sustainability Report provides a fair view of the THSR sustainability programmes and performances during 2022. The sustainability report subject to assurance is materially correct without voluntary omissions based upon testing within the limitations of the scope of the assurance, the information and data provided by the THSR and the sample taken. We believe that the performance information of Environment, Social and Governance (ESG) are correctly represented. The sustainability performance information disclosed in the report demonstrate THSR's efforts recognized by its stakeholders.

Our work was carried out by a team of sustainability report assurers in accordance with the AA1000AS v3. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that THSR's description of their approach to AA1000AS v3 and their self-declaration in accordance with GRI Standards and SASB Standard(s) were fairly stated.

#### Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- a review of issues raised by external parties that could be relevant to THSR's policies to provide a check on the appropriateness of statements made in the report
- discussion with managers on THSR's approach to stakeholder engagement. Moreover, we had sampled 2 external stakeholders to conduct interview
- interview with 20 staffs involved in sustainability management, report preparation and provision of report information were carried out
- review of materiality assessment process
- review of key organizational developments
- review of the extent and maturity of the relevant accounting systems for financial and non-financial reports
- review of the findings of internal audits
- the verification of performance data and claims made in the report through meeting with managers responsible for gathering data
- review of the processes for gathering and ensuring the accuracy of data, followed data trails to initial aggregated source and checked sample data to greater depth during site visits
- the consolidated financial data are based on audited financial data, we checked that this data was consistently reproduced
- review of supporting evidence for claims made in the reports

- an assessment of the organization's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000AP (2018)
- an assessment of the organization's use of metrics or targets of SASB Standard(s) to assess and manage topic-related risks and opportunities.

#### Conclusions

A detailed review against the Inclusivity, Materiality, Responsiveness and Impact of AA1000AP (2018) and sustainability performance information as well as GRI Standards and SASB Standard(s) is set out below:

#### Inclusivity

In this report, it reflects that THSR has continually sought the engagement of its stakeholders and established material sustainability topics, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for the information of Environment, Social and Governance (ESG) in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the THSR's inclusivity issues and has demonstrated sustainable conduct supported by top management and implemented in all levels among organization.

#### Materiality

The THSR publishes material topics that will substantively influence and impact the assessments, decisions, actions and performance of THSR and its stakeholders. The sustainability information disclosed enables its stakeholders to make informed judgements about the THSR's management and performance. In our professional opinion the report covers the THSR's material issues.

#### Responsiveness

THSR has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for the THSR is developed and continually provides the opportunity to further enhance THSR's responsiveness to stakeholder concerns. Topics that stakeholder concern about have been responded timely. In our professional opinion the report covers the THSR's responsiveness issues.

#### Impact

THSR has identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. THSR has established processes to monitor, measure, evaluate and manage impacts that lead to more effective decision-making and results-based management within an organization. In our professional opinion the report covers the THSR's impact issues.

#### Performance information

Based on our work described in this statement, specified sustainability performance information such as GRI Standards disclosures disclosed in this report, THSR and BSI have agreed upon to include in the scope. In our view, the data and information contained within 2022 Taiwan High Speed Rail Sustainability Report are reliable.

#### GRI Sustainability Reporting Standards (GRI Standards)

THSR provided us with their self-declaration of in accordance with GRI Standards 2021 (For each material topic covered in the applicable GRI Sector Standard and relevant GRI Topic Standard, including the disclosures of applicable economic, environmental, and social information, comply with all reporting requirements for disclosures). Based on our review, we confirm that sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the THSR's sustainability topics.

#### SASB Standards

THSR provided us with their self-declaration of in accordance with SASB Standard(s) (RAIL TRANSPORTATION Sustainability Accounting Standard). Based on our review, we confirm that the sustainability disclosure topics & accounting metrics of SASB Standard(s) (RAIL TRANSPORTATION Sustainability Accounting Standard) are reported, partially reported or omitted. In our professional opinion the sustainability disclosure topics, associated accounting metrics and activity metrics for applicable SASB industry standard(s) contained within 2022 Taiwan High Speed Rail Sustainability Report are reliable.

#### Assurance level

The high level assurance provided is in accordance with AA1000AS v3 in our review, as defined by the scope and methodology described in this statement.

The moderate level assurance provided is in accordance with AA1000AS v3 in our review of SASB Standard(s).

#### Responsibility

This sustainability report is the responsibility of the THSR's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

#### Competency and Independence

The assurance team was composed of Lead auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.



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Statement No: SRA-TW-2022006  
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...making excellence a habit.™

For and on behalf of BSI:

Peter Pu, Managing Director BSI Taiwan

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A Member of the BSI Group of Companies.

## GRI Index

GRI Standards	Disclosure	Corresponding to Chapter or Subchapter	Page No	Supplementary information
GRI 2: General Disclosures 2021				
GRI 2: General Disclosures 2021	2-1 Organization details	• About this Report	2	
	2-2 Entities included in the organization's sustainability reporting	• About this Report	2	
	2-3 Reporting period, frequency and contact point	• About this Report	2	
	2-4 Restatements of information	• About this Report	2	
	2-5 External assurance	• About this Report • Appendices	2 79	
	2-6 Activities, value chains and other business relationships	• Operating Bases and Services • Ticket Purchase Channels • Inclusive and Equal Employment	16 36 66	
	2-7 Employees	• Inclusive and Equal Employment	66	
	2-8 Workers who are not employees	• Inclusive and Equal Employment	66	
	2-9 Governance structure and composition	• Corporate Governance Framework and Committee	50	
	2-10 Nomination and selection of the highest governance body	• Corporate Governance Framework and Committee	50	
	2-11 Chairman of the highest governance body	• Corporate Governance Framework and Committee	50	
	2-12 The highest governance body in overseeing the management of impacts	• Corporate Governance Framework and Committee	50	
	2-13 Head of Impact Management	• Corporate Governance Framework and Committee	50	
	2-14 The highest governance body in sustainability reporting	• Corporate Governance Framework and Committee	50	
	2-15 Conflicts of Interest	• Corporate Governance Framework and Committee	50	
	2-16 Communication of critical concerns	• Stakeholder identification and communication	7	
	2-17 Collective knowledge of the highest governance body	• Corporate Governance Framework and Committee	50	
	2-18 Evaluation of the performance of the highest governance body	• Corporate Governance Framework and Committee	50	
	2-19 Remuneration policies	• Corporate Governance Framework and Committee	50	
	2-20 Process to determine remuneration	• Corporate Governance Framework and Committee • Complete and Perfect Salary and Benefit System	50 67	

GRI Standards	Disclosure	Corresponding to Chapter or Subchapter	Page No	Supplementary information
GRI 2: General Disclosures 2021	2-21 Annual total compensation ratio	• Complete and Perfect Salary and Benefit System	67	
	2-22 Statement of sustainability development strategy	• Letter from the President • Letter from the Chairman	3 4	
	2-23 Policy commitments	• Ethical Management and • AntiCorruption Human rights policies and employee care	54 70	
	2-24 Embedding policy commitment	• Ethical Management and • AntiCorruption Human rights policies and employee care	54 70	
	2-25 Procedures to remediate negative impacts	• Human rights policies and employee care	70	
	2-26 Mechanisms for seeking advice and raising concerns	• Ethical Management and • AntiCorruption Human rights policies and employee care	54 70	
	2-27 Compliance with laws and regulations	• Legal compliance		
	2-28 Membership associations	• Industry Exchange Appendices Table 1	43 79	
	2-29 Approach to stakeholder engagement	• Stakeholder identification and communication	7	
	2-30 Collective bargaining agreement	• Human rights policies and employee care	70	
GRI 3: Material Topics 2021				
GRI 3: Material Topics 2021	3-1 Process to determine material topics.	• Identification of material topics	9	Regarding “d. Describe actions taken to manage material topics and associated impacts,” “e. Report information on the effectiveness of tracking actions taken,” “f. Describe how the agreement with the stakeholder affected the action taken and ways to demonstrate if the action is effective,”—A list is provided in this section, indexed to the chapters corresponding to each material topic.
	3-2 List of material topics	• Identification of material topics	9	
	3-3 Management of material topics	• Identification of material topics	9	



## GRI Index

GRI Standards	Disclosure	Material Topics	Chapter	Page No	Remarks
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Enterprise Governance and Operational Performance	• Operational Performance	20	
	201-2 Financial impacts and other risks and opportunities of climate change		• Climate change mitigation and adaptation	57	
	201-3 Defined benefit plan obligations and other retirement plans		• Inclusive and Equal Employment	66	
	201-4 Financial assistance received from the government.		• Operational Performance • Stakeholder identification and communication	20 7	
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	Talent appointment and development	• Operating Bases and Services • Inclusive and equal employment • Complete and Perfect Salary and Benefit System	16 66 67	
	202-2 Proportion of local residents employed at senior management level		• Inclusive and Equal Employment	66	
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	Sustainable supply chain management	• Operating Bases and Services • Localized Supply Chain	16 44	
GRI 205: Anti-corruption 2016	205-1 Operating bases where corruption risk assessment has been conducted	Enterprise Governance and Operational Performance	• Ethical Management and AntiCorruption	54	
	205-2 Communication and training on anti-corruption policies and procedures		• Ethical Management and AntiCorruption	54	
	205-3 Confirmed incidents of corruption and actions taken		• Ethical Management and AntiCorruption	54	
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Resource use and management	• Low-carbon Train Operation and Environmental Sustainability	54	
	302-2 Energy consumption outside the organization		• Low-carbon Train Operation and Environmental Sustainability	54	
	302-3 Energy intensity		• Low-carbon Train Operation and Environmental Sustainability	54	
	302-4 Reduction of energy consumption		• Low-carbon Train Operation and Environmental Sustainability	54	
	302-5 Reduce energy demand for products and services		• Low-carbon Train Operation and Environmental Sustainability	54	

GRI Standards	Disclosure	Material Topics	Chapter	Page No	Remarks
GRI 303: Water and Effluents (2018)	303-1 Interactions with water as a shared resource	Enterprise Governance and Operational Performance	• Low-carbon Train Operation and Environmental Sustainability	54	
	303-2 Management of water discharge-related impacts		• Low-carbon Train Operation and Environmental Sustainability	54	
	303-3 Water withdrawal		• Low-carbon Train Operation and Environmental Sustainability	54	
	303-4 Drainage capacity		• Low-carbon Train Operation and Environmental Sustainability	54	
	303-5 Water consumption		• Low-carbon Train Operation and Environmental Sustainability	54	
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Climate change mitigation and adaptation	• Low-carbon Train Operation and Environmental Sustainability	54	
	305-2 Energy Indirect (Scope 2) Greenhouse Gas Emissions		• Low-carbon Train Operation and Environmental Sustainability	54	
	305-3 Other Indirect (Scope 3) Greenhouse Gas Emissions				
	305-4 Greenhouse gas emission intensity	Ecological and Community Impact Management	• Low-carbon Train Operation and Environmental Sustainability	54	Information not available
	305-5 Reduction of greenhouse gas emissions		• Low-carbon Train Operation and Environmental Sustainability	54	
	305-6 Emissions of ozone-depleting substances (ODS)				
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant gas emissions		• Low-carbon Train Operation and Environmental Sustainability	54	
GRI 306: Waste 2016	306-1 Volume of water discharged by water quality and discharge destination	Resource use and management	• Low-carbon Train Operation and Environmental Sustainability	54	
	306-2 Waste by category and disposal method		• Low-carbon Train Operation and Environmental Sustainability	54	
	306-3 Severe leakage		• Low-carbon Train Operation and Environmental Sustainability	54	
	306-4 Waste transportation		• Low-carbon Train Operation and Environmental Sustainability	54	
	306-5 Water bodies affected by drainage and/or surface runoff				

## GRI Index

GRI Standards	Disclosure	Material Topics	Chapter	Page No	Remarks
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Employee care and labor protection	• Inclusive and Equal Employment	66	
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Talent appointment and development	• Inclusive and Equal Employment • Complete and Perfect Salary and Benefit System	66	
				67	
	401-3 Parental Leave		• Inclusive and Equal Employment • Complete and Perfect Salary and Benefit System	66	
				67	
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	Employee care and labor protection	• Human rights policies and employee care	70	
		Talent appointment and development			
GRI 403: Occupational Health and Safety 2018	403-1 Occupational Health and Safety Management System	Employee care and labor protection	• Human rights policies and employee care	70	
	403-2 Hazard identification, risk assessment, and incident investigation		• Human rights policies and employee care	70	
	403-3 Occupational health services		• Occupational Safety and Health	72	
	403-4 Worker participation, consultation, and communication on occupational health and safety		• Occupational Safety and Health	72	
	403-5 Worker training on occupational health and safety		• Occupational Safety and Health	72	
	403-6 Promotion of worker health		• Human rights policies and employee care	70	
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships		• Occupational Safety and Health	72	
	403-8 Workers covered by an occupational health and safety management system		• Occupational Safety and Health	72	

GRI Standards	Disclosure	Material Topics	Chapter	Page No	Remarks
GRI 403: Occupational Health and Safety 2018	403-9 Work-related injuries	Employee care and labor protection	• Occupational Safety and Health	70	
	403-10 Work-related illnesses		• Occupational Safety and Health	70	
GRI 404: Training and Education 2016	404-1 Average hours of training per employee per year	Talent appointment and development	• Comprehensive Employee Training	68	
	404-2 Employee development and transition assistance program		• Comprehensive Employee Training	68	
	404-3 Percentage of employees receiving regular performance and career development reviews		• Talent Management and Motivation	68	
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	Enterprise Governance and Operational Performance	• Corporate Governance Framework and Committee • Complete and Perfect Salary and Benefit System	50	66
	405-2 Ratio of women to men's base salary and wages	Talent appointment and development	• Corporate Governance Framework and Committee • Complete and Perfect Salary and Benefit System	50	
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Possible risks to freedom of association and collective bargaining for operating bases or suppliers	Employee care and labor protection	• Human rights policies and employee care	70	
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	Quality of Service and Customer Relationship Management	• Safety and Quality Services	37	
	416-2 Violations of health and safety regulations relating to products and services		• Legal compliance	37	
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Privacy and Information Security Management	• Information Security Management	38	
Customized material topic		Transportation safety management	• Transportation - Professional Transportation	24	
Customized material topic		Technological innovation	• Technology - Innovative Technology	34	

## Comparison of the “Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies”

Items	Corresponding Chapter or Subchapter
The content of this report shall cover the risk assessment of the relevant environmental, social, and corporate governance, and set the relevant performance indicators to manage the material topics identified	<ul style="list-style-type: none"> <li>• Sustainable Governance and Ethical Corporate Management</li> </ul>
Corporate governance of climate-related risks and opportunities; actual and potential climate-related shocks; methods to identify, assess and manage climate-related risks; and indicators and targets for assessing and managing climate-related issues	<ul style="list-style-type: none"> <li>• Low-carbon Train Operation and Environmental Sustainability</li> </ul>
Information on salaries of full-time non-supervisory employees	<ul style="list-style-type: none"> <li>• Nurturing Talent and Value Cultivation</li> </ul>

## Comparison of the “Corporate Sustainable Development Best Practice Principles for TWSE/GTSM Listed Companies”

Items	Corresponding Chapter or Subchapter
I. General Principles	<ul style="list-style-type: none"> <li>• Sustainability Strategies and Goals</li> </ul>
II. Implementing Corporate Governance	<ul style="list-style-type: none"> <li>• Sustainable Governance and Ethical Management</li> </ul>
III. Fostering a Sustainable Environment	<ul style="list-style-type: none"> <li>• Low-carbon Train Operation and Environmental Sustainability</li> </ul>
IV. Preserving Public Welfare	<ul style="list-style-type: none"> <li>• Partner Relationship Management and Local Supply</li> <li>• Nurturing Talent and Value Cultivation</li> <li>• Carrying for Society and Developing Local Area</li> </ul>
V. Enhancing corporate sustainability information disclosure	<ul style="list-style-type: none"> <li>• About this Report</li> </ul>
VI. Supplementary Provisions	<ul style="list-style-type: none"> <li>• Identification and Responses to Material Topics</li> </ul>



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