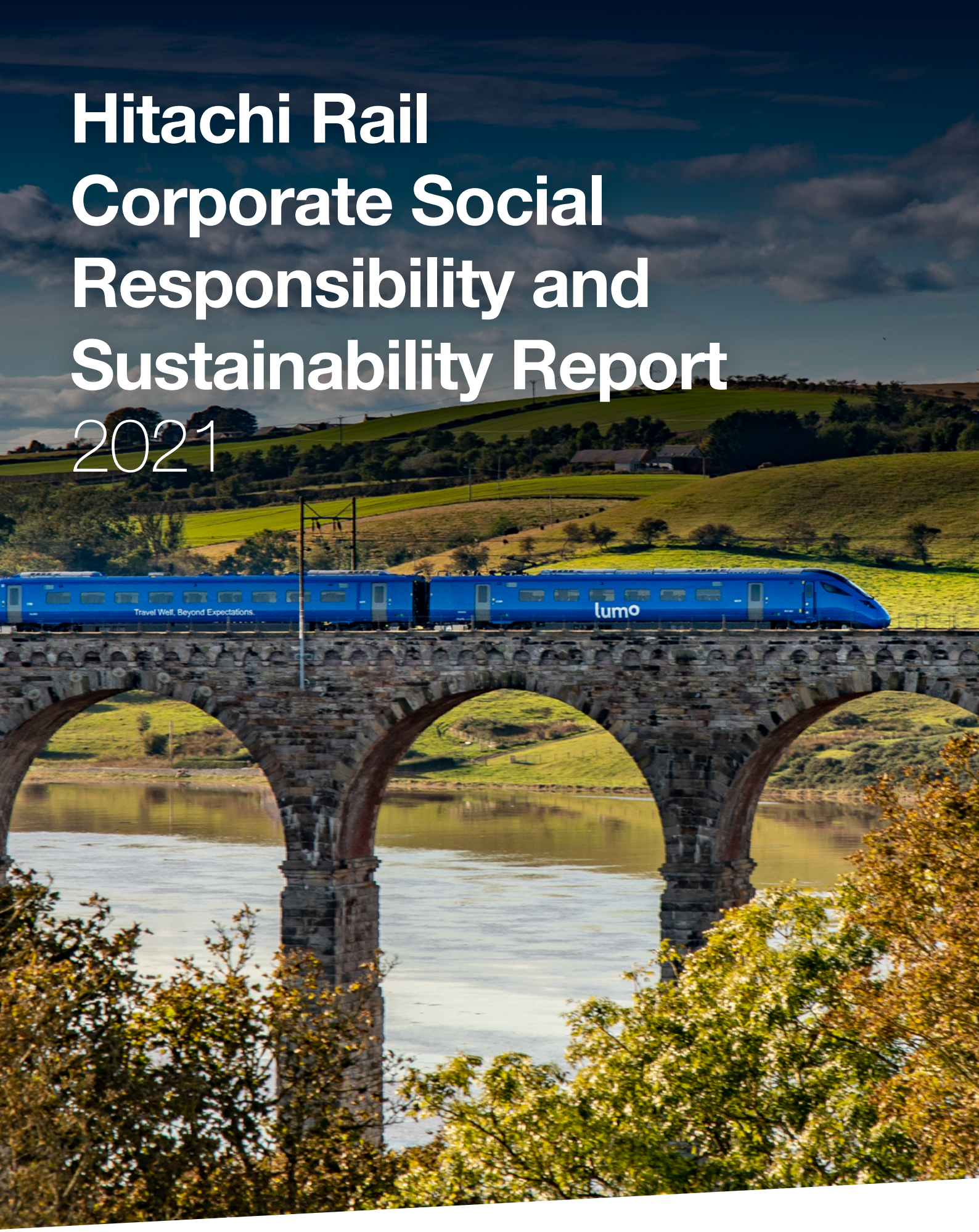
Hitachi Rail Corporate Social Responsibility and Sustainability Report 2021



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The report covers

Period. The main period covered is fiscal 2020 (April 1, 2020, to March 31, 2021)
Note. Some information on activities in April 2021 and after is also included.
Company perimeter. This edition covers Hitachi Rail's global activities, including Japan business.
Social data. The boundary of data indicated under each indicator. Reporting Cycle.
Published every year as an annual report.
Date Published. November 2021
CSR&S contacts global team: csr@hitachirail.com

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The Hitachi Rail Corporate Social Responsibility and Sustainability Report

This report seeks to both open and continue dialogue and engagement with our Stakeholders through comprehensive information disclosure.

The report is based on the disclosure requirements of the GRI Sustainability Reporting Standards (GRI Standards) and our experience on materiality analysis promoted during the last years.

In creating the report and referring to the industry disclosure standards, Hitachi Rail answers to both our clients and the needs of the travelling public – giving concrete knowledge of company solutions and commitment as a climate change innovator.

Foreword from the Andrew Barr, Chief Executive Officer

We believe we need to think differently about transport in the 21st century.

The world's growing population, particularly in cities, and the indisputable challenge of climate change, has seen Hitachi put sustainability at the heart of its business strategy.

We are committed to becoming a climate change innovator. Creating net zero, sustainable solutions to decarbonise transport around the world. Where railways are not already electrified, we are designing and building new battery and hybrid trains and trams to cut diesel emissions. Elsewhere we are delivering whole new sustainable railways to help protect the environment now and for a net-zero future.

We believe the future of transport will be driven by digitising and fully-integrating the entire mobility system to improve the whole passenger journey. By digitally connecting everything – from trains, signalling and infrastructure, to operations, maintenance and passenger-interfaces – the complete system can be planned, managed and optimised. Couple this with the power of AI and Hitachi's world-class engineering, and we can deliver a step-change in service.

Passengers can enjoy new levels of reliability, capacity and connectivity – meaning faster, smoother and easier journeys – but also a smart mobility system that works together as one. The goal is to make public transport the first preference for travel; the attractive option whether travelling within cities or long distance. By putting the passenger first through connected mobility, we are moving people away from cars and planes and onto trains. We want every passenger, customer and community to enjoy the benefits of more seamless, sustainable mobility.

Hitachi recognises that tackling climate change is fundamental to our moral and corporate mission. For that reason, we've signed up to the UN Sustainable Development Goals and committed to achieving ambitious 2050 decarbonisation targets.

We're taking this seriously. Earlier this year, the Hitachi Group announced that it is committed to achieving carbon neutrality at all its business sites by 2030 and across the company's value chain by 2050.

Committing to net-zero means Hitachi Rail's own business must reduce its environmental footprint. I'm pleased that in this year's report we have delivered significant reductions against the previous period. Our greenhouse emissions are down 30.5%. We also know we have more to do.

Making a difference to climate change is not easy, and it will take a huge collective effort from all of us, but it is a challenge we must rise to. Hitachi is in the unique position of having technological leadership to innovate the experience of the whole system and at the global scale to implement major change. This places a particular responsibility on us to tackle the problems of our time head-on – and inspire the next generation of transform mobility – now and for a net-zero future. - for the benefit of the next generation.

Andrew Barr

Hitachi Rail Group CEO,
Vice President and Executive Officer, Hitachi Corporate

Introduction

Hitachi Rail's mission is to transform mobility so that every passenger, customer, and community can enjoy the benefits of seamless and sustainable journeys.

We are experts in every part of the railway, from building products of the highest quality, to delivering connected solutions that improve transport services worldwide.

Our global scale and experience mean we can deliver every aspect of a railway for our customers from manufacturing trains, to delivering the signalling infrastructure, to ticketing, maintenance, and operations.

Customers are increasingly looking for partners and suppliers that can provide integrated solutions with a full-service offering. Last year, to leverage the whole capabilities of the Group, Hitachi Rail completed full integration of its global organisation, thus allowing it to offer customers a full suite of rail products, services, and solutions based on common standards and processes. Hitachi Rail is present in 38 countries, with around 12,000 employees working on projects or at manufacturing and maintenance sites across six continents.

Delivering for the passenger is at the heart of our business, with more than 18bn journeys completed worldwide every year using Hitachi Rail's technology.

We have seen that one of the consequences of Covid-19 is that customers around the world have accelerated their desire to decarbonise and digitise their transport systems.

To cater to those needs, Hitachi Rail is pursuing a strategy of pioneering sustainable, digital connectivity. The approach focuses on delivering high-quality rail products and connecting transport systems digitally so that passengers and customers can optimise journeys to make trains and mass transit systems the first choice for travel.

The Company is focused on decarbonising our business too. Hitachi Rail is committed to reducing the carbon footprint of our business sites to zero by 2030. Through our procurement approach, we are working with our supply chain partners to embed sustainability into their businesses to achieve carbon neutrality by 2050.

Hitachi Rail aims to become a climate change innovator, offering sustainable transport and a business that protects our environment now and for a net-zero future.

Hitachi Rail Identity

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Business, Products and Solutions

Hitachi Rail has a unique position as a global player in the railway sector: it is an integrated group capable of offering rail solutions across rolling stock, signalling systems and digital technology, service & maintenance activities, as well as building whole new railways internationally.

The strength of the Hitachi Group means that our partners, with our sister companies, like GlobalLogic, Hitachi Energy or Hitachi Vantara, are set to develop joined-up digital solutions to meet our customers' different needs.

Rolling Stock

Hitachi Rail has over 100 years' experience of delivering for customers and passengers. With our engineering excellence and commitment to innovation, the teams work in partnership with customers to improve the passenger experience across all of our rolling stock products. Our designs aim to be, accessible to all, positively impact society, and improve people's daily lives.

Operation, Service & Maintenance

The central goal of the OS&M Department is to deliver best-in-class services designed to maximize product life cycle, support customer's operations readiness processes, and enhance the customer experience with innovative digital solutions. Hitachi Rail provides pioneering solutions across a range of services from Service & Maintenance (S&M) for both rolling stock equipment and legacy signalling installations. With our expertise of building and maintaining every part of the rail systems, Hitachi Rail is uniquely positioned to run the day-to-day operations of railways on behalf of transit authorities; which is exactly what the Companyis doing in Copenhagen, Honolulu and Riyadh.

Digital Signalling & Systems

Hitachi Rail designs, manufacture, installs and commission signalling components, systems and integrated mobility solutions for the management and control of the new and upgraded railway, transit and freight lines. Globally, the company's teams support clients with every type of signalling solution, which allows us to have a holistic view of a railway operation, improving performance and revenue efficiencies.

Hitachi Rail's solutions offer the latest in signalling technology and have taken network safety, reliability and efficiency to new levels.

Turnkey

Hitachi Rail is a leader in designing and building whole new railways – either individually or as part of a consortium – worldwide.

Hitachi Rail has a particular specialism in delivering automatic and fully automated train operations (ATO), having built the award-winning Copenhagen metro and now delivering automated metro railways in Riyadh and Honolulu. Hitachi Rail's automatic transportation systems are designed with the whole-life cost at the forefront, meaning the solutions provide high-performance levels, increased capacity, high levels of safety and service availability and improvements to passenger satisfaction.

The company has the capability to work as a special contractor or as a leader in joint ventures with civil work companies and other rolling stock manufacturers. Hitachi Rail works with a wide range of global suppliers in partnership to solve each project's challenges to meet the expectations of the client and achieve a high level of customer satisfaction throughout.

Mission, vision and values

Hitachi Rail's mission is to contribute to society by developing superior, original technology that enables more seamless, sustainable journeys for passengers around the globe. With our core values of harmony, sincerity and pioneering spirit, our teams partner with customers, cities and communities to design, engineer, operate and maintain fully integrated transport infrastructure. The Company is unique in how its pioneering partnerships brings innovation and expertise from the Hitachi group and its wider partner ecosystem.

Our vision is that every passenger, customer and community around the globe can enjoy the benefits of more seamless, sustainable journeys.

The Company's beliefs and actions are guided by a clear mission, vision and values. Hitachi Rail takes pride in holding itself and its projects to the highest standards, and the values provide benchmarks to evaluate successes and opportunities for improvement.

Initially set by Hitachi founder Namihei Odaira, the Hitachi Mission has been carefully passed on to generations of employees and Stakeholders throughout the company's 110-year history.

Mission

Hitachi Rail's mission is to contribute to society through the development of superior, original technology that enables more seamless, sustainable journeys for passengers around the globe.

Vision

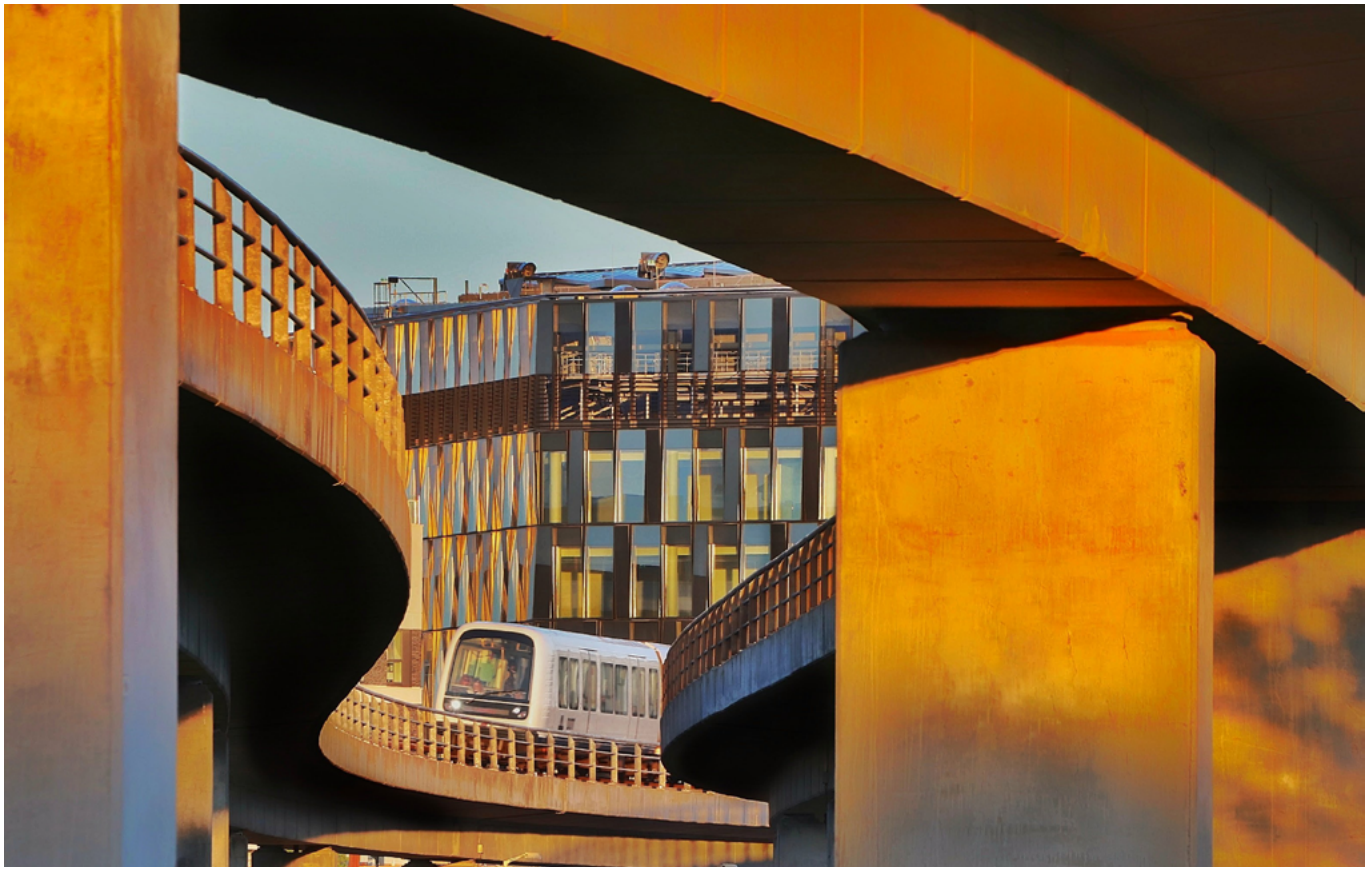
Our vision is that every passenger, customer and community around the globe can enjoy the benefits of more seamless, sustainable journeys.

Values

Wa (Harmony) The need to show respect to colleagues, suppliers, clients and Stakeholders. The company shows respect to earn respect.

Makoto (Sincerity) To act with integrity in all words and actions, exemplifying the fact that sincerity lies inholding to stated values.

Kaitakusha – Seishin (Pioneering Spirit) This means to lead with ambition, to seek new challenges; and to be unafraid of flexibility and adaptability to the changing needs of the business.



Global Presence

Hitachi Rail is present in 38 countries and six continents.

With around 12,000 employees, Hitachi Rail believes that a culture of sustainability is best practice; combining clear goals and plans for the development of the business with our staff's personal and professional growth.

Global Head Office

Hitachi Rail Ltd
7th Floor, One New Ludgate,
60 Ludgate Hill, London
EC4M 7AW

Hitachi, Ltd. Headquarters Akihabara Daibiru Building,
1-18-13, Soto-Kanda, Chi- yodaku, Tokyo, 101-8608

Headquarters

Hitachi Rail SpA Via Argine, 425, 80147 Napoli (NA)

Hitachi Rail STS Via Paolo Mantovani 3-5, 16151 Genova (GE)

Main Offices

Hitachi Rail STS:

España

Hurontario

Mobilinx

Torino

Napoli

Deutschland Gmbh

Sweden

Hitachi Rail Honolulu JV

AB Engineering, Operations and Projects Office - UK

Hitachi Baltimore Rail Partners, LLC Hitachi

Hitachi Rail STS Australia Pty Ltd.

Engineering, Operations and Projects Office - Malaysia Sdn Bhd

Hitachi Rail STS India Private Limited

Hitachi Rail STS Railway Signaling Technology (Beijing) Co. Limited

Hitachi Rail STS Hong Kong LTD

Maintenance Centres

Hitachi Rail Ltd.:

Doncaster Ashford

Stoke Gifford

Craigentinny

Swansea

North Pole

Bounds Green

Hitachi Rail S.p.A. - Denmark PE.

Hitachi Rail SpA/STS Naples

Hitachi Rail SpA Florence

Hitachi Rail SpA Milan

Plants

Hitachi Rail STS France- Riom

Hitachi Rail STS - Tito

Hitachi Rail SpA - Reggio Calabria

Hitachi Rail SpA - Pistoia

Hitachi Rail USA - Miami

Hitachi Rail STS USA, Inc - Batesburg

Newton Aycliffe Manufacturing Facility

Hitachi, Ltd. - Mito Works

Hitachi, Ltd. - Kasado Works

We hereby remind that the companies Hitachi Rail STS S.p.A. (HRSTS) and Hitachi Rail S.p.A. (HRI) executed an intercompany reorganization program consisting in the merger by absorption of HRI into HRSTS.
The Merger is effective from May 1st, 2021.

Sustainability topics and contribution to SDGs

"Hitachi Rail will reduce its environmental impact, develop a sustainability culture and improve quality of life for our people and communities" (A. Razeto, Group Head of CSR and Sustainability)

The UN Environment Programme's Emissions Gap Report 2020 found that global greenhouse gas (GHG) emissions hit a new high of 59.1 gigatonnes (Gt) of CO2 equivalent in 2019.

Over the past decade, emissions have continued to increase at a rate of 1.5% per year, rising in all major economic sectors.

Particularly, a closer look at GHG emissions breakdown by economic sector reveals that:

- Power production today generates the largest share of GHG emissions (30%). About 50% of electricity comes from burning fossil fuels, mostly coal and natural gas.
- Industry represents the second-largest share of GHG emissions (21%), burning fossil fuels for energy, as well as GHG emissions from mineral products (such as cement) and other chemical reactions necessary to produce goods from raw materials.
- The Transportation sector contributes around 16% of global GHG emissions, with road transport being primarily responsible (94% of the sector). Rail, shipping and aviation are relatively smaller, with emissions in international territory comprising 4% of total.
- Agriculture contributes 16% of total GHG emissions, with most emissions coming from enteric fermentation (ruminant animals, such as cattle), nitrogen fertilizers on agricultural soils, and municipal waste.
- Buildings contribute to 7% of global GHG emissions, arising primarily from fossil fuels burned for heat.

Should this pattern continue, the world is projected to warm by 3°C to 5°C by 2100, with catastrophic effects on human civilization.
To prevent this risk, a major turnaround in emissions trajectories is needed in all sectors (reduction of approximately 3-6% per annum between now and 2030) to limit the rise in surface temperatures and avoid catastrophic climate change effects.
In 2015, world leaders met in Paris and agreed to limit the global temperature rise by the end of the century to well below 2°C and to pursue efforts to limit the temperature increase even further to 1.5°C. According to the Intergovernmental Panel on Climate Change (IPCC), limiting global warming to 1.5°C requires net human-caused carbon dioxide (CO2) emissions to fall by 45% by 2030 and to reach net-zero by 2050. Even limiting the temperature rise to 2°C will need CO2 emissions to fall by 25% by 2030, requiring a turnaround of the present trend and approximately $75 trillion in investment.

In 2015, the United Nations presented 17 Sustainable Development Goals (SDGs) to be achieved by 2030. Combined with the company mission to contribute to society through the development of superior, original technology and products that power sustainable connectivity, Hitachi Rail is well-positioned to make a meaningful contribution to achieving the selected SDGs. Sustainability is at the heart of our business; we have an obligation to inspire and build a better and more sustainable future for employees, customers, and all users of products.

The Company has three major levers to tackle climate change:

1. Reduce GHG emission (Increasing the efficiency of the operations and reducing Supply chain emissions).
2. Risk Management (Updating investment criteria and reduce portfolio of assets).
3. Business model Innovation (Transforming the existing business model and pursuing growth in 'green' opportunities).

The transportations systems play a crucial role in the development of all cities. Recognizing that people's way of life can be enriched by enhancing transportation systems and improving connectivity, the company engages in collaborative creation with customers and other partners to bring this about.

As a systems integrator serving all aspects of railways for 18.5 billion people (both metro and railway line users), Hitachi Rail helps people connect with one another and contributes to the revitalization of communities and the development of cities by supplying innovative railway solutions that are safe and highly reliable, utilising advanced information and control technologies. These include high-speed rolling stock, technology for autonomous operation, and preventive maintenance.

The 'Think Responsibly and Act Sustainably' initiative is at the heart of the way the company designs and plans products, and defines the solutions to develop with partners and deliver to customers.

Hitachi Rail has identified the UN Sustainability Goals that it is able to help reach:

- Directly, through management models which enable the Company to follow a path of sustainable growth and guarantee a cohesive culture of responsibility, and promote sustainable actions by individual collaborators.
- Indirectly, through the achievement of the company's mission, which is to develop railway and mass transit systems and create increasingly sophisticated products and solutions that are safe, convenient, efficient and environmentally sustainable.

Materiality Analysis

To define which sustainability topics are considered material, Hitachi Rail has conducted a new materiality analysis. These topics were updated to take into consideration the **GRI Sustainability Reporting Standards** published in 2016-18 by the **GRI (Global Reporting Initiative)**. Hitachi has considered internal factors such as mission, values, risk assessment activities, Quality, Safety and Environmental Management Systems, climate change strategies, and research and development activities into increasingly safe and environmentally-friendly products and solutions.

The internal analysis carried out assessed the level of the materiality of various issues along with the company's performance as well as the possibility of improving both its competitive advantage and reputation.

The topics analyzed were then associated with the Sustainable Development Goals and the respective Targets. Since each material topic can cross multiple SDGs, the criterion for arranging the latter was to first associate them with the most significant topic as defined by the materiality analysis.

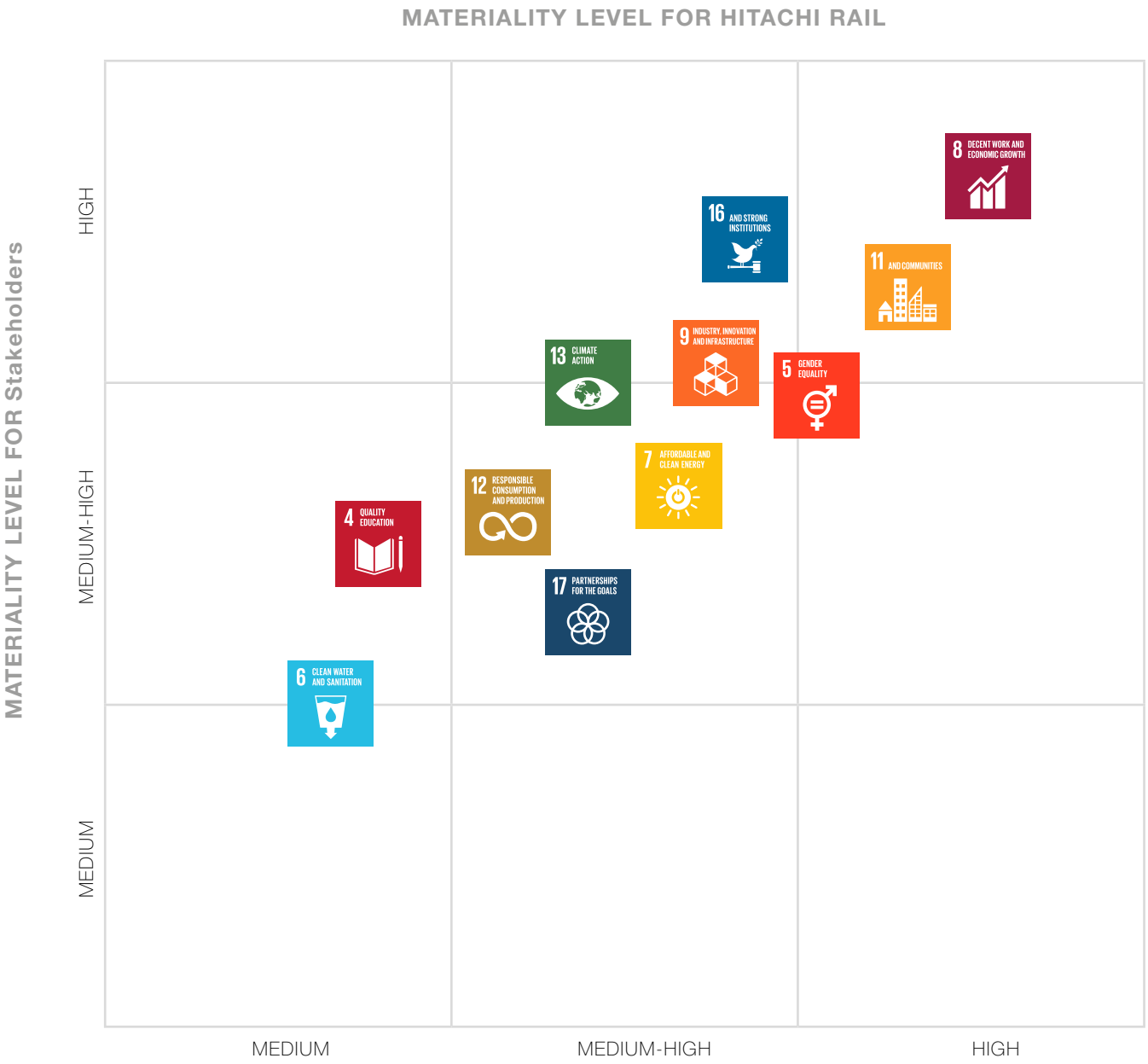
Hitachi Rail has reached out and performed a Stakeholders engagement initiative in order to give the chance to both its employees and external Stakeholders to assess the company's priorities in terms of Sustainability, Welfare, and compliance with SDGs targets. The analysis has been developed with an online tool and in full compliance with GRI standards and guidelines.

A total number of almost 400 people have been involved and contacted, split between both top management and external Stakeholders (suppliers, clients, partners etc..) with a detailed questionnaire – available in different languages – asking for their opinion on matters ranging from energy efficiencies tothrough air quality, data protection and protection of diversity and equal opportunities. The materiality analysis was composed by a set of 20 questions for the internal Stakeholders and 15 for the external ones. Some examples of asked questions are:

Energy Efficiency	**ENERGY EFFICIENCY** - How do you evaluate the investments on the topic of energy efficiency of buildings, plants and equipment (e.g. renewal of boiler park, insulation of roofs, search for leaks of compressed air or water, etc.) for a company like Hitachi?
Electric Energy Production from RES	**SUPPLY AND PRODUCTION OF ELECTRICITY FROM RENEWABLE SOURCES -** How do you evaluate the investments to increase the share of electricity from renewable sources (such as the use of electricity guaranteed 100% green by the supplier or photovoltaic from plants installed on company roofs) for a company like Hitachi?
Climate Mitigation and GHG emissions	**MITIGATION OF CLIMATE CHANGE (GREENHOUSE GASES EMISSIONS) -** How do you judge actions taken to reduce the environmental impact of activities and products (ar sharing, Green Parking areas, Green Mobility e fleet policy, optimising business travel, encouraging plug-in hybrid and electric cars, optimising production processes in terms of reducing impacts, etc.) for a company like Hitachi?

The Materiality Analysis has been developed to ensure that different geographical areas in which Hitachi Rail operates were evenly and properly represented and an even involvement of internal Stakeholders from different line of work (Rolling Stock, Signalling, Turnkey, OS&M and Support functions).

SDGs Materiality Matrix



SDGs	MATERIAL TOPIC FOR HITACHI RAIL	UN TARGET to which the company contributes with its business and its policy
Goal 11: Make cities inclusive, safe, resilient and sustainable		
	• CUSTOMER FOCUSING • R&D AND PRODUCT INNOVATION	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all,.. 11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory,.. 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage. 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality,..
Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation		
	• R&D E PRODUCT INNOVATION • SUPPLY CHAIN ETHICAL MANAGEMENT	9.1 Develop quality, reliable, sustainable and resilient infrastructure,… 9.2 Promote inclusive and sustainable industrialization… 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable,… 9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries,
Goal 16: Promote just, peaceful and inclusive societies		
	• ANTI-CORRUPTION • DATA PROTECTION SECURITY	16.5 Substantially reduce corruption and bribery in all their forms. 16.6 Develop effective, accountable and transparent institutions at all levels.
Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all		
	• OCCUPATIONAL HEALTH AND SAFETY • EMPLOYEE WELFARE • HYBRID WORKING MODELS • SUPPLY CHAIN ETHICAL MANAGEMENT	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation,… 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation,… 8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery… 8.8 Protect labour rights and promote safe and secure working environments for all workers,…
Goal 17: Revitalize the global partnership for sustainable development		
	• COMPANY CULTURE	17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies… 17.16 Enhance the Global Partnership for Development,… 17.17 Encourage and promote effective public, public-private and civil society partnerships,…

SDGs	MATERIAL TOPIC FOR HITACHI RAIL	UN TARGET to which the company contributes with its business and its policy
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all		
	• TRAINING AND CAREER DEVELOPMENT • SUPPORT FOR LOCAL COMMUNITY	4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university. 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship… 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development,… 4a Build and upgrade education facilities that are child, disability and gender sensitive… 4b By 2020, substantially expand globally the number of scholarships available… including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries,…
Goal 5: Achieve gender equality and empower all women and girls		
	• PROTECTION OF DIVERSITY AND OPPORTUNITY	5.1 End all forms of discrimination against all women and girls everywhere. 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. 5b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy		
	• ENERGY EFFICIENCY • SUPPLY AND PRODUCTION OF ELECTRICITY FROM RES	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix. 7.3 By 2030, double the global rate of improvement in energy efficiency
Goal 12: Ensure sustainable consumption and production patterns		
	• RECYCLE AND REUSE • ECO-DESIGN • WASTE MANAGEMENT • AIR QUALITY • CIRCULAR ECONOMY	12.2 By 2030, achieve the sustainable management and efficient use of natural resources. 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse. 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities. 12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
Goal 13: Take urgent action to combat climate change and its impacts		
	• MITIGATION OF CLIMATE CHANGE	13.2 Integrate climate change measures into national policies, strategies and planning. 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation,…
Goal 6: Ensure access to water and sanitation for all		
	• WATER CONSUMPTION OPTIMISATION • MANAGEMENT OF EFFLUENTS	6.4 Increase water-use efficiency and ensure freshwater supplies 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials,…

Sustainability of the Kasado site

Corporate Governance

Hitachi Rail's mission is to improve the quality of human life by enabling people to do more and feel better. The company has committed itself to do this in an environmentally and socially responsible manner.

To ensure the diversity of the Organization and to the medium-to long-term growth of corporate value, the Midterm Management Plan and other matters related to management strategies, each Director has contributed comments drawing on their knowledge and experience and conducted lively discussions on the included topics.

Our People

For the purpose of promoting society, local high school students and industrial high school students were adopted in priority.

Develop to the program for enhancing communication, we held a Behavior safety workshop inviting external instructors and conducted activities that enhanced employee resilience.

Conducted to traffic safety measure program and continuous improvement measures to prevent Covid-19 infection.

We conducted stress check evaluations and developed an EAP (Employee Assistance Programme) to line managers with high-stress tendencies for fatigue management.

Risk management

Premises developed an external warehouse cost reduction program. We had reviewed the optimised storage in the premises and achieved quality improvement. As a result of reviewing the workplace Heating, Ventilation & Air Conditioning system, the ventilation system was improved.

Develop countermeasures to prevent work related accidents in Kasado works.

The business environment is changing day by day, impacted by the continued advance of information and communications technology, such as the Internet of Things (IoT), and geopolitical risks arising from complex shifts in global political and economic conditions. Kasado Works aims to create new revenue opportunities while controlling risk.

In order to achieve this, we maintain a clear understanding and analysis of the operating environment, taking into account social issues, as well as our competitive advantages and management resources. We also conduct risk management with an eye toward the many risks the company should be prepared for as well as opportunities for growth.

The Environment

Regarding Waste management; The target is to achieve zero final disposal and 100% recycling of waste. In order to contribute to the recycling-circular economy society as a waste reduction program, a change from wooden pallet to corrugated cardboard was carried out.

Monitor the efficiency of production processes. Many activities that are part of orignal equipment initiatives will directly address this requirement. Within the environmental sustainability arena, a broader understanding of efficiency, known as eco-efficiency, has been developed to help overcome this narrow focus.

- Increasing resource productivity by minimizing the use of materials, energy, water, and land required to produce or provide our products and services;
- minimizing discharges, especially of toxic substances, to air, water and land, while increasing the use of renewable materials;
- redesigning products to increase their service value while maintaining functions that the customer needs and wants. This can be done by increasing product functionality or flexibility (i.e. by making products that are modular in construction);
- using smaller quantities of materials through increased yields, substitution, recycling and reuse;
- using materials derived from renewable feedstock;
- running factories at higher capacity and rates of use;
- discharging fewer toxic wastes and in smaller quantities;
- increasing the efficiency of work equipment, i.e. computers, photocopiers, lighting, heating, pumps;
- increasing the efficiency of equipment/ machines, dryers, heat exchangers, steam traps, temperature controllers;
- reducing energy network distribution losses by generating energy closer to where it is needed.

The pond on the premises of the Kasado Works is inhabited by native species (Rare plants and animals; Moths, Gentians, etc.), which we have protected. We are also removing non-native plant species. It is also important to promote the coexistence of the project and the ecosystem by inviting residents to visit the site.

Sustainable Supply Chain

Apply to the legislative requirements to comply with the REACH/ROHS/RAEE regulations.

Commitments for the future:

- Periodically review business activities to evaluate the increased economic, social and environmental value achieved and communicate this to shareholders.
- Employ efficient, effective, beneficial and continuously improving work practices that balance and optimise human, technological, economic and natural resources.
- Wherever feasible, use resources derived from sustainable sources, recycled materials and less hazardous materials.
- Assess the potential environmental impacts of planned discharges to land, water or air and select options that minimize overall economic, social and environmental impacts.

Responding to Coronavirus

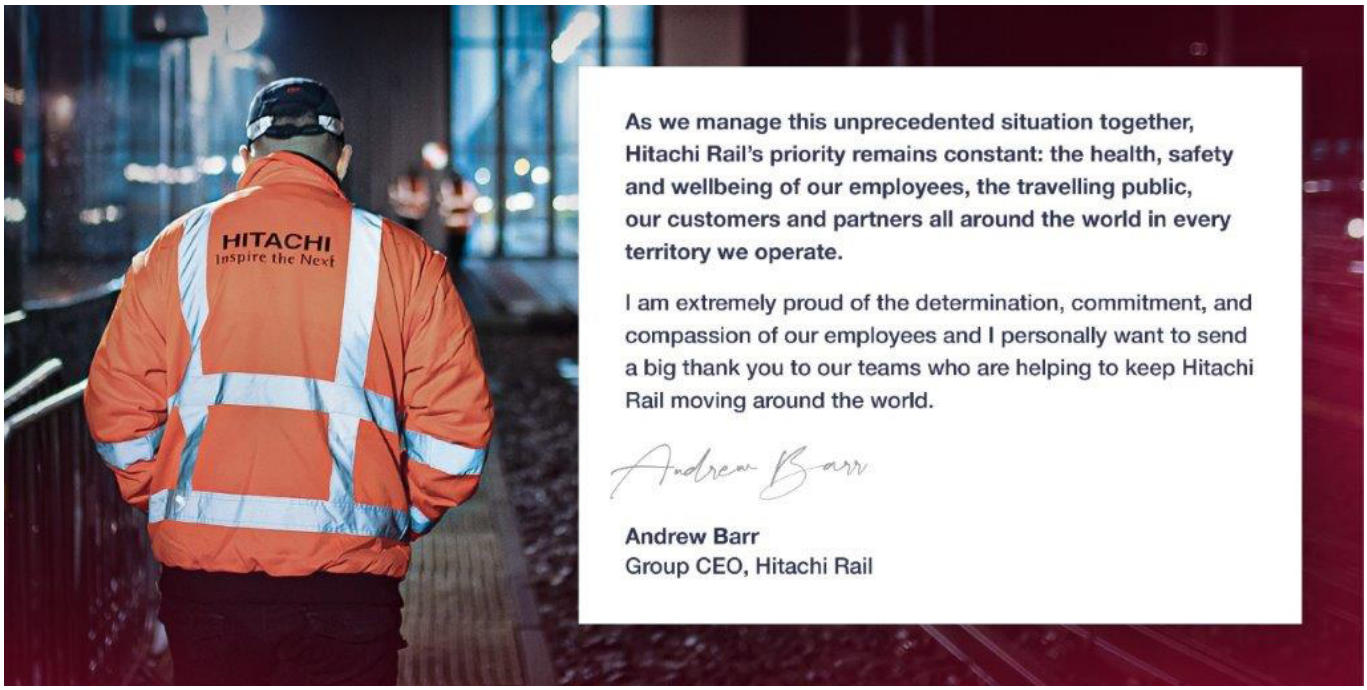
Across Hitachi Rail the priority remains constant: the health, safety and well-being of employees and Stakeholders. To navigate the challenges initiated by the Novel Coronavirus (Covid-19) pandemic, company teams have worked to change operations, procedures, and safety measures to ensure the continuity of delivering to customers around the world.

Discussing some of the new processes and solutions brought in across the global rail business, Ulderigo Zona Executive Officer of Hitachi Rail Safety, Health, Environment, Quality, said:

“The Covid-19 pandemic has severely tested the communities both at work and in personal lives. It happened so quickly, and the company had to act accordingly. I managed a central task force, which then managed an additional 13 localised task forces for core operating regions – we are a truly global brand and with the virus impacting different geographical regions at different times – consolidating our procedures and best-practice activity was the priority. However, as well as being a challenge,we saw this as an advantage. We have offices in Beijing and we are present in five continents, so the ability to receive information from all over the world was a decisive strength.”

“The commitment was initially aimed at prevention. First we understood that we could not continue to travel the world as we had done – we therefore began by stopping intercontinental travel, and then closing the links more at a local level, even before it was imposed by law. Each country continued to work with respect to social distancing and we limited the movement of people whilst ensuring business continuity for our global projects. Our role is to move people and goods globally so our businesses could not stop; as soon as it was safe to do so, we worked with our customers to ensure transport operations were not affected.”

“We spent almost two weeks resetting the company, based on what we believed to be the first



barrier to spreading the virus: social distance"

"We have redesigned global production layouts, identified crisis areas, introduced shift patterns and expanded smart/home working capability - a process that we had already started and set up in the "pre-Covid-19" era and that has been accelerated because of this situation. We simply went from one day a week smart working to one hundred percent smart working at home for those who were able."

"If we work together as one global team and support the communities in which we operate, we know that we will be able to make a real difference to society and use the current situation as a base for improving our lives and future working practices. Procedures and best-practice activity was the priority. However as well as being a challenge – we saw this as an advantage. We have offices in Beijing and we are present in five continents so the ability to receive information from all

What will be the main points in addressing the management of the Covid-19 emergency?

The reaction of the company has been immediate, from the very first days of the pandemic a global Task Force has supported and guided the different teams with regional and governmental directives in order to ensure full compliance with normative and sanitary local procedures. The capability to address the problem from a global perspective will be a major advantage in the fight against the pandemic.

As the awareness on the severity of the medical emergency progresses, a scientific medical committee with all the expertise available in Italy will coordinate the response all over our sites around the world.

As the awareness on the severity of the medical emergency progresses, a scientific medical committee with all the expertise available in Italy will coordinate the response all over our sites around the world.

The first response has been the implementation of social distancing in compliance with the legislation of different countries.

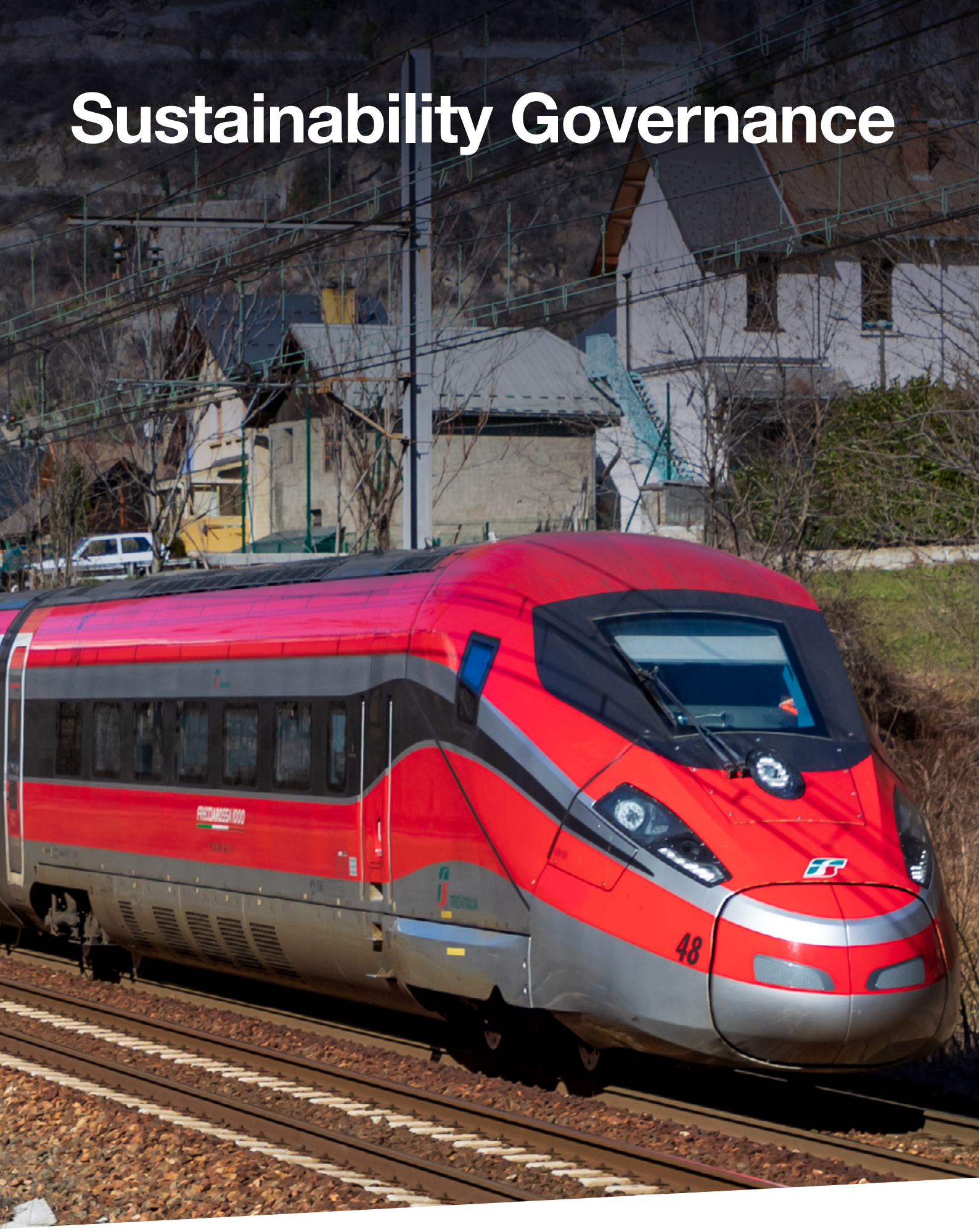
What will be the area of intervention and the principal measures put in place?

The commitment of the company will be focused on prevention. It is important to understand that travel will not be possible as previously and therefore business trips both international and local will havestopped even before the restrictions come to be enforced by law.

Following the subscription of the “Protocollo nazionale per la realizzazione dei piani aziendali finalizzati all’attivazione di punti straordinari di vaccinazione anti SARS-CoV-2/ Covid-19 nei luoghi di lavoro”, Italian sites of the Hitachi Rail Group will be contributing to the reduction of Covid-19 spread by a campaign of vaccines through the utilization of a moving truck with 4 vaccine position. The Human centric mission that characterizes the core business has pushed the more forward looking management to organize a campaign that could answer to the occupational necessity of a group suche Hitachi Rail.

Hitachi Rail’s plan is not limited to the vaccine campaign, but it will continue after the vaccine rollout through a campaign of education amongst those who have received the shot on what norms and procedures to follow afterwards.

Sustainability Governance



HITACHI
Inspire the Next

Sustainability Steering Committe

Hitachi Rail is committed to understand the needs and expectations of its people and involve them in capacity and skills development projects. Its focus is on the constant monitoring of the satisfaction of its customers/Stakeholders and it plays an active role in the management of relationships with local communities.

The Committee's mission is to govern the company vision and long-term environmental goals, while respecting and protecting social relations, in pursuing continuous improvement of governance through a global structure, incorporating effective decision-making and implementation. It proposes all locations and all employees of Hitachi Rail, creating an ever-greater value proposition for customers and Stakeholders

The SSC has the task of directing the strategic business guidelines for governance practices for sustainability and corporate social responsibility (CSR). SSC gives the mandate to the specific organisational group unit (SHEQ/R&D) to implement and to achieve the objectives of continuous improvement, environmental protection and social respect, in the interest of the various Stakeholders and communities in which the business is delivered. The Committee (SSC) reports directly to the Chairman and CEO of Hitachi Rail and works in partnership with Hitachi Ltd.'s Sustainability Promotion Division (SusD).

Main Authority and Duties

- Sustainability and corporate responsibility policies, strategies and programs. The Committee will oversee, approve and provide input to the Company on the Company's policies, strategies and programs related to sustainability and corporate responsibility issues, assessing their KPIs and risks.
- Social Trends. The Committee shall consider analyses and provide input to the company to respond promptly to social needs.
- Relations with Stakeholders. The Committee regularly analyses relations with the main external Stakeholders (Clients/Committees/etc.) concerning issues of sustainability and corporate social responsibility that may have a significant impact on the Company's activities and performance.
- Social Responsibility. The Committee will examine social responsibility policies and programs and provide guidance and relevant approvals for the social development of the communities in which we operate.
- Reporting. The Committee examines and approves the reports and reports on sustainability and social responsibility, addressing the related internal communications.

Global Business Management Systems

The Global Business Management System (GBMS) is the unique set of rules common to the whole Hitachi Rail organisation. It is designed to cover, with the same approach and methods, the activities of all Hitachi Rail companies. The GBMS is the core element of a business model that combines all related components of a business into one system for easier management and integrated operations, as shown in picture. The GBMS helps the organisation to establish the objectives and policies (strategy execution), the organisation's structure, roles and responsibilities (organisational roles), its operation practices and rules (process excellence), and its platforms and tools (enterprise architecture).

The implementation project started in April 2020 just after the establishment of the One Hitachi Rail organisation, and has displayed excellent progress in a number of different areas. In particular, about the Organizational Area (lead by HR), the Organization Chart, Roles & Mandates and the Project Organization Structure.

The Process Excellence area that looks after our Processes and Procedures is progressing well with the central Functions (overall progress around 70%) with most of their processes (belonging to the Strategy, Customer and Support Clusters) already completed and published on new COSMO GMBS area, while the Execution Processes inside the lines of business are progressing at a different speed based on the integration activities complexity.

New COSMO (intranet platform) AREA

GBMS

Process Excellence

GBMS > Process Excellence

Governance

Strategy	System Management
Portfolio Management	Financial Planning & Control
GBMS Process Improvement	CSR & Sustainability
Internal Auditing	Digital & Innovation
Enterprise Risk Management	Business Continuity

Support

Finance	Information Technology
HSE	Human Resources
Legal & Compliance	Facility

Customer

Execution

	Rolling Stock	Signalling & Turnkey	Operation, Service & Maintenance
Sales			
Bidding			
Project Management			
Performance & Project Controlling			
Project Risk Management			
Project Quality Assurance			
Customer Satisfaction			
External Communications & Marketing			
	RS Requirements & Platform Management	S&T Requirements & Interface Management	
	RS Configuration Management	S&T Configuration Management	
	RS R&D	S&T Product Development	

Health, Safety and Environment (HSE) Management System

HSE Department provides the Global Management Systems, reporting arrangements and assurance for the Company. The function challenges, coaches and supports the businesses to ensure that HSE Risks are effectively managed. Failure to do so could compromise the achievement of the Company's Objectives, leading to incidents and reputational damage

HSE issues could have a high potential impact on the company:

- Failure to manage HSE Risk effectively threatens our business continuity. It can lead to adverse public opinion, and loss of customer trust and could significantly impact the firm reputation and ability to raise capital.
- HSE maintains and improves a positive reputation for HSE Excellence. Hitachi Rail is a reliable partner for existing and new customers, driving continuous improvement in HSE to meet and exceed market expectations.

Strong and competent HSE Management also helps to avoid criminal, civil or administrative sanctions:

- Judiciary actions with possible permanent sanctions and severe financial impact (equal or greater than € 1.5 M and/or Criminal, Civil, Administrative sanctions. This could include the incarceration of Group senior managers, which could disrupt the operations of the entire Company.
- The Company Enterprise Risk Map identified HSE failure as Company key risk. Those strategic key risks are reported to the CEO and monitored by Board of Directors.
- The HSE department interacts with and influences Executives and the Country legal Representative to drive the continuous improvement of our HSE Culture.

Quality, Health, Safety and Environmental certifications

COUNTRY	CITY	IRIS[1]	ISO 9001	ISO 45001	ISO 14001
USA	Batesburg	☑	☑	☑	☑
FRANCE	Riom	☑	☑	☑	☑
UNITED KINGDOM	Newton Aycliffe	-	☑	-	☑
ITALY	Tito Scalo	☑	☑	☑	☑+EMAS
	Naples	☑	☑	☑	☑
	Pistoia	☑	☑	☑	☑
	Reggio Calabria	☑	☑	☑	☑

Train maintenance centre

COUNTRY	CITY	ISO 9001	ISO 45001	ISO 14001
UNITED KINGDOM	Ashford	☑	☑	☑
UNITED KINGDOM	Doncaster	☑	☑	☑
UNITED KINGDOM	Landore Swansea	☑	☑	☑
UNITED KINGDOM	Edinburgh (Craigentinny)	☑	☑	☑
UNITED KINGDOM	London (North Pole)	☑	☑	☑
UNITED KINGDOM	London (Bounds Green)	☑	☑	☑
ITALY	Service & maintenance activities	-	☑	☑

[1]The IRIS standard is promoted by UNIFE, the Association of European Railway Industries, which guarantees its supervision and control. The IRIS standard was developed starting from the ISO 9001 standard, integrating it with specific railway sector requirements.

Office Sites

COUNTRY	CITY	IRIS	ISO 9001	ISO 45001	ISO 14001
UNITED KINGDOM	London – Head office		☑	☑	☑
	London		☑	☑	☑
FRANCE	Les Ulis	☑	☑	☑	☑
SPAIN	Madrid	☑	☑	☑	☑
	Zaragoza		☑	☑	☑
SWEDEN	Stockholm		☑	☑	☑
DENMARK	Copenhagen		☑	☑	☑
ITALY	Genoa	☑	☑	☑	☑
	Naples		☑	☑	☑
	Piossasco		☑	☑	☑
SAUDI ARABIA	Riyadh		☑	☑	☑
PERU	Lima		☑	☑	☑
TAIWAN	Taipei		☑	☑	☑
MALAYSIA	Kuala Lumpur		☑	☑	☑
USA	Pittsburgh	☑	☑	☑	☑
AUSTRALIA	Brisbane		☑	AS/ZNS 4801:01	☑
	Newcastle		☑	AS/ZNS 4801:01	☑
	Perth		☑	AS/ZNS 4801:01	☑
	Sidney		☑	AS/ZNS 4801:01	☑
	Karratha		☑	AS/ZNS 4801:01	☑
INDIA	Kolkata		☑	☑	☑
	Noida		☑	☑	☑
	Bangalore		☑	☑	☑
CANADA	Toronto		☑	☑	☑
SVEZIA	Solna	☑			
CINA	Bejing	☑			

The Genoa office is also ISO 27001 certified (information security management), and in 2019 it obtained the CMMI certification (Capability Maturity Model Integration).

Delivering a sustainable, safe and high-quality railway business

While greenhouse gas emission reduction is one of the company's most important targets, it is not the only target that must be achieved in order to accelerate Hitachi Rail's sustainable and environmental business operations.

Hitachi's updated mid-term strategy, concrete targets, performance measurements, and transparent disclosure are the drivers of the company's day-to-day activities.

Hitachi Rail set targets based on achieving emission reductions through direct action both within operations and throughout the value chain for manufacturing high quality products, solutions and Operations, Service & Maintenance.

Recently the Hitachi Group announced its commitment to being carbon neutral at all of its sites by 2030 and an 80% reduction in CO_2 emissions across the company's value chain by 2050.

We are supporting these goals through our Decarbonisation Strategy:

- Mobility as a Service: Making already sustainable Rail travel even more attractive by integrating Hitachi Rail's services with other modes of transport using data from the Internet of Things;
- creating new electrified railways or powering trains with batteries, and Decarbonising our industrial footprint in line with UN's Science-based targets.

Being a completely sustainable company is a huge, responsibility and a very stimulating challenge. It means being able to say that you really make a difference, which will last for generations to come!

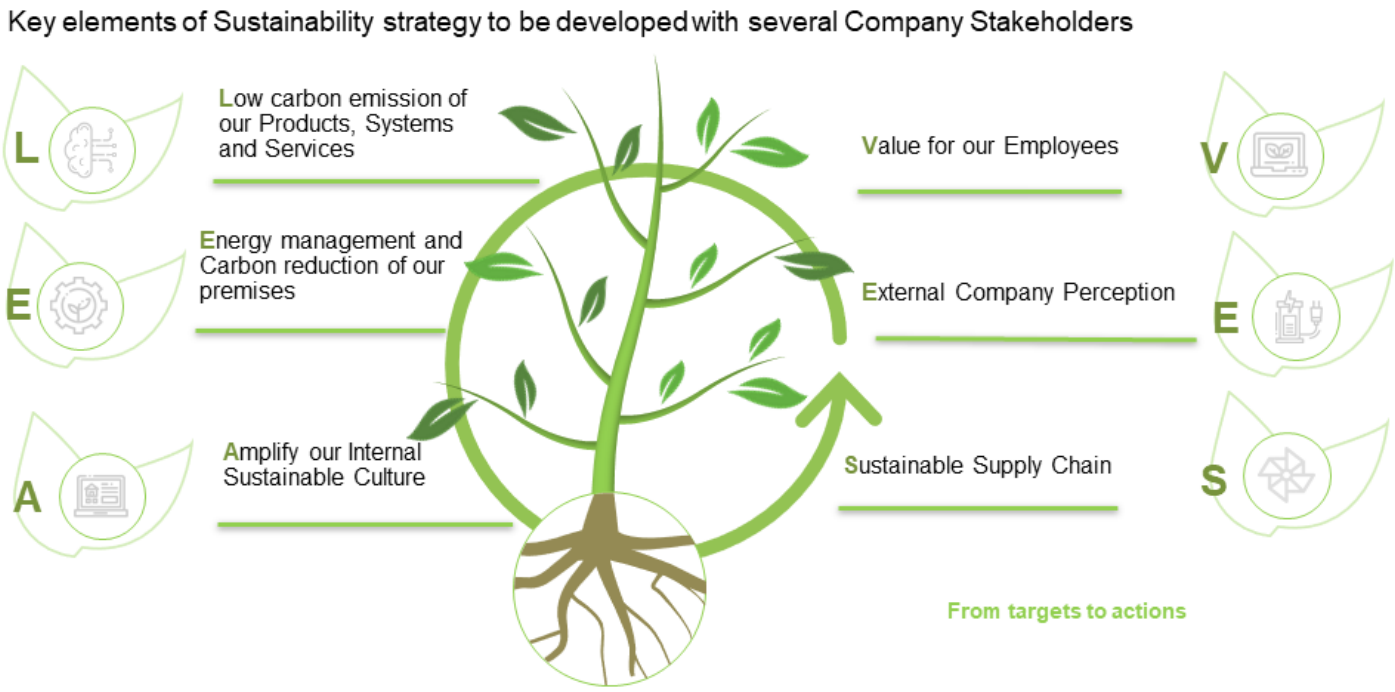
Hitachi Rail has culture and skills coordinated and integrated by the Social Responsibility and Sustainability Department (CSR&S), led by Ulderigo Zona, Group HSE.
The CSR&S team evaluates, launches, and coordinates global and local initiatives and the governance necessary to achieve the company targets with the highest efficiency.

Inside Hitachi Rail, the SHEQ Department (Safety Health and Quality) is responsible for all aspects of Corporate Social Responsibility and Sustainability (CSR&S) through the Company Sustainable Steering Committee.
Hitachi Rail defines the sustainability and corporate social responsibility strategy based on innovation and aims to be at the forefront of a great wave of change.

- Technological, because the world experience a continuous flood of changes which it must face with intelligence, in a context of digital innovation for which Hitachi Rail inside Hitachi have all the necessary skills and solutions.
- Economic, taking into account the geopolitical changes and the centre of gravity of the world economy moving from the West to Asia. While some countries are facing rapid population ageing due to an extremely low birth rate, the global population is growing. With a clear shift of the Supply and Demand axis towards those countries with the fastest growth.

- Cultural, a way of thinking which means the change in mentality and habits necessary to address the global environmental issues and social disparity that in 2015 led the United Nations and our companies to commit to the SDGs.

Hitachi Rail contribution to Net-Zero



Hitachi Rail Strategy and Commitment pass through a system of very well integrated elements. In this situation, every change also brings opportunities, and it is clear that imagination is the key to shaping the future.

Road map to sustainability

Hitachi Rail aims to become an influencer and leader of CSR and Sustainability, thanks to its capability to:

Identify future business opportunities

- Develop new market opportunities and solutions for green targets.
- Development and adoption of technologies and solutions.
- Deliver sustainability on projects product/services development.
- Have premises management for Environmental and Sustainable impact.

Strengthening Stakeholders relations and for stable societies and markets

- Develop new market opportunities and solutions for green targets.
- Development and adoption of technologies and solutions.
- Implement concrete projects on product/services development.
- Promote sustainable products referring to its social and environmental impacts.

Using a common language and shared purpose

- Adopt a consistent company roadmap to every relationship with Stakeholders (external and internal).

Our products / services

Providing safe, comfortable transportation Systems and services. Increasing the efficiency of customer's Sustainable production and processing systems.

Our people

Focus in Health and Safety including strong Covid-19 procedures

- Focus on skills development and training on CSR & Sustainable Goals.
- Promote sustainable products referring to its social and environmental impacts during manufacturing and after the product's uses (Think Responsibly, Act Sustainably campaign).

Hitachi Rail considers CSR as its business contribution to sustainability, for which we all have a responsibility, and develops its commitment through specific climate action plans.

The Hitachi Rail Action Plans covers a 10-year period and will ensure emissions are reduced through a series of innovative and wide-ranging actions.
The plans have defined actions, objectives and targets to accelerate the process of reducing CO2 emissions and to design and develop concrete solutions. Hitachi Rail has an impact on most SDGs in four important ways:

- Products and solutions.
- Managing the activity responsibly and its assets.
- Continuous training.
- The measurement of its performance against the reduction plan.

Hitachi Rail is committed to reducing the impact of its activities on the environment. Central to this is how the company aims to influence the impact of its supply chain, its own operations, and the products and services it offers to its customers.

For its customers, the latest innovations focus on reducing life cycle consumption of material and energy from its own products, using recycled or otherwise sustainable materials and adopting new solutions from renewable energy sources for traction (eg. Battery trains). Across Hitachi Rail's portfolio of rolling stock, signalling and turnkey solutions, the company is using digital technologies to achieve better outcomes for customers with less impact on the environment.

For rolling stock, the ROCK train provided to Trenitalia is made from 95% recyclable material. Hitachi Rail's signalling solutions team are pioneering new 'Zero-Infrastructure' train control technologies which replace line-side equipment with cloud-based solutions connected through satellite communications. Our operations teams acquired the remote condition monitoring company Perpetuum, whose analytics technology extends the safe service life of bogies – further reducing industrial and financial waste of inefficient maintenance regimes.

Hitachi Rail encourages its suppliers to participate in energy efficiency and other similar programs to reduce their own emissions.
Material Recovery is an innovative technological practice that must be further developed and tested for the recycling of electronic equipment and the use of materials. Hitachi Rail continues to promote the use of recycled materials and low greenhouse gas emissions, innovate the processes of recycling products, and design increasingly efficient products and solutions in terms of reducing emissions (GHG).

Social values

- Health and well-being.
- Safed and secured society.
- Internal communication and skills.

Environmental values

- Carbon-free society.
- Less plastic and waste management.

Economic values

- Increase customer's EV (As for example, through an increased efficiency in management systems and a reduction in energy consumption, which both are impacting the decarbonization process).
- Improve efficiency.
- New Value creation.

Particular attention is paid to plant management, decent work, responsible supply chain, health and safety, energy improvement of buildings, as well as for the creation of uses, habits and processes increasingly performing from the point of view of reducing greenhouse gas emissions (CO_2e).

Hitachi and Hitachi Rail will continue to further encourage collaboration with governments, companies, non-governmental organizations and consumers around the world to support policies to strengthen environmental protection, transition to clean energy, and and combat climate change.

EcoVadis

EcoVadis aims to improve the environmental and social practices of businesses by leveraging the influence of the global logistics chain. It has defined a methodology to assess Corporate Social Responsibility through analysing their policies and their implementation and the results achieved.

The assessment focuses on 21 topics divided into four categories: Environment, Employment and Human Rights, Ethics, and Sustainable Procurement.

Hitachi Rail's CSR&S department has taken over the complete management of the sustainability ratings. At the date of publication of this Report, it has achieved the following results:

- Hitachi Rail STS has confirmed its Gold Medal Award for the second consecutive year.
- Hitachi Rail SpA has received the Silver Medal Award.

As well as recognising the company's vision and efforts in the field of CSR, the certification also helps customers to achieve their sustainability and environmental targets.

In addition to our registration through EcoVadis as described above, Hitachi Rail is also undertaking a market review with the intention to leverage third party data providers including EcoVadis to provide visibility of risks and performance of our suppliers against core CSR themes and to support and drive the sustainability agenda within the supply chain.

Sustainability risks and opportunities

Direct and Indirect Greenhouse Gas (GHG) Emissions

Risk description

- Environmental impact of production processes, product composition and increase in energy consumption.
- Possible negative effects on the activities to be carried out influenced by climate change.
- Increased energy consumption costs.

Risk management

- Analysis and assessment of risk to climate change at the international level.
- Implementation of operational control procedures.
- Definition of environmental objectives.

Energy consumption

Risk description

- Growth in costs related to energy consumption.
- Lessened ability to compete.

Risk management

- Investments to reduce consumption by verifying potential profitability.
- Adoption of projects aimed at reducing energy consumption in factories and using energy from renewable sources.
- Failure to comply with the regulations by the company and suppliers on projects/ activities.
- Changes to the legislation with sanctioning risks.

Effluent and waste

Risk description

- Failure to comply with the regulations by the company and suppliers on projects/ activities
- Changes to the legislation with sanctioning risks.

Risk management

- System for monitoring the evolution of regulations worldwide.
- Adoption of projects aimed at reducing the production of factory waste and waste water management.

Raw material consumption and recycling

Risk description

- Failure to comply with Regulation by the company or suppliers in the sourcing, use, declaration and disposal of materials.
- Failure to anticipate changes which can impact material use.

Risk management

- Legislation, standards and professional information sources are pro-actively monitored.
- Compliance with existing regulatory, customer and company requirements are assured through the HSE Management System.

Polluting air emissions

Risk description

- Environmental impact of production processes, product composition and the need to reduce or eliminate the use of hazardous substances.
- Increase in technology investment costs.
- Changes to laws that involve risks of penalties.

Risk management

- Implementation of monitoring systems for processes and plants.
- Designing better solutions
- Specific training on company standards and changes in terms of process/product.

Water consumption

Risk description

- Increase in technology investment costs.
- Changes to laws that involve risks of penalties.

Risk management

- Implementation of monitoring systems for processes and plants.
- Specific training on company standards and changes in terms of process/product.

Health and safety

Risk description

- Failure to comply with Regulation contractual requirements or company procedures in identifying occupational health and safety hazards.
- Incorrect, or inadequate assessment of the risks which the hazards identified create in our particular circumstances of use.
- Failure to re-assess following changes to hazard or risk requirements.

Risk management

- Compliance with the company HSE Risk Management System.
- Horizon scanning of regulatory changes, contractual changes and technical journals.

Diversity and equal opportunity

Risk description

- Attracting right talent.
- Ensuring equal opportunity - Risk management.
- Continuing to offer competitive and equitable benefits and compensation.
- Promote opportunity and career development.
- Ongoing provision of accessible development opportunities.
- Further enhance coaching and training on diversity and inclusion topics.

Employee well-being

Risk description

- Work and home life pressures and events may result in the poor mental health of employees.
- Employees may from time to time suffer from medical conditions or have long-term conditions which could affect their ability to carry out their role.

Risk management

- Increase continuous communication and institute employee well-being programmes.
- Develop programmes to support employees mental and physical wellbeing.
- Continue to monitor employees' engagement through an annual survey.

Respect of Human Rights

As a member of society we Hitachi Rail can contribute to creating an environment in which human rights are respected. Meeting the responsibility to respect human rights is key to operating as a responsible business, and is accepted to be a baseline expectation.

Risk description

- Increasing legislation on businesses to be held accountable for human rights related violations within its own business and operations, as well as by companies within its supply chain.

Risk management

- The Company will promote the understanding of internationally recognized human rights, and will respect and not infringe on the human rights of all those involved in our business activities.
- Hitachi Rail will assess and prevent potential violations of human rights. In the event of such a violation, we will promptly take internal and external actions to correct and remedy the situation.
- The Company will respect individual human rights in the recruitment and treatment of employees and during all other company activities, and will not engage in any acts that may impair individual dignity or discriminate on bases such as sex, sexual orientation, age, nationality, race, ethnicity, ideology, belief, religion, social status, family origin, disease, disability.

- Hitachi Rail will strive to resolve issues through sincere and constructive discussion between management and employees, in compliance with the laws, regulations, and labour practices of each country and region, and in accordance with international norms and standards.
- Where Hitachi Rail identifies that it hascaused or contributed to a negative human rights impact, it will provide for, or cooperate in, legitimate processes to provide remediation.
- We The Company adheres to national law and regulation in each market in which itoperates. If Hitachi Rail faces conflict between internationally recognised human rights and national laws, it will follow processes that seek ways to honour the principles of international human rights.
- Hitachi Rail will provide appropriate training and capacity building in order to embed this policy commitment and will engage with relevant external Stakeholders about addressing potential and actual human rights impacts.

Ethical management of Supply Chain

- Compliance with our Supplier Code of Conduct is mandated and required of all suppliers at contracting stage and monitored throughout the lifecycle of the contract
- Implementation of human rights due diligence appropriate to the social circumstances of the countries and regions where Hitachi Rail has operations and the nature of its businesses, products, and services there.
- Development and implementation of on going human rights due diligence to include identifying and assessing potential and actual human rights impacts and taking appropriate action to prevent or mitigate risks. The Company will track these processes to ensure the effectiveness of its actions to address impacts and risks and develop mechanisms to report these findings externally.
- Completion of risk assessments to identify key vulnerabilities in our supply chain
- Transformation of supply chain to enhance and improve ESG footprint whilst simultaneously managing against future risks
- Remediation and management of incidents through internal governance frameworks
- Continued surveillance to verify on going compliance.
- Escalation process for non-compliance.

Ethics and Integrity

Code of Ethics

The Hitachi Group Code of Ethics is a crucial pillar of Hitachi's Group Compliance Program, providing rules, values and principles that are required to be followed by employees, executives and directors, and third parties engaging in business with Hitachi Rail. The same rules, values and principles are also intended to assist officers and employees in making business decisions and acting in alignment with Hitachi's Group Identity.

The management of Hitachi Rail continuously confirms the commitments and ethical responsibilities, setting an example and promoting a culture of ethics that allows Hitachi to preserve a good reputation amongst our clients, partners, Stakeholders and our community.

Whistleblowing

With the objective of maintaining high ethical standards and working in compliance with the applicable laws and regulations, whilst also promoting a safe environment to report potential or suspected violations, Hitachi Rail has a dedicated SPEAK UP channel whereby anyone can report any suspected violations of the Group Code of Ethics or any violation of laws and regulations.

The SPEAK UP channel is available:

- Online through this link
- By phone (available 24-7) through a toll-free number provided on the following link above.

Furthermore, for any suspected violations of Law 231, a dedicated channel has been made available by reporting to OdV@hitachirail.com

Out of the countries in which it operates can be reported to the following channels made available both for internal resources and third parties through various channels. Online reporting system: this is available 24-7 for reporting via telephone and/or online through this link[3]

The company ensures whistleblower protection and that no-one in the workplace is subject to any direct or indirect retaliation, illegal conditioning and/or discrimination ng treatment of any kind, for having made reported in a good faith report of a violation to the following channels.

[3] For Hitachi Rail STS S.p.A: odv231@hitachirail.com;
for Hitachi Rail S.p.A: odv@hitachirail.com

Anticorruption

Hitachi Rail is committed to tackling corruption and preventing the risk of unlawful practices.

The Group promotes and implements a corporate culture inspired by responsibility, fairness and ethics, and basing its activity on ethical values and compliance. This is critical for the achievement of corporate goals and success in the market, as well as influencing the relationships with any parties with an interest in Hitachi Rail. In carrying out its activities, the Group considers integrity and respect for Laws, including Anti-Corruption laws and regulations, as fundamental ethical principles to conduct business and requires its Groups' senior management to set the example for all employees and co-workers with their behaviour.

Within the Hitachi Rail Group Compliance program, a dedicated compliance governance structure has been established as well as an Anti-Corruption Policy whereby. The various Group Companies have defined a Manual to provide principles, roles, and responsibilities. The manial also, identifies the main risk areas of corruption as well as the elements in place to be implemented to manage the risk of corruption within the Group effectively.

Risk description

- Minimal visibility and increased regulation on Environmental, Social and Governance supply chain risk.
- Growing acceptance for mandatory due diligence and judicial solutions in holding parent companies in home states accountable for abuses throughout their operations.
- Lack of adequate safeguards in supply chain and insufficient assessments and monitoring.
- Changes in Government requirements mid contract.
- Supplier non-compliance.
- Increased volume of Suppliers globally.

Organizational, Management and Control Model

In relation to the entry into force of Legislative Decree no. 231/01, as amended and supplemented, which introduced a specific regime of liability for the companies in regards to certain types of crimes, Hitachi Rail STS S.p.A. and Hitachi Rail S.p.A has adopted the appropriate measures to prevent such liability from arising for the company, with the implementation of specific protocols and supervision systems designed to prevent the commission of the crimes included in the Decree and which may potentially be committed by Directors, Statutory Auditors, executives, employees or by any person who has a contractual, financial or commercial relationships with Hitachi Rail STS S.p.A and Hitachi Rail S.p.A.

For this purpose, both Hitachi Rail STS S.p.A. has companies which have adopted an Organisation, Management and Control Model pursuant to Legislative Decree no. 231/01 (the Model), which has been subsequently updated following subsequent regulatory and organizational changes.

Competition Law

Hitachi Rail engages in business across the world based on principles of adherence with the law and business ethics as well as fair and open competition in compliance with EU competition laws, and those of other regions in which Hitachi Rail conducts business. Furthermore, the Group's Global Compliance Programme incorporates rules concerning competition law as well as related business standards and guidelines.

Hitachi Rail has constant training sessions where employees, directors and management are made aware of competition laws & regulations and the proper conduct to adopt.

Modern slavery

Hitachi Rail Limited recognises the importance of identifying and preventing the action and causes of modern slavery in our business and supply chain. In its fifth statement, published under Section 54 of the UK Modern Slavery Act 2015, Hitachi Rail has detailed the steps it has taken to address modern slavery and human trafficking in the business and supply chain. A separate Modern Slavery Statement that complies with the Australian Modern Slavery Act 2018 has been lodged with the Australian Government for the reporting period from April 2020 to March 2021.

Gender pay gap report

Gender pay gap reporting in the UK reflects the importance of diversity and inclusion to Hitachi Rail's plans for business growth. A predominance of male employees characterises the rail sector and, if Hitachi Rail is to meet the demands of a modern railway, it must introduce people new to the industry from a multitude of backgrounds and who possess different skills. Equally importantly, greater diversity enables to creation of the best, most innovative products and services for customers and the wide cross-section of passengers they serve.

Having calculated the company gender pay gap using the reporting regulations, Hitachi Rail in the UK is committed to providing fair and equal pay for its people. Hitachi Rail will continue to strive for a more diverse workforce and to ensure that rail business and all Stakeholders share in the many benefits this will deliver.

Export and trade compliance

The failure to comply with regulations on export, import, re-export or re-transfer of products (tangible or intangible), technologies, information, and services (hereinafter Goods) classified as “Dual-Use” has exposed several Companies to administrative and criminal sanctions, reputational damage risks, as well as significant financial losses.

Hitachi Rail shares the concerns of the international community on the proliferation of weapons of mass destruction and the excessive accumulation of conventional weapons. Therefore, Hitachi Rail undertakes to comply with all applicable export and trade compliance laws and regulations.

Hitachi Rail does not deal in military products.

Since 2018, all Hitachi Rail Companies have developed Export Control procedures, policies and a Manual to prevent, manage, and monitor the risk of non-compliance with the applicable legislation and regulations.

Now, in a “One Hitachi” fully integrated perspective, Hitachi Rail has developed an efficient and effective Export and Trade Compliance applicable to all Line of Business (LoB) and Hitachi Rail Companies to prevent, manage, and monitor the risk of non-compliance with the applicable legislation and regulations on export, import, re-export, or re-transfer of goods classified as “Dual-Use”. The above-mentioned Export and Trade Compliance meets the standard controls required by the Regulation in force and the best practice (here included the European Commission Recommendation) and based on the following seven pillars:

1. Top-level management commitment to compliance.
2. Organisation structure, responsibilities and resources.
3. Training and awareness-raising.
4. Transaction screening process and procedures.
5. Performance review, audits, reporting and corrective actions.
6. Recordkeeping and documentation.
7. Physical and information security.

In order to reach this target, Hitachi Rail exercised and exercised Export and Trade Compliance due diligence against any possible illicit transactions and ensured that no products are provided, and no trade is carried out in any country or any entity in violation of the above laws and regulations.

Hitachi Rail has implemented an efficient and effective compliance program providing a risk management tool applicable to the complexities and specific characteristics of all Companies of the Group (a new Hitachi Rail ETCP Manual was issued on July 2021 and is applicable to all the Lobs and Hitachi Rail companies).

In 2019 Hitachi Rail started the classification of all the products manufactured in each Hitachi Rail factory. The Classification of all Signalling & Turnkey products, has been completed in 2020 for the products manufactured in Italy, and the Company is now completing the classification of few remaining products manufactured in US and France Factories. Some products manufactured by S&T has been classified Dual Use (i.e. typological Racks, boards and software).

With reference to the products manufactured by Rolling Stock Line of Business, adopting the same approach used in S&T LoB, in Q3 FY2020 RS LoB started the classification of products manufactured by the Italian RS Factories. The classification of products is expected to be completed within FY 2021.

All Hitachi Rail Employees – especially those directly involved in trade, export, transfer, re-export and re-transfer activities/processes – are requested to operate in full compliance with the Laws and Regulations in force. In order to create an Export and Trade Compliance Culture, various training opportunities have been organised (an e-learning has been launched for all the employees and specific training sessions have been organised for the Employees directly involved in the activities related to Export and Trade compliance).

Stakeholders engagement

For Hitachi Rail, social responsibility translates into the daily focus and care of its relations with Stakeholders. Understanding their needs and expectations is achieved through the definition and implementation of specific tools for dialogue and interaction.

In this sustainability report, Hitachi Rail has aimed to present the different ways in which it interacts with its Stakeholders, distinguishing between:

- Opportunities for information: one-directional communications from the company to its Stakeholders;
- Consultation/dialogue: when the company asks for Stakeholders' opinions (e.g., through surveys, polls, focus groups, etc.) or sets up permanent discussion groups;
- Partnerships: specific projects implemented and/or managed jointly with Stakeholders.

The description aims to provide a clear understanding of the margins for improvement in the methods of Stakeholders engagement, aiming to progressively intensify dialogue and partnership opportunities to create shared value.

Involvement with local communities

For Hitachi Rail, social responsibility translates into the daily focus and care of its relations with Stakeholders. Understanding their needs and expectations is achieved through the definition and implementation of specific tools for dialogue and interaction.

Hitachi Rail plays a leading role in managing relations with local communities, be they municipal authorities, residents' associations, metro and rail service users, businesses or local workers, adopting different methods depending on the type of commercial project.

Hitachi Rail is actively involved in programs to communicate and interact with the communities affected in various ways:

- Participation in committees that represent local Stakeholders.
- Promotion of communication between the local authorities and citizens.
- Engagement in direct communication.
- Participation in programmes to develop local communities.

Hitachi Rail's initiatives for supporting communities fall under a CSR strategy that calls for cooperating in the implementation of the 2030 Sustainable Development Goals established by the United Nations.

Corporate social responsibility in Hitachi Rail manifests itself in different ways, with general coordination given by the strategy and mission of the company, but even more so through the direct relationship with local communities. Respect for diversity and attention to equal opportunities, therefore, has different interpretations in the territories where the company operatesAn example of this commitment is given by the now historic initiative at the factory in Riom in France. Since 2015 a collaboration started in the plant of Riom where the company hosts ACTIVADIS.

ACTIVADIS employs around 15 employees (mainly disabled workers) working at the Hitachi Rail site of Riom, France.

Their tasks consist of assembling & cabling some local products of the company as part of Hitachi Rail's local supply chain.

The localisation of this activity facilitates the training of quality staff over a long period, but more importantly, supports and gives work to a company whose purpose is to promote professional integration of disabled workers into the community. For legal reasons:

- The staff and tasks are exclusively managed/monitored by an Activadis manager;
- though hosted inside the manufacturing plant, Activadis activity is performed in an identified / separated work area and associated premises.

The initiative has a clear impact on local Hitachi Rail staff and facilitates the better knowledge and integration of disabled workers, together with a strong contribution to the fulfilment of the obligation to employ disabled workers.

Hitachi Rail Corporate Car Sharing

Corporate car sharing is the sharing of electric cars between employees of the same company. This helps to reduce congestion and CO2 emissions related to employee travel.

To further reduce emissions from car travel, Hitachi Rail is now launching a programme to combine car sharing with the use of electric vehicles.

It is a choice, among others, that responds to the company's commitments in achieving the Sustainable Development Goals. In particular, the first pilot project in Naples, Italy is in line with the initiative already adopted in the Italian Green Parking Zones.

As part of the pilot, Hitachi Rail is making electric cars available to all employees for travel and business trips between the Hitachi Rail site in Naples and other local points of mobility (Airport, Railway station, Hub parking areas).

"Welcome to all guests, visitors and colleagues. You have a dedicated parking space for your eco-sustainable vehicles"

Electric cars are available as an alternative to private cars, even for short business trips (same-day services, visits to suppliers/construction sites), with same-day delivery at the dedicated parking area.

Based on the company's pilot in Naples, the service will eventually be offered to all Hitachi Rail employees and it will be designed for specific local needs.

This ability to integrate and coordinate means that a project like this not only achieves environmental impact objectives in reducing emissions, but also improves corporate welfare, cost containment and facilitation of travel services and service activities.

In summary, it completes the objective of improving the quality of life of employees and the local communities in which they operate.

It is also a project which provides an alternative to other services and costs. Hitachi Rail corporate car sharing generates savings in terms of the total cost of mobility and use of extra-fleet vehicles.

Partnerships for sustainable development

Commitment to the UN Global Compact

Once again, this year, Hitachi Rail confirmed its support to the Global Compact, the voluntary United Nations initiative that encourages respect for human rights, labour, and the environment and fights against anti-corruption through a series of 10 principles. The Group's membership in the initiative reiterates its commitment to the Global Compact and its main principles as an integral part of the company's strategies and workplace culture.

During the fifth Italian Business & SDGs Annual Forum, held in Rome on 13-14 October 2020, Hitachi Rail won the Promoting Founder Award by Global Compact Network Italy, the local branch of the UN initiative to encourage businesses worldwide to adopt sustainable and socially Responsible policies.

Hitachi Rail and 11 other companies and non-business entities won this award, which recognised the company's position among the founding members of the Italian Network in 2009, as well as the company's commitment to supporting the network's sustainability and CSR principles and initiatives.

This award is further proof of the commitment of Rail business in sustainability and corporate social responsibility (CSR), but also of the entire Hitachi Group: Hitachi Ltd is also an active member of the UN Global Compact Network as from 2009.

Industry associations

Hitachi Rail actively participates in UNIFE projects (association of European railway builders), UNISIG (association of European railway signalling companies) and UITP (international public transportation association), ANIE (National Federation of Electro technical and Electronic Companies), AICQ (Italian Association for a Quality Culture), the Italian partner of EFQM (European Foundation for Quality Management), Cosila (consortium for safety in the workplace) and Unione degli Industriali/Confindustria (Industrialists' Union/Italy's main organisation representing Italian manufacturing and service companies), in Naples and Genoa, specifically.

Within the scope of UNIFE, Hitachi Rail collaborates to promote the extension of the use of railway transportation through the implementation of technological standards (ERTMS and TSI) and by proposing European research projects to improve safety, energy efficiency and environmental protection in the field of railway transportation. Specifically, SHIFT2RAIL, a project proposed as a Joint Undertaking in the railway sector to reduce emissions and promote a modal shift in transportation, in line with the indications of the transportation white book published by the EU Commission. Furthermore, as part of UNIFE, Hitachi Rail sits on the Sustainable Transport Committee, which aims to define a common, consistent and effective consensus in the railway industry with respect to environmental issues and, particularly, energy efficiency (reliable standards to measure energy consumption), the evaluation of the life cycle as one of the main criteria in the decision-making process, eco-procurement and noise and emission reduction.

Taxonomy and Green Finance

Taxonomy and sustainable finance: the European Commission recently presented essential documents as an action plan for a greener and cleaner economy. The project that was initiated in March 2018 aims to channel capital towards a low-intensity carbon economy.

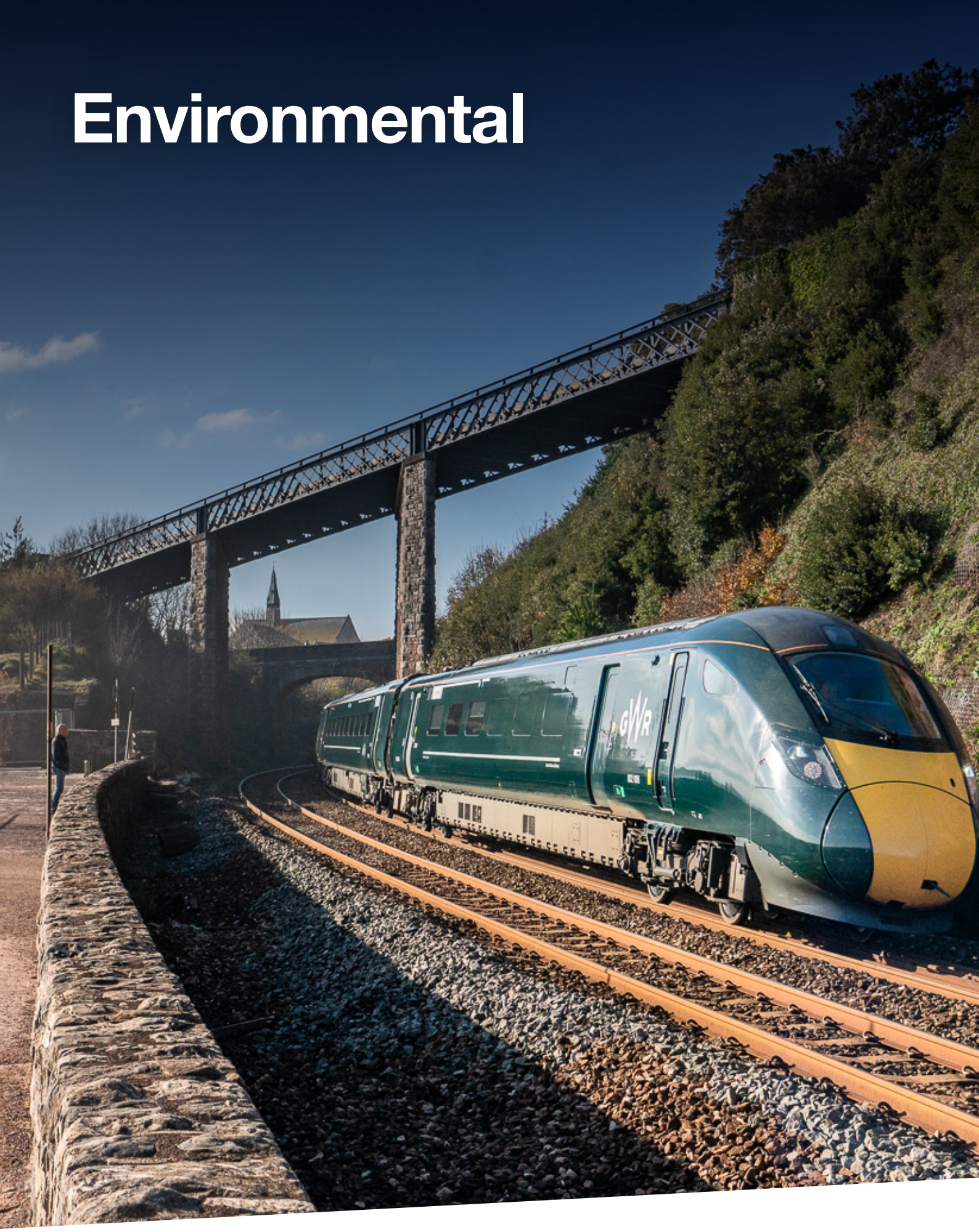
In May 2018, the European Commission began implementing the first measures contained in the Action Plan, by introducing three regulatory proposals related to:

- The taxonomy of eco-compatible activities;
- low-carbon benchmarks and positive carbon impact;
- institutional investors' disclosure on ESG risks.

The European Commission subsequently appointed the Technical Expert Group on Sustainable Finance (TEG), comprising a multi-Stakeholders group of experts brought together by the Commission. Its aim is to establish guidelines for sustainable finance in Europe and to provide consulting on four specific issues: taxonomy, prioritising environmental issues, including mitigation and adaptation to climate change; improving the guidelines on reporting information

related to climate; the introduction of a European Green Bond Standard; and common criteria to build low-carbon benchmarks and a positive-carbon impact.Within this European initiative, Hitachi Rail contributes to the work required of the group of experts (TEG) in its sector, both through the European association (UNIFE), and in the context of Hitachi, providing their own evaluations and experiences to identify the metrics that the European Community will use to assess the performance and possible financial support.

Environmental



HITACHI
Inspire the Next

Environmental vision and targets

Improving and protecting the environment is part of Hitachi Rail's corporate responsibility and is a key element in its business strategy, which aims to promote the long-term growth of the company's value.

In recent years, Hitachi Rail has continued on its path towards sustainability in the belief that acting in respect of environmental values leads to the creation of lasting value for the company, customers, and the wider community served.

To actively and responsibly contribute to combating the challenges posed by climate change, Hitachi Rail complies with the current regulations and also applies best practices to achieve better results, continuously improving its environmental management in an economically effective way.

To this end, Hitachi Rail has developed an approach based on analysis of the aspects and impacts of its operations on the environment. In addition to identifying and implementing mitigation for environmental risks, this approach has allowed the company to identify environmental opportunities and improvement areas and to deliver specific measures to meet today's requirements and the future needs.

Environmental policy

Hitachi Rail is a certified Environmental Management System that meets the international standard UNI EN ISO 14001.

The system identifies the most significant environmental aspects and impacts and the adoption of the most effective management and mitigation measures through a structured and assured approach.

Hitachi Rail has adopted an Environmental Policy focuses on safeguarding the environment at the heart of its management and development strategies, with a constant and targeted commitment to preventing pollution and pursuing continuous improvements in its environmental services.

The policy is shared with all Hitachi Rail personnel and all Stakeholders online and via the company intranet.

The key principles of Hitachi's environmental policy are:

- Protecting the environment by preventing and mitigating potential adverse impacts.
- Improving and fostering the environmental characteristics of products and services.
- Meeting and exceeding the legal obligations of compliance and voluntary commitments.
- Striving to continuously improve environmental performance and the environmental management system.

The four strategic objectives are:

1. Environmental Management Systems are applied across the entire Organisation, driven by the principle of continuous improvement and the definition of environmental indicators to measure the environmental performance of the Organisation.

- Annual preservation of ISO 14001 certifications.
- Rationalisation and simplification of the certifications in the various organisational areas.

2. Reporting to citizens, institutions and other Stakeholders on the management and environmental performance of the Company.

- Publication of the Sustainability Report and open access given to the key environmental parameters.
- Communication with analysts and participation in various Sustainability indices.

3. Promotion of sustainable environmental practices with suppliers, contractors and customers.

- Use of environmental performance-based supplier qualification criteria.
- Informative/training meetings on the important environmental aspects at the commencement of works through the diffusion of the Environmental Policy and exploring the ways in the impacts generated by the activities carried out (waste, emissions, discharges, etc.) are to be managed.
- Assessment of the suppliers based on the environmental performance of the activities carried out on Hitachi Rail's behalf.

4. Observance of the legal obligations **of compliance and voluntary commitments.**

- Ensure that the activities are carried out in compliance with said obligations and commitments.
- Assess observance of the subscribed obligations and commitments.
- Correct any non-conformities on observance of subscribed obligations and voluntary commitments.

Towards a low-carbon society

The Hitachi Group conducts independently developed Environmentally Conscious Design Assessments for all products and services involving a design process to steadily improve environmental performance throughout the Group.

In May 2020 Hitachi Rail committed to CO_2 reduction targets of achieving net-zero carbon emissions at business sites (factories and offices) by fiscal 2030.

The value chain for Hitachi Rail products and services encompasses all stages, from the procurement of raw materials and parts to production, transportation, use, disposal, and recycling. Hitachi Rail has identified the environmental impact that may cause climate change, resource depletion, and ecosystem degradation across the entire life cycle of products and services, and has assessed the reduced environmental load through its business activities in multifaceted ways and strives for further reductions.

treedom®
let's green the planet

400 trees

-67,750 KG of CO_2

2 countries

Hitachi Rail

Hitachi Rail is an international leader with a global presence in signalling and the implementation of integrated transport systems for Freight, passenger Railways and Mass Transit. We design, manufacture and implement signalling systems for the management and control of freight and passenger traffic on mainline railways as well as metros. We design, develop and plan the work needed to provide the latest technology for your railway or metro system.

Hitachi Sets New Target to Contribute to a Net Zero Society

At the time of writing this document, Hitachi has re-confirmed its commitment to address climate change by strengthening its own climate target to contribute to a Net Zero society by achieving carbon neutrality throughout its entire value chain, including production, procurement the use of products and services by FY2050. This bolsters the existing commitment of reaching carbon neutrality at all its factories and offices globally by FY2030.

This new target revises Hitachi's previous target of 80% reduction by FY2050 which was set in 2016. Hitachi will contribute to the reduction of its customer's CO2 emissions and continue to reduce environmental impact from the design stage in all its products to help develop world-class energy efficiency. Hitachi is also committed to working with partners in its supply chain, through its sustainable procurement guideline, issued in July 2021.

Hitachi is a principal partner of COP26 and is committed to becoming a climate change innovator, helping governments, cities and companies cut their greenhouse gas emissions.

Hitachi Rail continuous its commitment to CO2 reduction targets of achieving net-zero carbon emissions at business sites (factories and offices) by fiscal 2030.

The value chain for Hitachi Rail products and services encompasses all stages, from the procurement of raw materials and parts to production, transportation, use, disposal, and recycling. Hitachi Rail identifies the environmental impact that may cause climate change, resource depletion, and ecosystem degradation across the entire life cycle of products and services, assess the reduced environmental load through its business activities in multifaceted ways and strives for further reductions.

Eco-Design in Hitachi Rail

Design choices can help bring down supply-chain emissions. Hitachi Rail is focused on designing products for sustainability by using greener materials, cutting waste, reducing product variance, increasing recyclability, improving reparability, and switching manufacturing processes to lower-carbon ones.

For many years, Hitachi Rail has integrated in its Environmental Management System the ISO 14006 Guidelines for incorporating "Eco-Design" from the design phase. This allows Hitachi Rail to take into account all potential impacts from their products throughout the product life cycle.

Hitachi Rail has been adopting eco-design principles for many years. Different design solutions fitting the same technical requirements are evaluated from the very beginning of the project.

Specific Eco profiles or light LCA (Life Cycle Assessment) studies are performed on different rolling stock solutions in order to verify corresponding environmental effects on a trainset's footprint. This allows the Hitachi Rail Design department to consider environmental impacts like any other constraints that need to be met.

Design solutions aimed at reducing environmental impact of trainsets quickly turn into design best practices to be implemented, whenever applicable, on all future projects.

This has happened for high efficiency HVAC (Heating, Ventilation and Air Conditioning) and lighting systems, for super capacity energy recovery systems, for aerodynamics tests carried out on bogies and car bodies and so on.

Adopting this approach, Hitachi Rail succeeded in selecting a list of eco-design best practices that can be applied on every project whenever possible. Addressing sustainability at the design phase can have an enormous impact.

"80% of the environmental impact generated by-products services and infrastructures around us is determined at Project Stage" (J. Thackara, 2008).

Most of the environmental impacts related to the Hitachi Rail value chain are connected with the rolling stock life cycle. This is a key area of focus - indeed, our 'Rock' trains currently in delivery to Trenitalia in Italy are more than 95% recyclable and consume 30% less energy than the previous fleet.

Hitachi Rail firmly believes that to reduce products environmental impacts you have to quantify them and highlight which are the main sources. For this reason, for more than 15 years Hitachi Rail has performed Life Cycle Assessments (LCA) on its production according to ISO 14040 and ISO 14044 standards, applying a reliable internal procedure to collect, organise, elaborate and analyse data for this purpose.

Hitachi Rail's methodology to collect and check information, rules for Input/Output flows, and simulations for energy consumption calculation during operations have been validated by certification bodies during its EPD (Environmental Product Declaration) certification.

All suppliers to Hitachi Rail's rolling stock factories are contractually required to provide a detailed materials composition concerning the production of parts, components, and raw materials to the Company's Eco-Design Engineering department.

All information concerning production of raw materials and components assembled in company's plants, transportation of supplies, processes carried out in Hitachi Rail plants and trainset operational data are collected and internally checked.

Commercial software used by Hitachi to develop LCA studies takes into account not only the industrial processes required to produce each part, but the processes applied to basic materials too, like moulding, stamping, wire drawings and so on.

Transport information (from suppliers to Hitachi Rail's plants, between Hitachi Rail sites, for product delivery as well as for waste transport are generally estimated considering the distance covered, the weight of material delivered and using specific transportation processes (by road, sea, rail, air) included in software used for LCA modelling.

Information concerning energy, auxiliaries and water consumption, as well as emissions in air, water discharge, and waste due to activities carried out in Hitachi Rail plants involved in Trainset production are collected by the environmental office.

Moreover, Hitachi Rail developed a tool to calculate trainset operational energy consumption according to standard CLC/TS 50591:2013.

Each LCA carried out considers the most appropriate electric energy mix for plants involved in rolling stock assembly and for energy consumption during the operational phase. According to relevant Product Category Rules (PCR), mix residual approach is used for electric energy consumption in European countries.

Most of the environmental impact of rolling stock come from energy consumption during the 30 - 40 years of its operational life.

The energy consumption simulator tool calculates rolling stock energy consumption over time, taking into account hypotheses and constraints meeting the following parameters:

- Mission profile supplied by customer (lengths of the routes, differences in altitude, expected duration of the routes, number of stations, acceleration-deceleration curves, etc.).
- Number of passengers.
- HVAC (Heating, Ventilation and Air Conditioning) use.
- Internal and external lighting.
- Other auxiliaries.
- Energy recovery system adopted.
- Weight of the rolling stock.
- Trainset aerodynamic parameters.
- Friction resistance.
- Power unit and transmission system.
- Drive assistance systems.

Finally, Life Cycle Assessments carried out by Hitachi Rail take into account not only the impact of preventive maintenance during a train's operational phase, but also the impact of waste management during rolling stock dismantling at end of life. Our 'Rock' trains currently in delivery to Trenitalia in Italy are more than 95% recyclable and consume 30% less energy than the previous fleet.

According to Hitachi Rail's Service & Maintenance process, feedback coming from the field used to solve potential problems raised on the first rolling stock produced but also to tune predictive maintenance activity for the entire fleet. As a result, predictive maintenance scheduled by Hitachi Rail are very detailed and assure an efficient, reliable service life of the Trainset.

Life Cycle Assessments issued by Hitachi Rail on rolling stock produced in its plants calculate all environmental indicators specified in relevant PCR (Product Category Rules).

LCA studies are used by Hitachi Rail to let Design focus on the main sources of environmental impacts related to the trainset life cycle, in order to find a possible alternative solution and thus reducing the trainset's environmental footprint.

LCA can be also for communication purposes. Hitachi Rail issued and certified several Environmental Product Declarations (EPD) according to ISO 14025 whose contents are based on LCA study, like for example:

- Caravaggio Train.
- Metro Leonardo Heavy Rail Vehicle.
- ETR 1000 very high-speed train.

EPD content is verified by a third-party certification body that checks primary data used in LCA study and how the trainset life cycle is modelled in the LCA study.

Hitachi Rail EPDs are published on International EPD System web site
www.environdec.com/library

Social Life Cycle Assessment of products: the first train application

About 26 years ago, a “social welfare impact category” was proposed in the SETAC Workshop Report (1993): “A Conceptual Framework for Life Cycle Impact Assessment”. This started the discussion on how to deal with social and socio-economic criteria in assessing a product along its life cycle. The main topic of the discussion during the second half of the 1990s was to what extent a life cycle assessment of a product or a service that takes social criteria into account is different from an LCA. Just like the LCA, it was proposed that Hitachi conduct S-LCA in line with ISO 14040 (2006). The first studies on S-LCA were developed in 2006, but the first complete framework was published in 2009 by UNEP/SETAC, entitled ‘Guidelines of Social Life Cycle Assessment of Products’. A few years later, some methodological developments created the need to update and further harmonise the UNEP Guidelines 2009 with an updated version. This was published by UNEP in December 2020, with the title ‘Guidelines for Social Life Cycle Assessment of Products and Organizations’.

The main objectives of the UNEP 2020 Guidelines are:

- Positioning S-LCA in the current context, a clear reference to the contribution to the Agenda 2030 Sustainable Development Goals is reported in the introduction.
- Expansion of audience to include also non LCA experts with particular attention of
- Cover methodological developments, including impacts assessment methodologies type I and II and interpretation phase.
- Recognize a plurality of established approaches, the social life cycle impact assessment methodologies include different approaches developed in the literature.
- Developing areas where minimum guidance prevails.
- Integrate Social Organizational Life Cycle Assessment (SO-LCA) to extend the focus from products to organization.

The Social-LCA Project of HMU Masaccio Train has been developed in this particular context. The main aim of the project is to implement S-LCA to a train life cycle for the first time, including the most of the phases of its life cycle and develop a communication scheme towards a possible social product declaration.

The study is being carried out by a team led by Prof. Marzia Traverso, an international expert of S-LCA studies. Shee is the chair of the project for both the revision of the UNEP guidelines, and the implementation of the first pilot project. She is also the project leader and convener of the ISO 14075 for the international standardization of the Social Life Cycle Assessment, project started in April 2020.

The S-LCA has never been applied to a train before, this project with its results, will cover an important scientific gap.

The train is a complex product; however, Hitachi Rail has extensive experience in the implementation of environmental life cycle assessments (LCA), and several trains produced by Hitachi Rail have their Environmental Product Declaration. This means that materials and components, as well as suppliers, are already known and those data represent a first important step to start with the study.

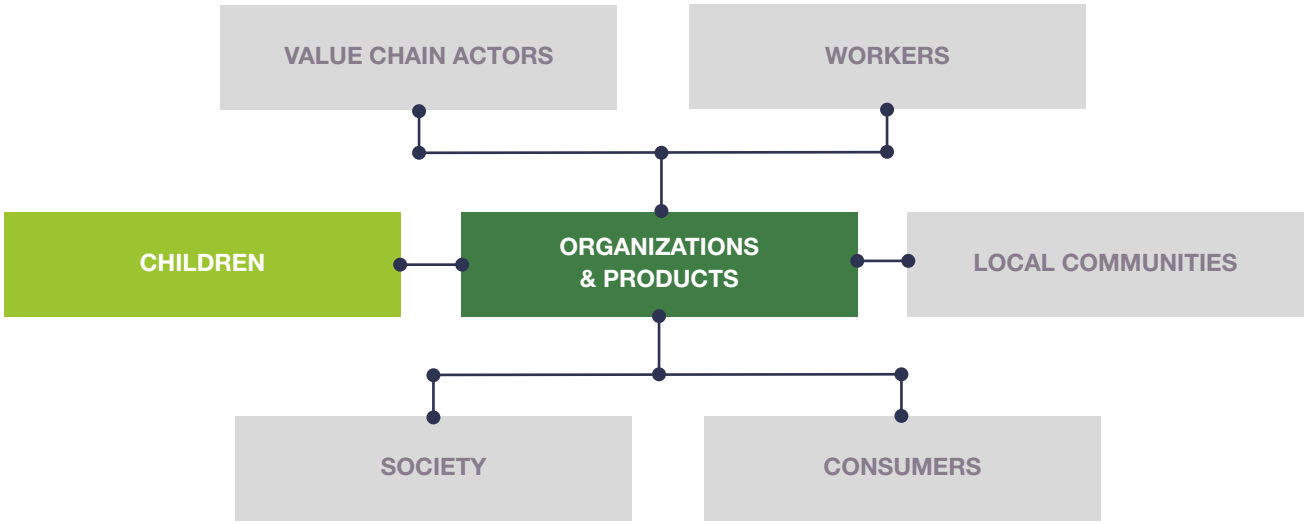


Figure 1 – Stakeholders categories according to the UNEP 2020

An important difference between LCA and S-LCA is the role played by the Stakeholders. Indeed, if in the LCA the definition of the Stakeholders is relevant only for the audience of the study, in S-LCA they represent an important parameter of the methodology. The social impacts assessed are those related to the most relevant Stakeholders involved in the product life cycle. According to UNEP 2020 6 main Stakeholders categories have been defined: workers, local communities, consumers, society, value chain actors and children. This last one has been introduced in the current UNEP 2020 Guidelines.

According to those main Stakeholders categories, 40 impact categories, called subcategories, have been defined. Those impact subcategories are derived by combining Stakeholders categories with the main impact categories such as: Human rights, Labour rights, Health and Safety and so on. For each subcategory we can have at least one indicator (see Figure 2).

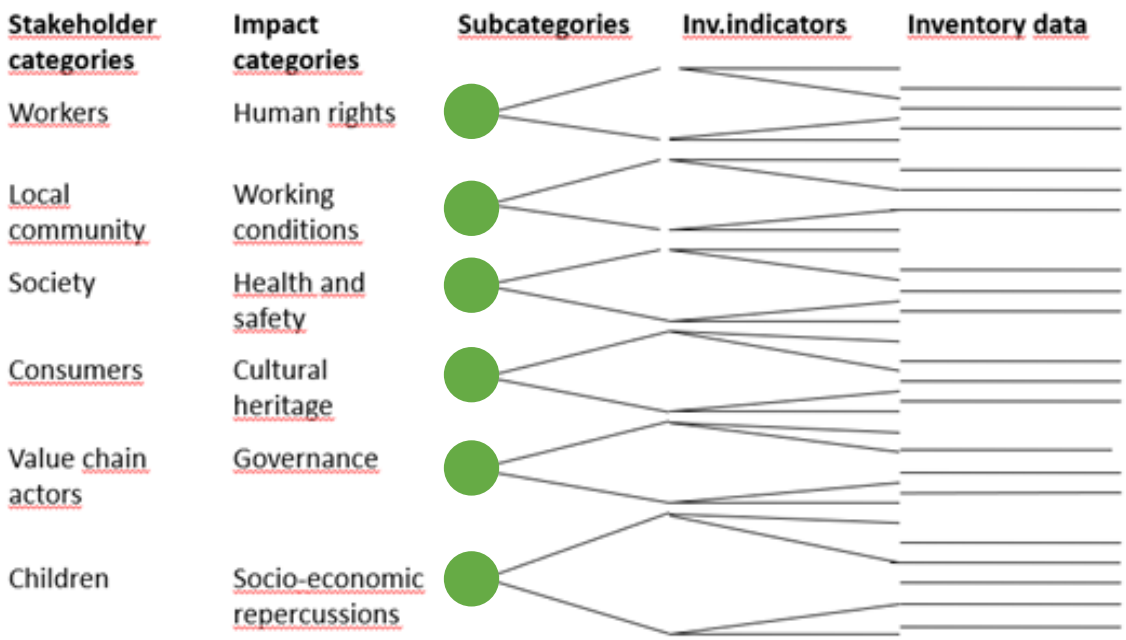


Figure 2 – Assessment system from categories to the unit of measurement (UNEP 2020)

As reported in the UNEP 2020 guidelines, several results can be obtained by implementing S-LCA and it is strongly affected by the typology of the data and the objective of the study. Examples of results of an S-LCA include:

- A Social Footprint: End result of the S-LCA study overall or by impact category or subcategory (e.g. high probability of child labour or number of educational degrees obtained, etc.).
- A Social Handprint: Results of changes to business as usual that create relative positive outcomes or impacts (e.g. reduced levels of child labour if better practices are implemented).
- Materiality Assessment: Any type of information, date, or outcome that is of relevance and may influence the conclusion (e.g. information that iron is produced in Country X where forced labour is frequent).

- A Social Hotspot analysis: Location and/or activity in the life cycle where a social issue (as impact) and/or social risk is likely to occur (e.g. bauxite production in Country X).
- Social Risk: Social topic for which an adverse impact is probable; the probability could also be quantified (e.g. child labour is a social risk, with high probability, since cobalt production takes place in Congo where the probability of child labour is generally high).

According to the UNEP guidelines, an S-LCA includes the following methodological phases:

- Goal and scope, definition of the main objective.
- Life cycle inventory.
- Social Life cycle impact assessment .
- Interpretation.

All these methodological phases will be implemented in HMU Masaccio Train for the first time and the first results will be published within the end of FY 2021.

Class 800 intercity train during testing at Old Dalby.

Sustainable Facility

The Company is empowered also the accountability of its worldwide Facility department in order to implement above strategy and achieve main targets defined inside of scope 1 and 2.

Starting from last year, the Facility management of Company assets is changing from a traditional approach to more sustainable approach favoring a **Sustainable Facility** focalized to add value to Environmental and Energy management support.

So main strategic aims of **Sustainable Facility** are:

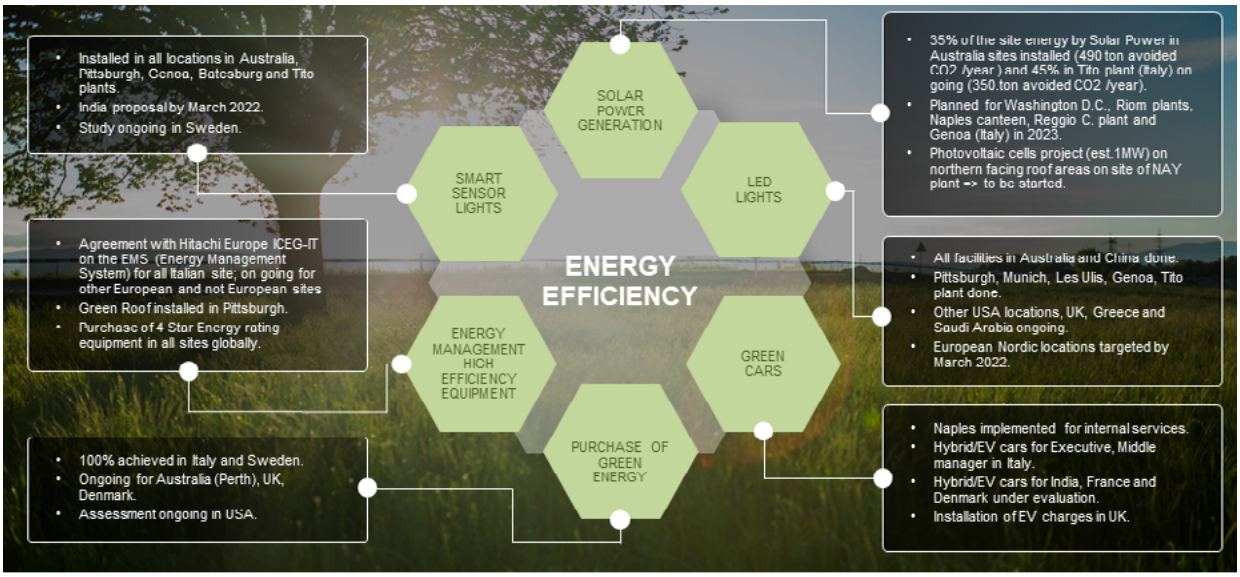
- Implement globally energy management optimization plans according to sustainability strategy during 2020-2030.
- Lead worldwide partnership with an expert on the matter (Hitachi Europe) to implement One Energy optimization strategy and approach inside Hitachi Rail starting from 2020.
- Ensure a continuous efficient and effective global Real Estate properties management with the aim to maintain their suitability.

Main pillars are:

1. Energy efficiency management
2. Resources efficiency

Main initiatives done and ongoing to ensure gradually Energy efficiency management and improve the carbon footprint of Company are summarized in following slide.

Sustainable Facility Overview



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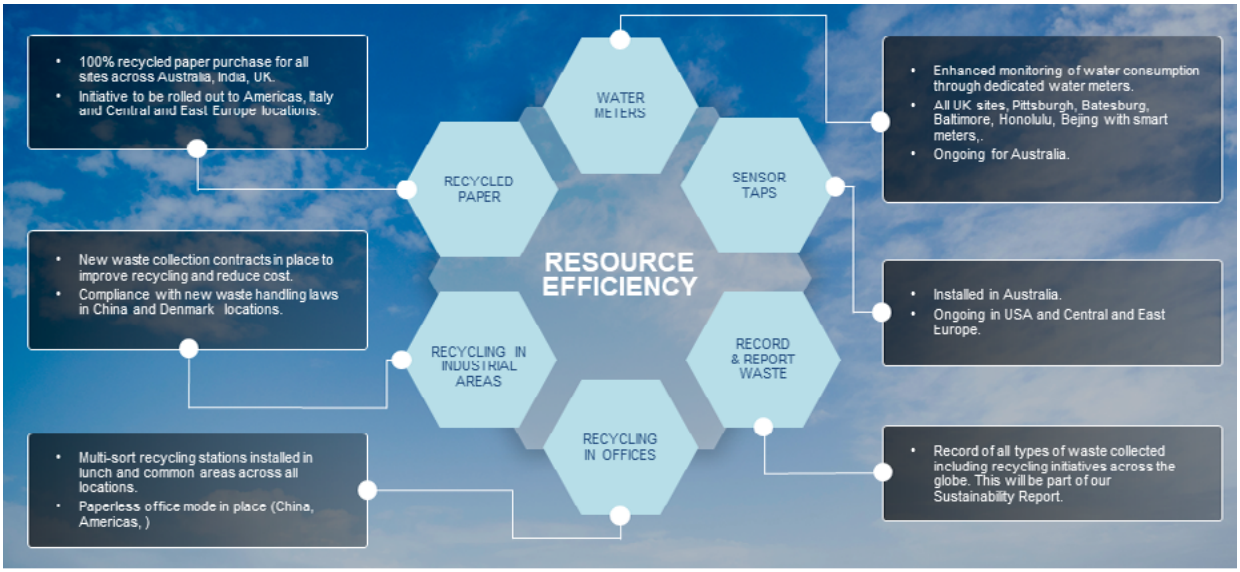


GHG emission reductions at production sites and offices

GHG emission reductions at production sites and offices Hitachi Rail analyses the possible impacts of its strategic decisions to reduce greenhouse gas emissions over the short, medium and long term, in order to identify business development opportunities, improve efficiency and reduce risks.

The Company's strategy is to accelerate the switch to renewable energy, improve energy and process efficiency in own operations, and leverage their buying power to mobilise the overall decarbonisation of the economy, thus significantly reducing their emissions and those of their partners.

Hitachi Rail's environmental policies aim to reduce its impact on the environment by identifying the areas of intervention and selecting specific indicators and related targets.

Actions to reduce greenhouse gas emissions are part of the environmental management system that Hitachi Rail has established at a global level, defining a carbon management strategy based on the following principles:

- Global approach: the development of mechanisms to increase commitment in all offices and production sites.
- Reasonable and feasible long-term objectives: the establishment of a clear and realistic vision of the steps to be taken.

- Support for the development of technologies: the development of advanced technological solutions.
- Expansion of audience to include also non LCA experts with particular attention of
- Cover methodological developments, including impacts assessment methodologies type I and II and interpretation phase.
- Recognize a plurality of established approaches, indeed the social life cycle impact assessment methodologies include different approaches developed in literature.
- Developing areas where minimum guidance prevails.
- Integrate Social Organizational Life Cycle Assessment (SO-LCA) to extend the focus from products to the organization.

This strategy focuses mainly on three spheres of influence, as envisaged by the GHG Protocol:

• **Scope 1** covers the emissions from operations under a facility's control, including onsite fuel combustion: In-house activities and direct emissions from Hitachi Rail's own sites - Scope 1 emissions.

• **Scope 2** covers the emissions from the usage of electricity, steam, heat and/or cooling purchased from third parties: Electrical energy suppliers and their operating emissions related to Hitachi Rail's activities - Scope 2 emissions.

• **Scope 3** covers upstream and downstream value chain emissions, including procured products, transport of suppliers and business travel, usage of sold products and product disposal; Hitachi Rail's supply chain and the emissions resulting from the production and delivery of goods and services - Scope 3 emissions.

In order to establish an improvement strategy, the company reports direct and indirect greenhouse gas emissions, committing to reduce them through:

- Policies on the mobility of people and goods.
- Programmes for reducing consumption and improving energy efficiency.
- Use of renewable energy sources.
- Waste and water management.

Carbon Management System (CMS)

Hitachi Rail adopted a Carbon Management System (CMS) which enables the planning, implementation and measurement of targets for the reduction of greenhouse gas emissions.

An efficient carbon management policy enables the Company to decrease consumption and reduce energy costs, thereby improving its bottom line and offering the possibility of investing the savings.

The CMS has been developed in line with the relevant international standards. This system enables the company to perform:

- Analyses of actual emissions produced.
- Monitoring and reporting on emissions.
- Comparisons between historical data and forward-looking analyses.
- An assessment of the impact of products, in terms of emissions over their entire life cycle.
- Economic/environmental impact analyses in relation to current regulations on emission reduction to determine assets' potential value-at-risk.
- The measurement of the effectiveness of emission reduction projects.
- Communication on Hitachi Rail's emission reduction performance to the Stakeholders, including media, investors, rating agencies and other organisations.

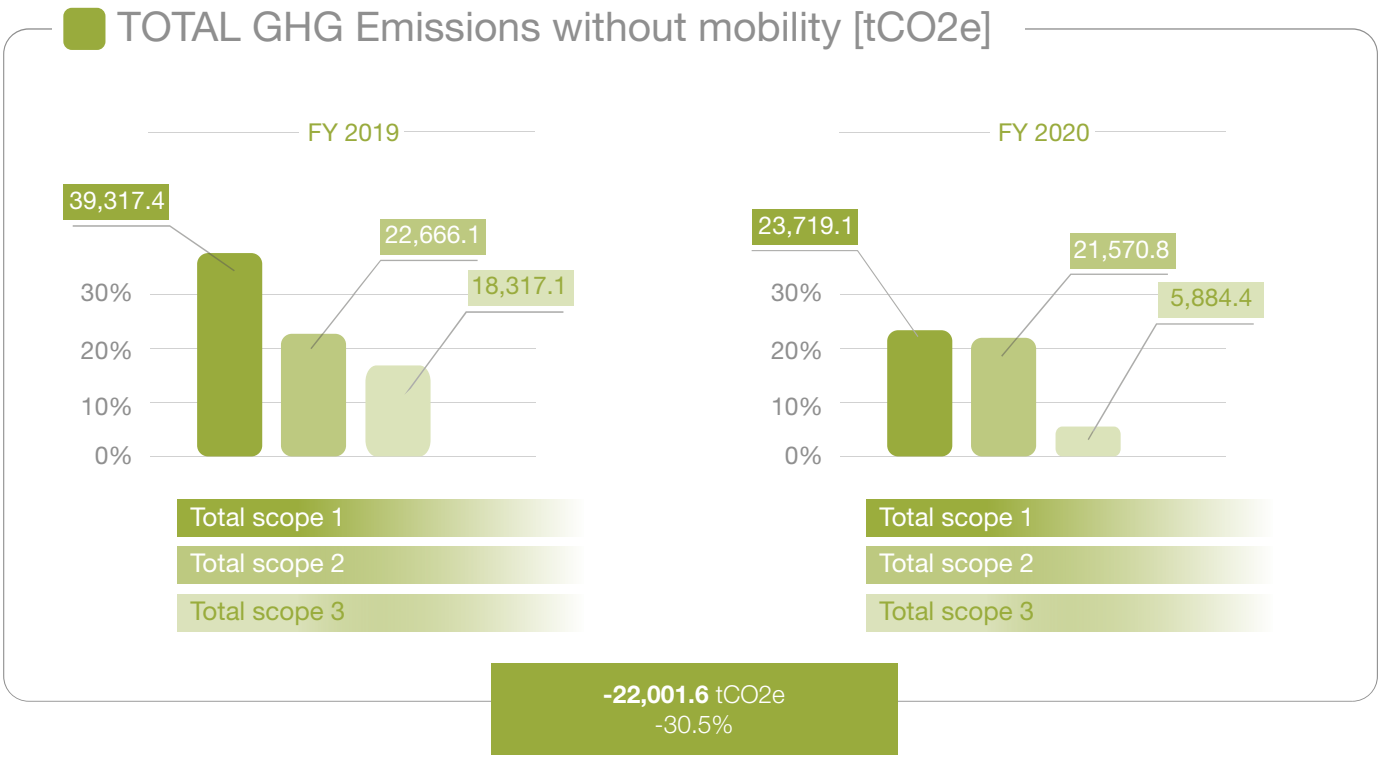
Within its organisation, Hitachi Rail has appointed an Energy Manager responsible for providing guidance and carrying out activities and projects with respect to energy savings at all of the company's operating sites.

Direct and indirect greenhouse gas emissions

Total emissions - direct and indirect - of GHG fell in absolute value from 80,368 tCO2e in the year ended 31.03.20 to 46,905 tCO2e in the year ended 31.03.21, with a reduction of 33,463 tCO2e (-41.6%).

However, we must be consistent in comparing the data and refer to what the management action can determine by affecting GHG emissions. For this reason, each period's contingency effect must be neutralised; in this case, the relevant periods overlap with the Covid-19 pandemic.

This reduced the mobility of people, and therefore the production of polluting. This phenomenon is typical of the situation in the period under review and is not comparable with the previous one. For this reason, the reference data must be stripped of the effects described. The reduction in emissions is therefore lower, equal to -30.5% (- 22,001.6 tCO2e) as indicated below.



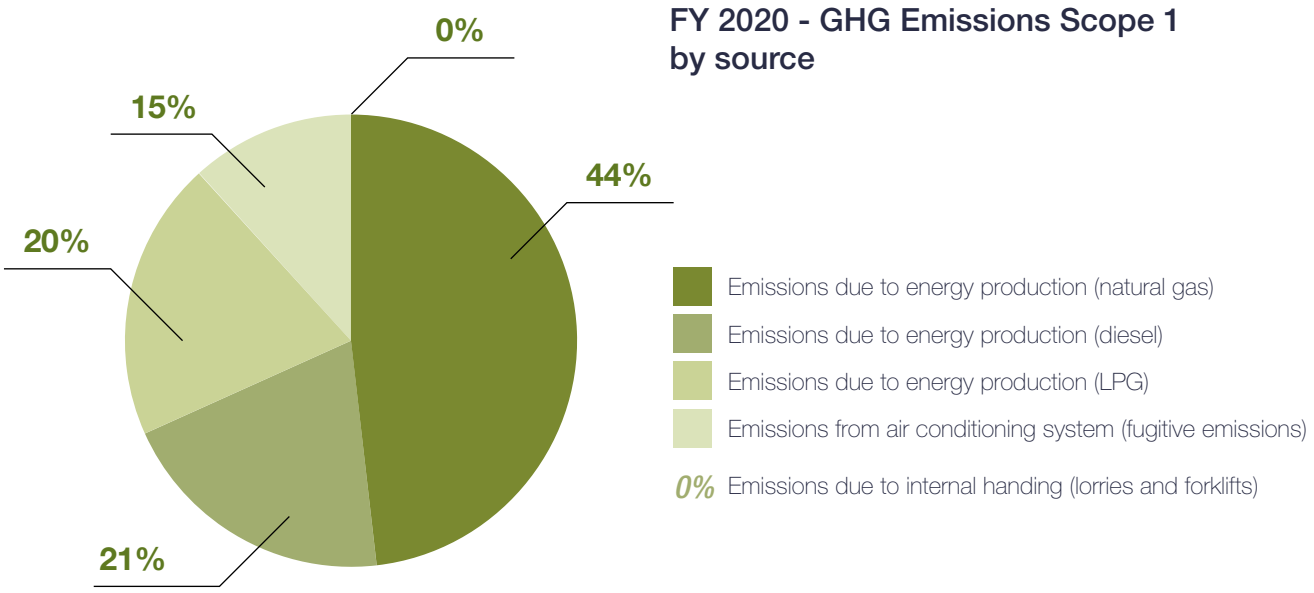
	UoM	FY 2019	FY 2020	Var.	Var.%
GHG SCOPE 1					
Emissions due to energy production (natural gas)	tCO2e	10,143.3	10,343.1	199.8	2.0%
Emissions due to energy production (diesel)	tCO2e	19,048.2	4,908.4	-14,139.8	-74.2%
Emissions due to energy production (LPG)	tCO2e	4,817.3	4,794.6	-22.7	-0.5%
Emissions from air conditioning systems (fugitive emissions)	tCO2e	5,262.5	3,619.0	-1,643.5	-31.2%
Emissions due to internal handling (lorries and forklifts)	tCO2e	46.1	54.0	7.8	17.0%
Total Scope 1	**tCO2e**	**39.317,4**	**23.719,1**	**-15.598,2**	**-39.7%**
GHG SCOPE 2					
Emissions due to electricity consumption	tCO2e	22,556.4	21,486.2	-1,070.1	-4.7%
Emissions due to district heating	tCO2e	109.7	84.6	-25.2	-22.9%
Total Scope 2	**tCO2e**	**22,666.1**	**21,570.8**	**-1,095.3**	**-4.8%**
GHG SCOPE 3					
Emissions due to employee mobility	**tCO2e**	**8,309.5**	**1,117.4**	**-7,192.1**	**-86.6%**
flights (short range)	tCO2e	2,150.3	417.7	-1,732.5	-80.6%
flights (long range)	tCO2e	6,159.2	699.6	-5,459.6	-88.6%
natural gas	tCO2e	1,324.4	1,344.8	20.5	1.5%
diesel	tCO2e	3,891.7	1,012.3	-2,879.4	-74.0%
LPG	tCO2e	589.0	586.3	-2.8	-0.5%
petrol	tCO2e	0,1	0,1	0,0	-10.0%
recovered	tCO2e	242.9	209.8	-33.1	-13.6%
disposed of	tCO2e	2,094.9	572.6	-1,522.3	-72.7%
paper	tCO2e	108.0	69.1	-38.9	-36.0%
packaging (cardboard, plastic and wood)	tCO2e	1,123.9	330.1	-793.8	-70.6%
Water supply	tCO2e	149.2	118.3	-30.8	-20.7%
Water treatment	tCO2e	551.1	523.7	-27.4	-5.0%
Total scope 3 (indirect emissions)	**tCO2e**	**18,384.6**	**5,884.4**	**-12,500.2**	**-68.0%**
TOTAL GHG EMISSIONS	tCO2e	80,368.0	51,174.3	-29,193.7	-36.3%
TOTAL GHG EMISSIONS WITHOUT MOBILITY to neutralize the pandemic effects	**tCO2e**	**72,058.5**	**50,056.9**	**-22,001.6**	**-30.5%**
TOTAL GHG EMISSIONS WITHOUT MOBILITY and KASADO	tCO2e	58,160.3	37,008.6	-21,151.7	-36.4%

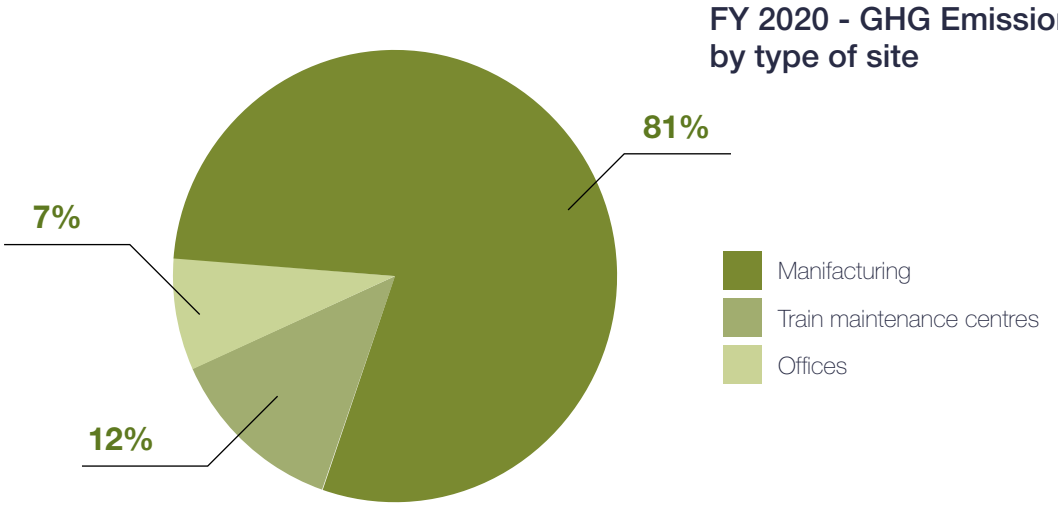
Variance Analysis of FY20: divergences vis a vis FY19

SCOPE 1

The contribution of direct emissions to the reduction of total GHG emissions measured by Hitachi Rail is equal to 53.4%.

The following graphs represent the percentage breakdown of direct greenhouse gas emissions, by source and by type of site in FY2020.





Reasons for SCOPE 1 variation, greater than 15%

- **Emissions due to energy production (diesel): -74.2%**

It is due mainly to the diminished use of diesel fuel for heating in the Naples plant. The reasons for it are related to two different improvements on the Naples plant. A heating pump has been installed in sections 15 and 16 of the production plant and on the manager building. In terms of consumption of tons of diesel, this step justifies the reduction from nearly 5,000 tons in FY19 to today's level of around 1,000 tons. This reduction is not related to the impact of the Covid 19 pandemic (and therefore to the subsequent temporary closure of the plants) as the consumption of water - and consequently heated water - increased compared to the previous year.

- **Emissions from air conditioning systems (fugitive emissions): -31.2%**

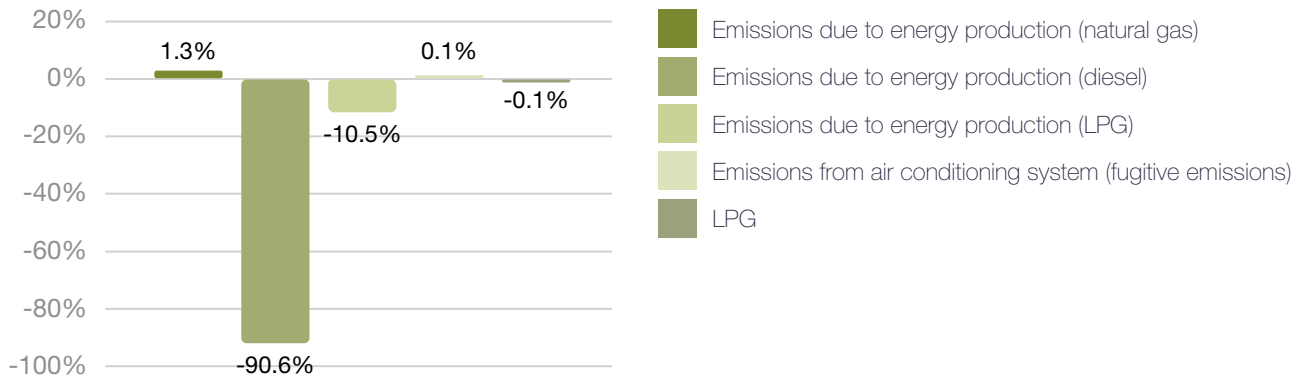
This result is less than in previous years due to less use and top-ups for F-gases in cooling and air conditioning. Production sites account for 78% of these emissions.

It is essential to reaffirm the very high Global Warming Potential of the F-gases mentioned above, which has an impact from 1,500 to almost 4,000 times higher (as in the case of R404A) than CO2 (GWP=1). From a company point of view, taking care of constant maintenance to avoid spills and inefficiency is of paramount importance.

- **Emissions due to internal handling (lorries and forklifts): +17.0%**

This trend is to be verified as only one production site has fully responded. Perhaps it is appropriate to rephrase the question. However, the increase in emissions was due to the increase in production at the Pistoia plant.

The following graph shows how the greatest contribution to the reduction of direct GHG emissions is due to the reduction of stationary combustion of diesel for energy production.

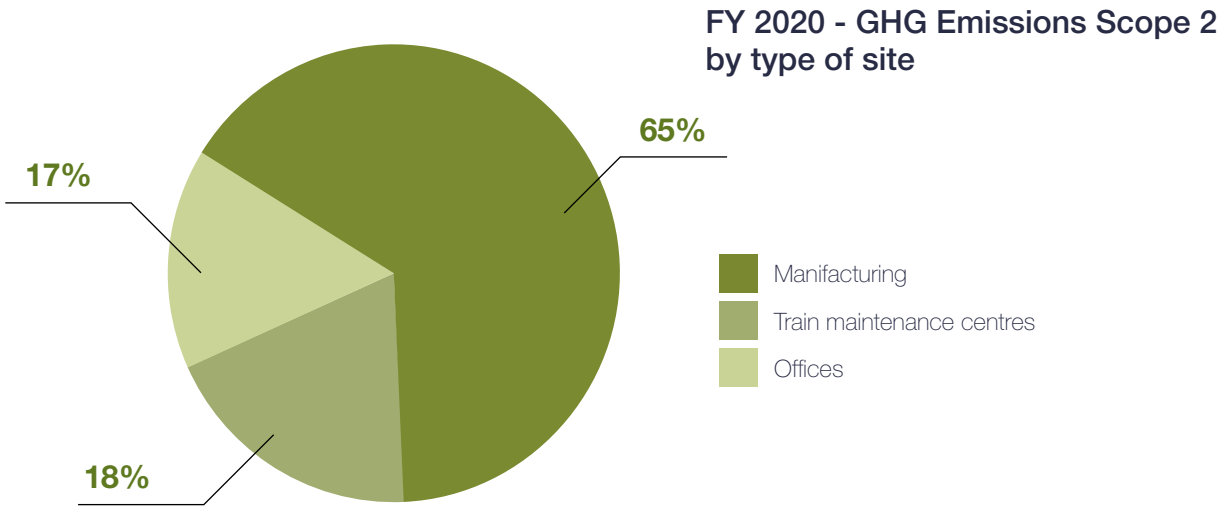


SCOPE 2

The contribution of indirect emissions to the reduction of total GHG emissions measured by Hitachi Rail is equal to 3.8%.

The reduction in Scope 2 GHG emissions is mainly due to the lower use of electricity withdrawn from the grid (-5.2%).

The following graph represents the percentage breakdown of indirect greenhouse gas emissions, by type of site in FY2020.



Reasons for SCOPE 2 variation, greater than 15%

- **Emissions due to district heating: -22.9%**

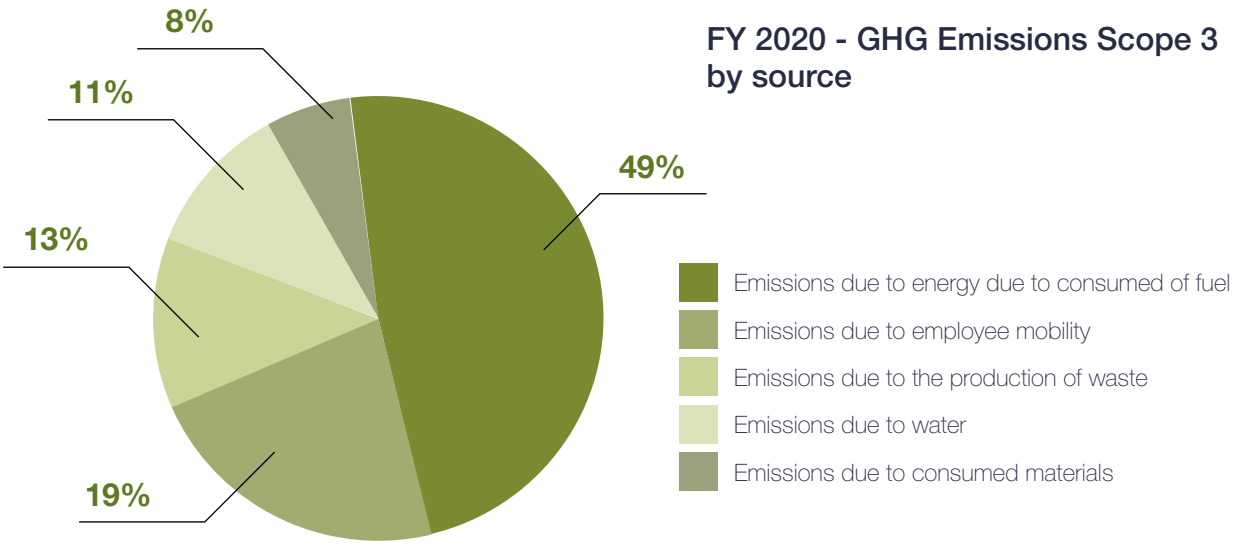
Although the emissions due to the use of district heating have a very limited impact on Hitachi Rail's scope 2 emissions, the lower use of this energy is due to:

- Copenhagen's downsizing process went from 2 to 1-floor office (from 1,300 sm to 650 sm). Also, due to the pandemic's impact, the offices have hardly been used over the last 18 months.
- It is the same for Solna. There has been minimal use of the office for the last 18 months. In addition, the landlord has implemented roof fans in the arcade outside the office, which pushed heat from the sun outside, which has increased the natural heating from outside. Moreover, a unit called GEO has been installed as well, which has decreased the use of district heating.

SCOPE 3

The contribution of other indirect emissions to the reduction of total GHG emissions measured by Hitachi Rail is equal to 42.8%.

The following graph represents the percentage breakdown of other indirect greenhouse gas emissions by source in FY2020.



Reasons for SCOPE 3 variation, greater than 15%

- **Emissions due to employee mobility: -86.6%**

The drastic reduction of flights (-86% of total air kilometres) is due to the restrictions required by the spread of the Covid-19 pandemic.

- **Emissions due to consumption of fuels: -49.3%**

Reduction of the use of fuel, especially diesel in the site of Naples. As previously mentioned, the installation of heating pumps has drastically reduced diesel usage in Naples, determining in addition to the reduction of direct emissions of scope 1 also indirect ones of scope 3.

- **Emissions due to production of waste: -65.5%**

This reduction is due to a decrease in total waste produced (-30%) and a higher percentage of waste sent for recycling (89% in FY20 against 71% in FY19)

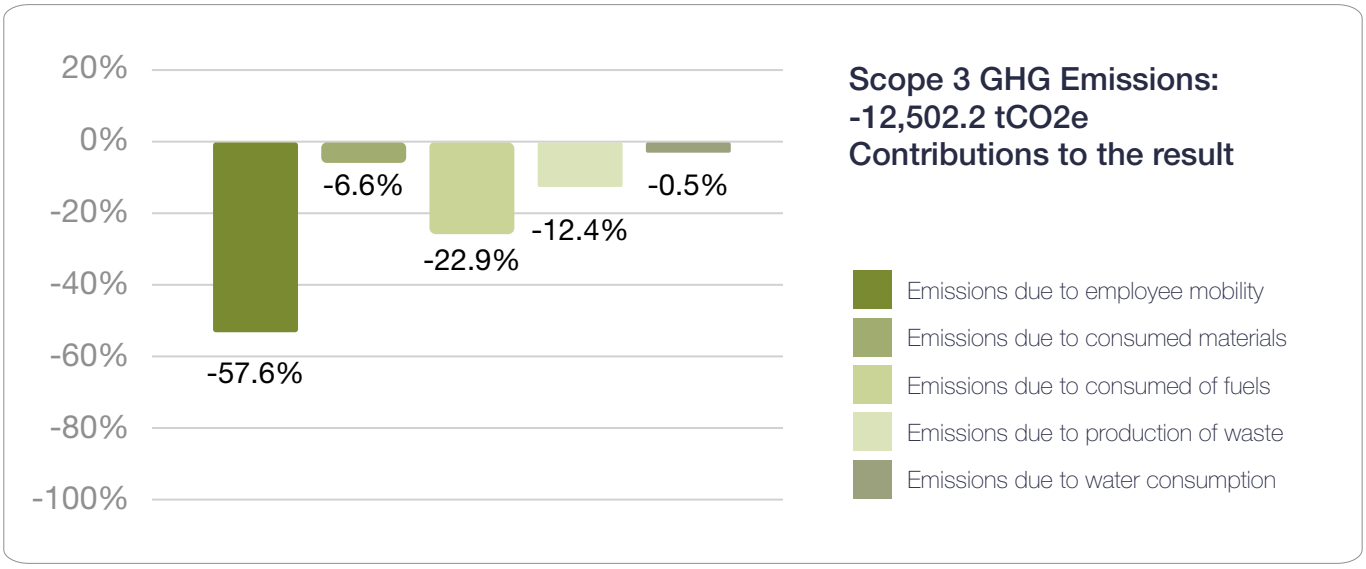
- **Reduction in the use of materials: -67.6%**

The reduction occurred mainly due to the decrease in the use of paper (-42%) and packaging (-54%).

The following graph shows how the greatest contribution to the reduction of other indirect GHG emissions is due to the reduction of mobility employee due to the pandemic.

For this reason, the reference data to calculate both the total change in GHG emissions, and the emission intensity indicators, have been cleaned of this effect.

In the year ended 31.03.21 all GHG emission intensity indicators, which measure tonnes of CO2e per thousand hours worked fell compared the previous year, due to the reduction of emissions in absolute terms and the increase in hours worked of 4.1%.



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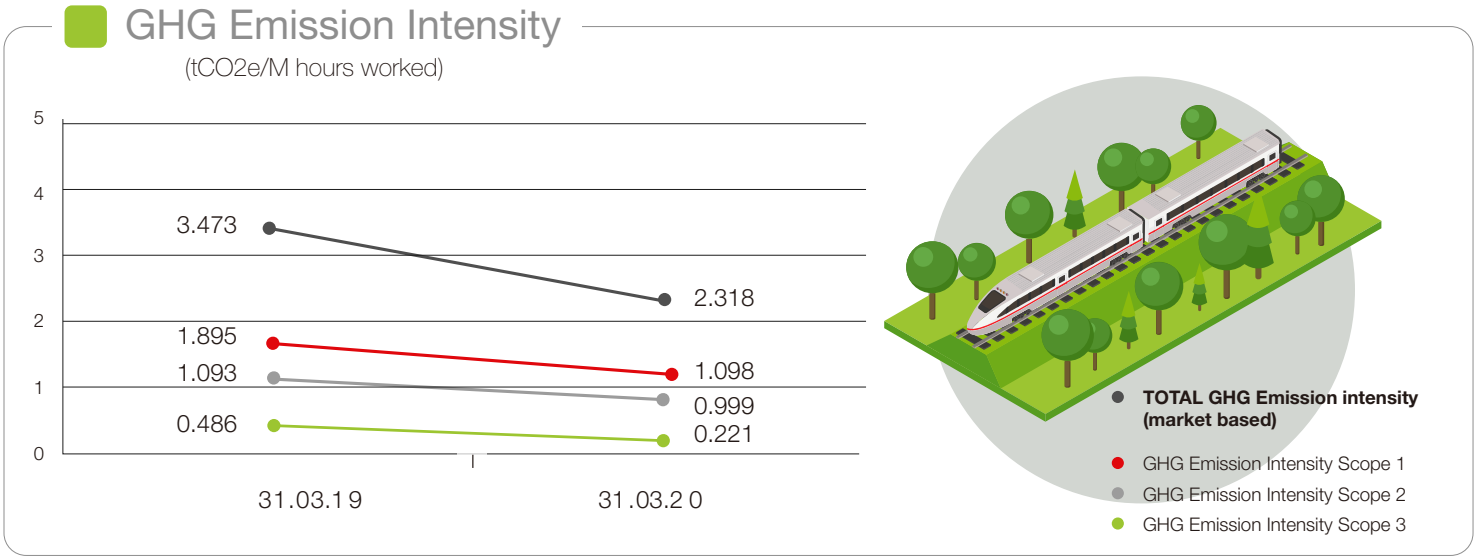


Logistic - GHG emissions

As part of the strategy to reduce GHG emissions, Hitachi Rail is also very attentive to the containment of indirect ones. To complete the emissions of Scope 3 that the company has decided to consider, those relating to inbound and outbound logistics were measured.

The calculated value relating to FY20 will be taken as a reference to measure the effectiveness of the policies relating to the efficiency of the group's logistics.

GHG EMISSIONS DUE TO TRANSPORT OF GOODS *(tCO2e)*	
on road	21,926.8
by sea	13,371.1
by plane	16,553.5
TOTAL	**51,851.4**

The calculation of the transport goods emissions was carried out using in part the reports transmitted by the logistics companies, in part through the Hitachi Rail databases by estimating the distances travelled by land, sea and air and using the following conversion rates (DEFRA – Department for Environment Food & Rural Affairs -Gov. UK):

- on road: 0.8654 Kg CO2e/km (all HGV (Havy Goods Vehicles) Average Laden)
- by sea: 0.016142 KgCO2e/tonne.km (Cargo ship - Container ship – Average)
- by plane:
  - 1.13382 KgCO2e/tonne.km Freight flights – International With RF (Including the influence of non-CO2 climate change effects of aviation (water vapour, contrails, NOx etc.)
  - 2.20946 KgCO2e/tonne.km - Freight flights - Short-haul (<3,700km)

Towards a resource efficient society

The issues of resource scarcity, triggered by rising demand and population growth, are common concerns for the entire world. As our populations grow and living standards improve, there are higher volumes of resources collected, extracted, used, and eventually emitted as waste.

Hitachi Rail is responding to these issues by working with customers and society to help build a society that uses resources more efficiently.

Hitachi Rail creates higher economic value designing and promoting use of fewer and pursue products and solutions, as well internal processes and activities, with a reducing environmental burden.

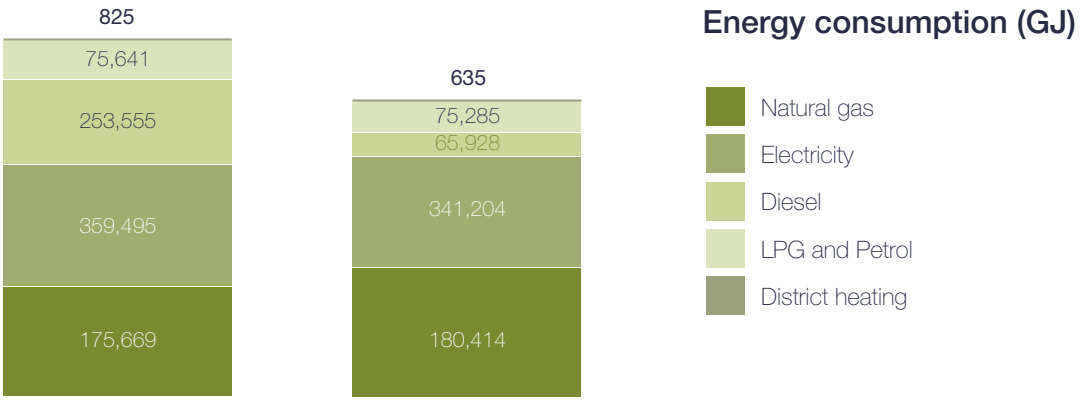
Energy consumption

The majority of energy used is electricity for lighting, plant operation and building temperature control. Hitachi Rail uses fossil fuels, mainly natural gas, and district heating to heat workplaces. In order to reduce electricity consumption, the company carries out constant work on its real estate assets, to increase their eco-efficiency. Energy-saving lighting and heating/cooling technologies are used as much as possible, such as:

- LED lighting systems.
- building envelopes and thermal insulation for windows and doors.
- direct-expansion heating/cooling systems (heat pumps).
- presence detectors or clocks/timers to control the on and off switching of the systems.
- improvement in the data centre's energy efficiency.
- affixing of signs to remind personnel about energy saving projects, such as turning off lights, laptop computers and devices that consume energy.
- reduction in the number of vehicles used by the company.

Energy consumption trends

In the year ended 31.03.21, total energy consumption - natural gas, electricity, diesel, LPG and Petrol, District heating - amounted to 663,466 GJ, down 23.3% compared to the previous year.



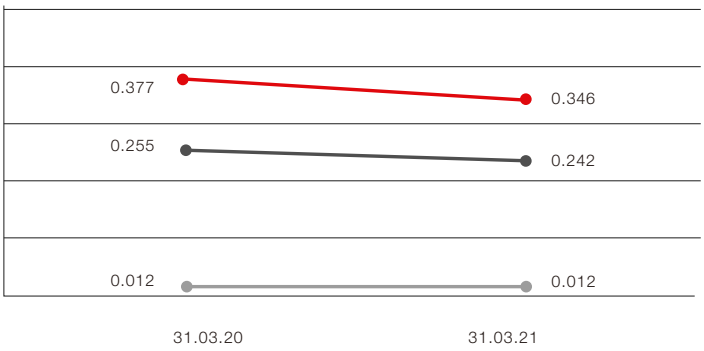
This reduction was mainly due to the lower consumption of Diesel, -187,627 GJ (-74.0%), of Electricity, -18,291 GJ (- 5.1%), compared to an higher consumption of Natural gas, + 140,244 GJ (+3.0%); these changes mainly affected the production sites.

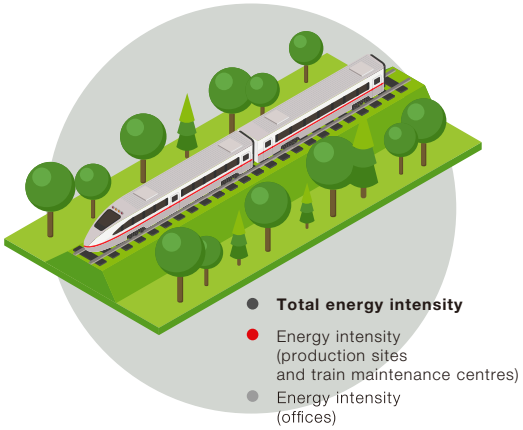
The energy consumption trend of the two-year period at the production sites and train maintenance centres and office sites is illustrated in the following table.

ENERGY CONSUMPTION	PRODUCTION SITES AND TRAIN MAINTENANCE CENTRES		OFFICES		TOTAL		var.%
	31.03.20	31.03.21	31.03.20	31.03.21	31.03.20	31.03.21	
Natural gas	160,638	166,787	15,030	13,626	175,669	180,414	3.0%
Electricity	290,454	278,703	69,041	62,501	359,495	341,204	-5.1%
Diesel	252,246	64,082	1,309	1,846	253,555	65,928	-74.0%
LPG and Petrol	75,468	75,164	174	121	75,641	75,285	-0.5%
District heating	0	0	825	635	825	635	-22.9%
TOTAL (GJ)	**778,806**	**584,737**	**86,379**	**78,729**	**865,185**	**663,466**	**-23.3%**

In the year ended 31.03.21 all **Energy intensity indicators**, which measure GJ per thousand hours worked fell compared the previous year, due to the reduction of consumption in absolute terms and the increase in hours worked of 4.1%.

Energy intensity [GJ per M hour worked]





Renewable energy

Hitachi Rail invests in solar and other forms of renewable energy at our business sites and plants. New plans are under definition and will be launched at the beginning of the fiscal year, including further challenging decarbonisation goals. The company will accelerate these efforts, aiming to raise the share of renewable energy in its total electricity consumption.

The company recognises that achieving Sustainable Development Goal 7 (SDG7) will benefit billions of people all over the world, using its products and transportation solutions.

In the following tab, electric energy consumption is divided by type of site and the % which derives from renewable and nuclear sources.

ELECTRICITY CONSUMPTION	Unit	FY 2019	FY 2020	var.	var. %
MANUFACTURING					
Electricity purchased from the National Power Grid	kWh	63,433,772	60,464,499	-2,969,273	-4.7%
from renewable sources (Renewable Energy Certificates)	kWh	13,664,709	13,906,633	241,924	1.8%
% FROM RENEWABLE SOURCES	-	21.5%	23.0%	-	-
from nuclear source	kWh	1,405,419	1,324,786	-80,633	-5.7%
% FROM NUCLEAR SOURCES	-	2.2%	2.2%	-	-
TRAIN MAINTENANCE CENTRES					
Electricity purchased from the National Power Grid	kWh	17,247,946	16,953,111	-294,835	-1.7%
from renewable sources (Renewable Energy Certificates)	kWh	106,781	71,809	-34,971	-32.8%
% FROM RENEWABLE SOURCES	-	0.6%	0.4%	-	-
from nuclear source	kWh	-	-	-	-
% FROM NUCLEAR SOURCES	-	-	-	-	-
OFFICES					
Electricity purchased from the National Power Grid	kWh	19,178,045	-	-1,816,565	-9.5%
from renewable sources (Renewable Energy Certificates)	kWh	500,128	-	-231,522	-46.3%
% FROM RENEWABLE SOURCES	-	2.6%	1.5%	-	-
from nuclear source	kWh	2,802,251	2,644,410	-157,841	-5.6%
% FROM NUCLEAR SOURCES	-	14.6%	15.2%	-	-
TOTAL					
Electricity purchased from the National Power Grid	kWh	99,859,764	94,778,999	-5,080,764	-5.1%
from renewable sources (Renewable Energy Certificates)	kWh	14,271,617	14,247,048	-24,569	-0.2%
% FROM RENEWABLE SOURCES	-	14.3%	15.0%	-	-
from nuclear source	kWh	4,207,670	3,969,196	-238,474	-5.7%
% FROM NUCLEAR SOURCES	-	4.2%	4.2%	-	-

Consumption of substances and materials

Hitachi Rail is very aware of the contribution that efficient consumption of raw materials can give, in terms of contribution for CO_2 reduction. The company promote the reduction of intensive use of raw materials in line with the OECD Council principles and its sustainability strategy.

This commitment is reflected through the definition of a reliable evaluation of raw material uses in different company activities, which is sometime difficult to establish for some specific business like for electronic and electromechanical components. However, as described in this document, Hitachi Rail search for increasingly standardised designs innovation can lead to an overall reduction in the direct or indirect consumption of raw materials.

MATERIALS AND SUBSTANCES USED		31.03.20	31.03.21
Alluminium [t]		104.20	82.79
	new material [t]	0.11	-
	recycled material [t]	.	-
	scrap [t]	104.09	82.79
Liquefied compressed gases [t]		94,806.67	105,837.08
	Nitrogen [t]	80,295.57	83,878.32
	Carbon dioxide [t]	14,448,98	21,866.17
	Oxigen [t]	48.41	80.37
	Argon [t]	13.72	12.22
Paints (water based) [t]		149.64	157.22
Sewage treatment agents [t]		101.00	74.00
Thinner (organic solvent) [t]		35.50	18.07
Catalyst [t]		48.65	24.29
Putty [t]		56.66	67.45
Degreasing agents [t]		13.06	14.63
Oil [t]		5.43	5.53
Glues and adhesives [t]		4.40	2.50

CONSUMPTION OF PAPER AND PACKAGING MATERIALS	31.03.20	31.03.21
Paper [t]	122.16	83.15
new material [t]	69.03	42.24
recycled material [t]	53.13	40.91
Mixed material packaging [t]	575.71	3.67
new material [t]	567.96	3.64
recycled material [t]	7.75	0.03
Wood packaging [t]	51.70	50.61
new material [t]	40.06	39.30
recycled material [t]	11.64	11.31
Plastic packaging [t]	1,005.80	695.40
new material [t]	1,005.65	687.30
recycled material [t]	0.15	8.10
Cardboard packaging [t]	77.26	34.75
new material [t]	50.59	8.12
recycled material [t]	26.67	26.63

Water management

The sustainable management of water during withdrawal and use favours the maintenance and improvement of the use of this precious resource, ensuring less waste and a reduced environmental impact.

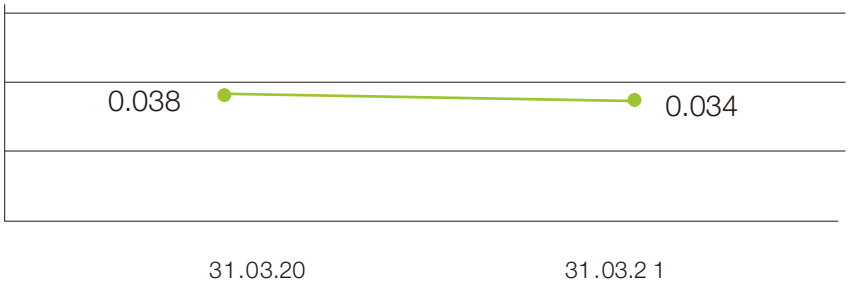
The company is aware that it can continually improve water use by reducing pollution, eliminating waste and fighting the release of chemicals and hazardous materials, halving the percentage of untreated wastewater and substantially increasing recycling and safe reuse.

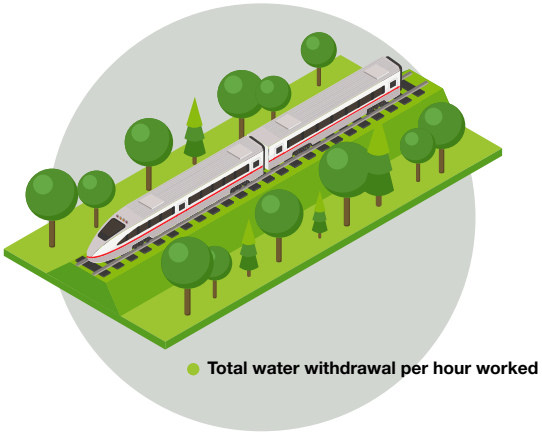
Hitachi Rail's core business does not critically highlight the use of this resource. However, the commitment in the control and management of this resource is always very high, even in related indirect activities. The data show a reduction of the water withdrawn equally to 38,681.7 cubic meters (-5.0%).

The KPI – Total water withdrawal per hour worked shows a reduction of 9.7% also due to a slight increase in hours worked.

WITHDRAWAL OF WATER	PRODUCTION SITES AND TRAIN MAINTENANCE CENTRES		OFFICES		TOTAL	
	31.03.20	**31.03.21**	**31.03.20**	**31.03.21**	**31.03.20**	**31.03.21**
Water drawn from public main [mc]	326,324.5	264,109.4	107,258.4	79,813.8	433,582.9	343,923.2
Water drawn from wells [mc]	344,490.0	395,637.0	289.0	120.0	344,779.0	395,757.0
TOTAL	**670,814.5**	**659,746.4**	**107,547.5**	**79,933.8**	**778,362.0**	**739,680.2**

Total water withdrawal per hour worked





Towards a harmonized society with nature

In order to achieve a harmonized society with nature so that everyone may continue to enjoy its benefits, Hitachi Rail has established targets to minimise its impact on natural capital as part of its long-term environmental targets. It accounts for two types of activity: Positive and negative Positive activities include providing products and services that contribute to ecosystem preservation and undertaking social contribution activities to protect the environment through the preservation of biodiversity and ecosystems.

Negative impact activities' are classified as emissions of chemical substances into the atmosphere and the generation of waste materials.

By quantifying positive and negative impact activities across the value chain, Hitachi advances initiatives to reduce its negative impact and maximize its positive impact.

New Circular Economy Business Model Project

The Circular Economy means going beyond the traditional “take-make-waste” that is typical of linear economy, where natural resources are extracted, transformed, used by suppliers, combined in a product and discarded at end of life (Andersen, 2007). Today’s linear economy cannot deliver a sustainable world, where finite natural resources and the ability of the environment to absorb waste leads to a remarkable increase of resource cost and uncertainty of supply (Ellen MacArthur Foundation, 2012).

Put simply, the Circular Economy aims to monetize waste in order to eliminate it from our value chains – making businesses both more financially and environmentally more sustainable.

Recent studies show that keeping resources in use for as long as possible, and using them efficiently, are particularly important in the rolling stock industry.

This means a strong commitment to avoid premature obsolescence of parts and material. For example, if Hitachi Rail can use digital technologies to predict and prevent unnecessary maintenance on a bogie, it is possible to keep that bogie safely operating for longer and avoid wasteful maintenance activities that require us to spend time, money and material maintaining it ‘just in case.’

Hitachi Rail already manufactures highly recyclable trains (above 95% in some cases), recovers a high percentage of materials during maintenance operations, as well as refurbishing and reusing components from older products to fit new products.

But more can be done. As a result, Hitachi Rail has begun to incorporate the concept of the Circular Economy within its Environment and Quality Management Systems at production sites in which the relevant certifications are managed. As a result, Life Cycle Analyses are now part of all projects, and Environment Product Declaration certification processes are on going across the portfolio.

The results of the Circular Economy Project allow Hitachi Rail to evaluate the opportunity- cost of alternative business models in terms of socio-economic (Life Cycle Cost, Social Life Cycle Assessment) and environmental impact (Environmental Life Cycle Assessment). Hitachi Rail's Circular Economy Project consists of 3 methodological steps and 10 main activities.

The Project Manager is responsible for ensuring the customer is satisfied, responding to any issues that might arise over the course of the contract.

The organisation of bidding and project management activities is fundamental to carrying out a project that meets the quality requirements of the products and services offered and ensures their provision according to deadline and budget restrictions. To this end, the objective of project management is to protect the interests of Hitachi Rail's Stakeholders, including shareholders, who are mainly focused on the results of the business, and its customers, who want to receive top quality responses according to established schedules in line with the transportation needs of a city or the community at large.

In this area, the most significant development in market dynamics in recent years has entailed the progressive shift from the provision of products and technologies to the increased customer demand for turn-key transportation solutions that efficiently meet the needs of local and national institutions. This new type of offer requires the ability to support the customers, who are increasingly considered less as buyers and more as partners, in the management of a project throughout its entire life cycle.

Waste and effluents

The production of waste is an environmental aspect that is assessed and measured at all Hitachi Rail sites and offices together with the analysis of work sites and construction of civil and technological products.

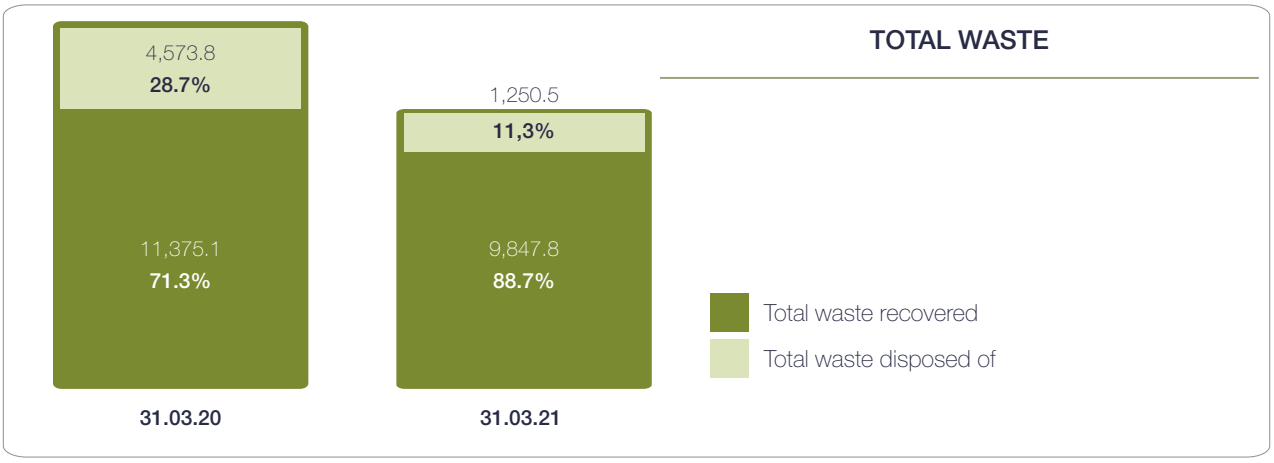
Hitachi Rail's policy is to reinforce the principle of re-use, recycling and recovery of waste. All its sites have waste collection areas based on the type of waste and site layout. External specialist companies collect and process hazardous and non-hazardous waste. The most prominent waste at production sites relates to paper, cardboard and wood packaging, metal and end of life equipment.

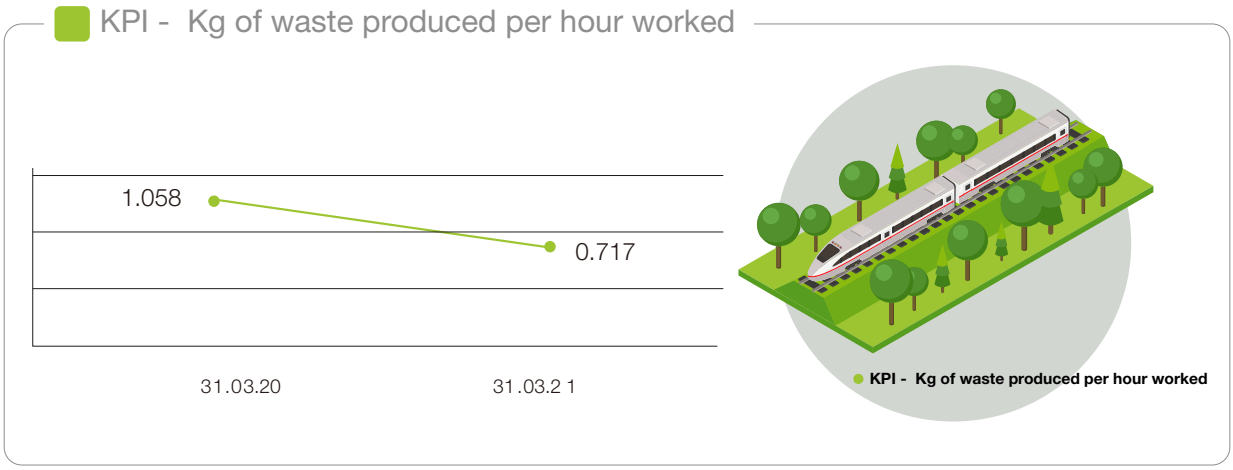
The following table provides details on the waste produced at the production sites and offices, with the fractions sent to recovery and disposal specified.

WASTE PRODUCTION	PRODUCTION SITES AND TRAIN MAINTENANCE CENTRES		OFFICES		TOTAL WASTE	
	31.03.20	31.03.21	31.03.20	31.03.21	**31.03.20**	**31.03.21**
Non-hazardous [t]	10,540.6	9,609.5	4,399.4	802.1	**14,940.0**	**10,411.5**
% recovered	90.9%	91.7%	28.7%	87.0%	**72.6%**	**91.3%**
% disposed of	9.1%	8.3%	71.3%	13.0%	**27.4%**	**8.7%**
Hazardous [t]	1,005.4	679.9	3.6	6.8	**1,009.0**	**686.8**
% recovered	52.6%	48.9%	54.8%	88.3%	**52.6%**	**49.3%**
% disposed of	47.4%	51.1%	45.2%	11.7%	**47.4%**	**50.7%**

In the year ended 31.03.21, total waste production amounted to 11,098.3 tonnes, down 30.4% compared to the previous year. The percentage of recovered waste goes from 74.3% to 91.9%.

The KPI – Kg of waste per hour worked shows a reduction of 32.3% also due to a slight increase in hours worked.





The waste water produced at the sites can be classified on the basis of its use upstream from disposal, as domestic (or similar) and industrial.

WATER DRAINAGE	PRODUCTION SITES AND TRAIN MAINTENANCE CENTRES		OFFICES		TOTAL	
	31.03.20	**31.03.21**	**31.03.20**	**31.03.21**	**31.03.20**	**31.03.21**
Total volume of domestic or sanitary waste water [m³]	213,570.0	172,276.0	26,025.2	27,059.0	239.595.2	199,335.0
Total volume of industrial waste water produced on site [m³]	75,496.0	1,890.0	-	-	75,496.0	1,890.0
TOTAL	**289,066.0**	**174,166.0**	**26,025.2**	**27,059.0**	**315,091.2**	**201,225.0**

Polluting emissions

For Hitachi Rail, pollutant emissions related to the consumption of non-renewable resources used to run thermal plants (methane and diesel) and to the production processes that emit volatile organic and inorganic compounds.

AIR EMISSIONS	31.03.20	31.03.21
NOx (Kg)	44,930.4	29,460.4
SOx (Kg)	35,676.5	9,387.5
CO (Kg)	15,683.0	7,126,2
Volatile Organic Compounds (Kg)	144,855.4	155,786.6
Volatile Inorganic Compounds (Kg)	2.1	5.1

For offices, emissions are calculated using the coefficients issued by the European Environmental Agency (Air Pollutant Inventory Guidebook 2016).

Social

HITACHI
Inspire the Next

Human capital

In this fast paced, global, and digital world, diverse talent is a driver for innovation and value-creation.

Hitachi Rail aims to build a company where talent from diverse cultural backgrounds, experiences, and ideas can play an active role to cultivate a common identity in all employees worldwide so they may share the values of Harmony, Sincerity, and Pioneering Spirit that comprise our core mission.

Hitachi Rail seeks to attract, develop, and organise employees by building good relationships with them. It does so by acknowledging their fundamental rights, providing equal opportunities, and optimising work-life balance. The Company also actively engages in regular dialogue with employees regarding compensation and career development through its Global People Management System as well as through regular dialogue between managers and employees.

In the pursuit of company objectives, our people must be aware that ethics are of immense value to the company and accordingly, no conduct is tolerated that, is in violation of the law, current regulations, the organisational, management and control model or the Code of Ethics (even when it may appear to benefit Hitachi Rail).

The Hitachi Rail workforce is shown in the following tables. Employee categories are broken down by gender, geographical location, professional categories, education, age and company seniority, types of contracts.

NUMBER OF COLLABORATORS BY REGION	31.03.2019				31.03.2020				31.03.2021			
	MEN	WOMEN	TOTAL	% W on total	MEN	WOMEN	TOTAL	% W on total	MEN	WOMEN	TOTAL	% W on total
ITALY	3,655	624	**4,279**	4.9%	3,768	634	**4,402**	4.9%	4,004	705	**4,709**	5.2%
JAPAN	2,968	288	**3,256**	2.3%	3,145	296	**3,441**	2.3%	3,294	309	**3,603**	2.3%
EMEA	3,052	556	**3,608**	4.4%	2,788	522	**3,310**	4.1%	2,883	560	**3,443**	4.1%
USA	568	202	**770**	1.6%	608	212	**820**	1.7%	751	239	**990**	1.7%
APAC	615	144	**759**	1.1%	686	160	**846**	1.2%	753	174	**927**	1.3%
TOTAL	**10,858**	**1,814**	**12,672**	**14.3%**	**10,995**	**1,824**	**12,819**	**14.2%**	**11,685**	**1,987**	**13,672**	**14.5%**

PROFESSIONAL CATEGORIES	31.03.2019				31.03.2020				31.03.2021			
	MEN	WOMEN	TOTAL	% W	MEN	WOMEN	TOTAL	% W on total	MEN	WOMEN	TOTAL	% W on total
Executive	133	9	**142**	133	10	143	**143**	0.1%	159	9	**168**	0.1%
Middle Management	1,210	95	**1,305**	1.279	102	1,381	**1,381**	0.8%	1,290	117	**1,407**	0.9%
White collar	**7,188**	**1,550**	**8,738**	**7.202**	**1,547**	**8,749**	**8,749**	**12.1%**	**6,134**	**1,552**	**7,686**	**11.4%**
Blue collar	**2,327**	**160**	**2,487**	**2.381**	**165**	**2,546**	**2,546**	**1.3%**	**4,103**	**309**	**4,412**	**2.3%**
TOTAL	**10,858**	**1,814**	**12,672**	**109.95**	**1,824**	**12,819**	**12,819**	**14.2%**	**11,686**	**1,987**	**13,673**	**14.5%**

AGE	31.03.2019				31.03.2020				31.03.2021			
	MEN	WOMEN	TOTAL	% W	MEN	WOMEN	TOTAL	% W on total	MEN	WOMEN	TOTAL	% W on total
< 30 years	1,284	257	**1,541**	2.0%	1,256	254	**1,510**	2.0%	1,362	280	**1,642**	2.0%
30-50 years	6,800	1,152	**7,952**	9.1%	6,787	1,161	**7,948**	9.1%	7,259	1,269	**8,528**	9.3%
>50 years	**2,774**	**405**	**3,179**	**3.2%**	**2,952**	**409**	**3,361**	**3.2%**	**3,065**	**438**	**3,503**	**3.2%**
TOTAL	**10,858**	**1,814**	**12,672**	**14.3%**	**10,995**	**1,824**	**12,819**	**14.2%**	**11,686**	**1,987**	**13,673**	**14.5%**

SENIORITY	31.03.2019				31.03.2020				31.03.2021			
	MEN	WOMEN	TOTAL	% W	MEN	WOMEN	TOTAL	% W on total	MEN	WOMEN	TOTAL	% W on total
< 5 years	4,142	762	**4,904**	6.0%	4,236	775	**5,011**	6.0%	4,399	855	**5,254**	6.3%
5-10 years	1,615	321	**1,936**	2.5%	1,548	308	**1,856**	2.4%	1,730	405	**2,135**	3.0%
11-15 years	1,539	280	**1,819**	2.2%	1,584	273	**1,857**	2.1%	1,709	250	**1,959**	1.8%
16-20 years	1,107	152	**1,259**	1.2%	1,188	189	**1,377**	1,5%	1,392	222	**1,614**	1.6%
21-25 years	608	47	**655**	0.4%	610	41	**651**	0.3%	629	46	**675**	0.3%
> 25 years	1,847	252	**2,099**	2.0%	1,829	238	**2,067**	1.9%	1,827	209	**2,036**	1.5%
TOTAL	**10,858**	**1,814**	**12,672**	**14.3%**	**10,995**	**1,824**	**12,819**	**14.2%**	**11,686**	**19,87**	**13,673**	**14.5%**

EMPLOYEES CONTRACT TYPES

	31.03.2021												
	ITALY		JAPAN		EMEA		USA		APAC		TOTAL		
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	TOTAL
No. with open-ended contracts	3,992	701	3,079	274	2,802	531	751	239	695	157	11,319	1,902	13,221
No. with fixed-term contracts	12	4	215	35	81	29	0	0	58	17	366	85	451
TOTAL	**4,004**	**705**	**3,294**	**309**	**2,883**	**560**	**751**	**239**	**753**	**174**	**11,685**	**1,987**	**13,672**

OTHER CONTRACT TYPES

	31.03.2021												
	ITALY		JAPAN		EMEA		USA		APAC		TOTAL		
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	TOTAL
Temporary workers	269	34	782	139	18	17	0	0	0	0	1,069	190	1,259
Workers with a project contract	0	0	272	0	0	0	0	0	0	0	272	0	272
Trainees	15	7	22	3	19	10	0	0	0	0	56	20	76
Employee with contracts of different categories	2	0	0	0	113	21	787	245	1	0	903	266	1,169
TOTAL	**286**	**41**	**1,076**	**142**	**150**	**48**	**787**	**245**	**1**	**0**	**2,300**	**476**	**2,776**

FULL-TIME AND PART-TIME

	31.03.2021												
	ITALY		JAPAN		EMEA		USA		APAC		TOTAL		
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	TOTAL
No. Full-time employees	3,988	643	3,260	306	2,856	501	750	239	749	164	11,603	1,853	13,456
No. Part-time employees	16	62	34	3	27	59	1	0	4	10	82	134	216
TOTAL	**4,004**	**705**	**3,294**	**309**	**2,883**	**560**	**751**	**239**	**753**	**174**	**11,685**	**1,987**	**13,672**

Talent acquisition

The fiscal year 2020 has been characterised by the Covid-19 pandemic. This made us change our recruiting process, offering an opportunity to evolve and fully embrace the digital world. This opportunity for change saw us apply a more flexible approach that used technology to interview candidates and even make appointments without physically meeting. The pandemic showed us a new and efficient way of delivering resourcing solutions and ensuring the Talent Acquisition service to the business was not significantly impacted, thus contributing to business continuity.

The competencies of all recruiters have improved, adding more technological skills such as the use of different videoconference platforms. This has allowed the team to be more inclusive and give the opportunity to meet online candidates from more than 40 different nations.

In order to respect different cultures, the Talent Acquisition team followed specific online training on how to recruit in this challenging time, fully embracing this new way of working so that Hitachi Rail never stopped hiring. As a result of this, the company was able to have a social impact on reducing the level of unemployment that occurred due to Covid-19.

One of the missions of the Global Talent Acquisition team is to be closer to the business needs and to improve the ability to better recognise the candidate's technical competency, ensuring high calibre candidates are selected at the right time. Furthermore, to enhance the team's technical knowledge, Hitachi Rail academy tailored its training for 2020 to enable online delivery thus ensuring our ability to upskill was not impacted during the pandemic.

In 2020 Hitachi Rail recruiters started working together globally as one Talent Acquisition team. This offered them an opportunity to diversify their skill and industry knowledge. Thosewho previously focused on the Rolling Stock opportunities acquired a greater understanding of Signalling and those who had previously focused on Signalling learned about Rolling Stock.

The pandemic moved all relationships/activities with educational institutions, schools and universities online, as well as some job fairs.

Despite this, Hitachi Rail has continued to work collaboratively to ensure our commitment to the Hitachi Rail Diversity & Inclusion programme was sustained and as such, it can report some monumental achievements, as follows:

- the recruitment of the first Saudi woman in HR.
- The recruitment of 8 Emirati engineers, four women and four men.
- The participation in Italy in the II level Master's degree in railway at the La Sapienza University of Rome, which led to the hiring of two people.
- The participation in Saudi Arabia in the program of the Ministry of Human Resources Tawteen, which allowed us to reach and exceed the required numbers of saudis.

HIRES

	31.03.2021												
	ITALY		JAPAN		EMEA		USA		APAC		TOTAL		
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	TOTAL
< 30 years	98	31	95	6	66	25	24	5	39	10	**322**	**77**	**399**
hiring rate	2.6%	4.9%	2.9%	1.9%	1.6%	3.5%	3.9%	2.4%	5.7%	6.3%	**2.9%**	**4.2%**	**3.1%**
30-50 years	269	41	37	6	126	35	69	19	122	20	**623**	**121**	**744**
hiring rate	7.1%	6.5%	1.1%	1.9%	3.1%	5.0%	11.3%	9.0%	17.8%	12.5%	**5.7%**	**6.6%**	**5.8%**
>50 years	36	12	26	2	41	10	23	4	28	2	**154**	**30**	**184**
hiring rate	1.0%	1.9%	0.8%	0.6%	1.0%	1.4%	3.8%	1.9%	4.1%	1.3%	**1.4%**	**1.6%**	**1.4%**
TOTAL	**403**	**84**	**158**	**14**	**233**	**70**	**116**	**28**	**189**	**32**	**1.099**	**228**	**1.327**
hiring rate	**10.7%**	**13.2%**	**4.8%**	**4.5%**	**5.8%**	**9.9%**	**19.1%**	**13.2%**	**27.6%**	**20.0%**	**10.0%**	**12.5%**	**10.4%**

TURNOVER

	31.03.2021												
	ITALY		JAPAN		EMEA		USA		APAC		TOTAL		
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	TOTAL
< 30 years	12	1	14	2	30	10	12	1	24	13	**92**	**27**	**119**
turnover rate	0.3%	0.2%	0.4%	0.6%	0.7%	1.4%	2.0%	0.5%	3.5%	8.1%	**0.8%**	**1.5%**	**0.9%**
30-50 years	82	8	17	2	105	22	30	9	73	7	**307**	**48**	**355**
turnover rate	2.2%	1.3%	0.5%	0.6%	2.6%	3.1%	4.9%	4.2%	10.6%	4.4%	**2.8%**	**2.6%**	**2.8%**
>50 years	72	5	38	2	85	13	18	2	23	1	**236**	**23**	**259**
turnover rate	1.9%	0.8%	1.2%	0.6%	2.1%	1.8%	3.0%	0.9%	3.4%	0.6%	**2.1%**	**1.3%**	**2.0%**
TOTAL	**166**	**14**	**69**	**6**	**220**	**45**	**60**	**12**	**120**	**21**	**635**	**98**	**733**
turnover rate	**4.4%**	**2.2%**	**2.1%**	**1.9%**	**5.5%**	**6.4%**	**9.9%**	**5.7%**	**17.5%**	**13.1%**			

Diversity, inclusion and multiculturalism

Hitachi Rail recognises that having a diverse workforce, where we create an environment of inclusivity for all to thrive, is imperative for sustainable growth and fundamental in building successful partnerships with our key Stakeholders groups. From our people, customers, and suppliers though to the communities we serve. All In line with our values of Harmony, Sincerity and Pioneering Spirit.

Diversity and Inclusion is a core focus across the Hitachi Group. Hitachi Rail works in collaboration with our colleagues in the Hitachi Diversity and Inclusion Development Centre, to build synergies, and achieve common goals and objectives.

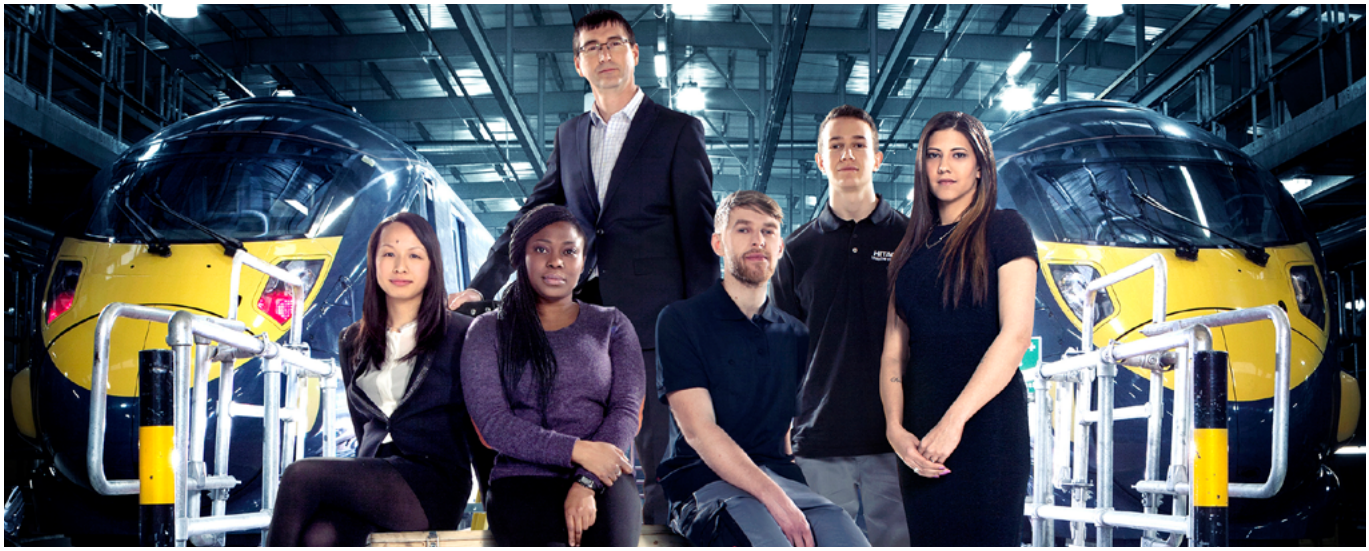
At Hitachi Rail our ongoing commitment is to improve Diversity and Inclusion for the benefit of all with initial attention on increasing gender diversity. A long-term ambition is to have parity of the percentage of female managers to female employees. Our next goal along this path is to achieve -75% ratio – the percentage of female managers to female employees by the end of FY24.

Given our commitments to Diversity and Inclusion, in 2020 the Company has created a role within the business, to deepen further our Diversity and Inclusion activities - across the whole of Hitachi Rail.

What does this include?

- Focussing on activities and development opportunities that address working equitably, inclusively and on merit only for all.
- Listening to our people and incorporating their feedback into our work as we move forward. Crucially, informing our people of actions and progress. To further engage on the topic and promote inclusivity.
- Visibility of internal vacancies for all – where applications are encouraged if skills and experience criteria are met.
- Recognising that different business areas have their specific challenges and address them accordingly.
- Having a continuous improvement approach to recruitment and selection to support our Diversity and Inclusion goals.
- Present Hitachi Rail externally in a clear and transparent way – using descriptions and imagery that our employees recognise.
- Working hard to promote Hitachi Rail as an employer of choice for target talent across all our recruitment channels.

In recent times, Hitachi Rail has gone through extensive change. Therefore, there is much to do in providing a consistent approach across the whole of the business, in terms of Diversity and Inclusion. However, Hitachi Rails fully recognises the need to do so and relishes the challenge that is been presented . We will continue to focus our efforts to achieve our goals. In terms of the diversity of our people and thought, in the most inclusive way.



Hitachi Rail continues to strive for a diverse workforce that is best-positioned to deliver for its customers and the communities it represents Hitachi Rail regards personal differences such as gender, nationality, race, religion, background, age, and sexual orientation – as well as other differences – as facets of people's individuality. By respecting employee individuality and understanding them as an advantage, Hitachi Rail frames its diversity and inclusion as conducive to both the individual's and the company's sustainable growth.

Hitachi Rail continues its commitment to provide a fully inclusive approach to all its employees by having clear and transparent processes and support in terms of development, opportunities and well-being.

Gender diversity is a key focus – in the last 12 months the Company has seen the female workforce increase by 0.5% outside of Japan in terms of the percentage of all employees, while in growth terms our female population has increased by 10% outside of Japan.
Highlights of the last 12 months include:

- Training in terms of communication and use of simple English – particularly with regards to how to work effectively in a virtual world due to the global pandemic.
- Full visibility of internal vacancies for all.
- Creation of consistent recruitment processes across Hitachi Rail.
- Consistent talent development plans for all.
- Internal and external promotion of "Women in Hitachi Rail" in conjunction with International Women's Day.

In addition, in the UK, Hitachi Rail is a signatory to the Railway Industry Association (RIA) EDI charter. However, as Diversity and Inclusion is seen as intrinsic to business performance, a continuous improvement approach is taken to all activities.
Over the next 12 months, Hitachi Rail will monitor results against key performance indicators closely. Key projects anticipated include:

- Undertaking a survey of female employees on their views of working at Hitachi Rail. This will further inform the strategic and tactical approach to hire and retain women.
- Developing training materials on the topic of unconscious bias to further build a culture of inclusivity.
- Deepening the focus on mentoring to support the development of employees.
- Targeted recruitment activity.
- Build our Employer Brand to fully reflect the diversity of Hitachi Rail.

Training and performance appraisal

In FY20 Hitachi Rail commenced an activity aimed at building an integrated framework of learning processes. As a first step a consolidated global learning needs analysis process was undertaken to capture the competence demand. This was done in order to address the global business

targets and requirements following Hitachi Rail global integration.Through 2020, the pandemic affected several activities in the training plan, reducing access to face-to-face opportunities. Despite this new challenge, a significant effort in virtualising learning initiatives allowed us to continue to maintain our training agenda for people working remotely in the new global/matrix environment.

Global initiatives for Remote Working for all employees and an extension of dedicated managerial training on remote management (MCR: Motivate, Communicate, Reciprocate) have actively promoted international collaboration. Other specific training such as “Working in international teams”, or “Managers series” have also been delivered.

“On board Hitachi Rail” programme has been promoted to all employees and new starters, through the curation of content and e- learning resources, to improve their awareness of the full group, its capabilities and ambition. The “On board Hitachi RSBU” programme has been promoted to all employees and new starters, through the curation of content and e-learning resources, to improve their awareness of the full group, its capabilities and ambitions.

Technical and professional training has also followed the same path when possible, allowing the completion of the digitalisation and standardisation of competence certification management

for Newton Aycliffe facility, as well as implementation of BIM (Building Information Modelling) or GPLM (global product life cycle management) projects an initiative aimed at integrating different competency frameworks to reach business needs has also started in Italy, as well as training and professional certifications for the Purchasing department.

Our E-Learning course catalogue, including contents related to digitalisation and innovation (Agile, Big data) and project/risk management initiatives has also supported the business.

The ongoing Localisation of Key Competences (LKC) Programme was launched in July 2020 through a global internal job posting open to all employees. A structured selection process was established and initial candidates identified. A contingency plan was developed due to the pandemic, adopting a modular/flexible approach. LKC makes strategic, hard-to-find, competences available to business, thus increasing the global internal skills and effectiveness and expanding a knowledge sharing culture.

The Programme is based on structured competency mapping, cross-analysis and has a "On the Job" approach to learning which encompasses a combination of learning by doing, traditional learning formats, direct observation, practical experience, as well as conducting testing and providing active support to project teams.

TOTAL HOURS OF TRAINING BY GENDER AND REGION

	31.03.2021												
	ITALY		JAPAN		EMEA		USA		APAC		TOTAL		
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	TOTAL
31.03.2021	42,862	9,065	241,867	39,912	37,044	5,566	14,665	4,523	9,987	1,296	**346,426**	**60,362**	406,787
31.03.2020	54,700	8,162	166,401	21,589	50,138	7,319	10,258	3,225	6,505	1,980	**288,002**	**42,275**	330,277

AVERAGE HOURS OF TRAINING BY GENDER AND REGION

	31.03.2021												
	ITALY		JAPAN		EMEA		USA		APAC		TOTAL		
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	TOTAL
31.03.2021	10.7	12.9	73.4	129.2	12.8	9.9	19.5	18.9	13.3	7.4	**29.6**	**30.4**	**29.8**
31.03.2020	14.5	12.9	52.9	72.9	18.0	14.0	16.9	15.2	9.5	12.4	**26.2**	**23.2**	**25.8**

HOURS OF TRAINING PER CONTENT	31.03.2021	
Technical-specialist training	166,848	41.0%
Language training	85,351	21.0%
Managerial training	11,332	2.8%
EHS. Quality	12,903	3.2%
Mandatory/institutional training	27,307	6.7%
Refresher training	14,851	3.7%
Human Rights and Ethical Aspects	14,518	3.6%
Other (induction paths….)	73,677	18.1%
TOTAL	**406,787**	**100.0%**

The Performance Appraisal process is owned by each employee and line manager and facilitated by the HR department.

The aim of the Performance Management process is to:

- Give a clear vision of the Company strategy.
- Empower people through simply defined goals, clear and shared performance expectations, continuous feedback and coaching.
- Assure performance planning and, at the same time, ensure a flexible approach to the changing context.
- Support a culture of continuous improvement, with regards to both results and productivity, on the basis of current and future business needs.
- Consistently support other areas including professional growth, career development, succession planning and compensation.

The process consists of three phases: goal setting; mid-term review and final review that, in FY20 was managed in the same tool (HiNext) for the whole RSBU.

Furthermore, for FY20, the Final Review phase was globally calibrated to ensure alignment amongst the evaluation process whilst taking observing cultural peculiarities. This new phase gave the opportunity to the next-level managers to review the performance ratings of their own teams, supported by their regional HR referent.

The completion rate for the GPM Process is 95% of eligible employees.

A common and integrated Hitachi Rail Performance Appraisal process represents one of the main pillars of the new Talent Management Framework, as does the launch of the Group Talent Review Process, both of which aim to align business' goals with the characteristics, behaviours and aspirations of each individual with both current and future business challenges in mind.

The Talent Review process aims to:

- Promote a performance and a development-oriented culture in the organisation.
- Identify suitable actions to be implemented for the enhancement of people's talents.
- Identify talented people at all organisational levels.
- Develop people by defining adequate Development Plans / Actions to support their growth.
- Retain talents, ensuring continuous improvement of skills and supporting motivations.
- Evaluate: each eligible employee is evaluated on the basis of the overall performance and their overall potential.
- Calibrate: enables the distribution of ratings to be balanced at global level. This phase has been managed simultaneously with the GPM one, in order to provide managers with the opportunity to focus and discuss the accomplishments (GPM results) and strengths and development needs of their collaborators and teams (Talent Review) at the same time.
- Create Development Plans: aimed at enhancing people's growth.

The completion rate for the Talent Review Process was 92% of eligible employees.

Employee Engagement

As a way of measuring levels of employee engagement, every year around September/October, Hitachi conducts a Group Company Survey, which is called Global Hitachi Insights Employee Survey.

The survey is administered online via an external vendor. It is available for all Hitachi employees to take in 14 different languages and individual responses are anonymous. Some of the main focus areas are:

Clarity of Direction, Manager Effectiveness, Empowerment, Pride in Company, Continuous Improvement, Teamwork, Recognition and Reward, Recourses and Support, Development and Opportunities for Advancement, Leadership, Communication, Engagement, Mid-term Management Plan, Culture.

The aim is to identify key strengths and opportunities, to improve productivity and help leaders analyse and communicate the results, as well as working together with team members to develop and implement plans that will lead to enhancing employee engagement and ultimately improve team performance.

In 2020, Hitachi Rail launched the initiative as One Integrated Hitachi Rail Business Unit for the first time. Approximately 12,700 Rail employees were invited to participate across all legal entities with an average response rate of 86% achieved.

Some of the most favourable scores were “Covid-19 response measures”, “Pride in the company” and “Team work”. The Engagement Index also increased by 3.2% compared to the previous year.

Based on the survey results, around 800 managers across the rail group have been working on action plans with their teams. The senior leadership team has been working to implement actions in response to feedback across the Rail group in order to address the identified areas of improvement.

CSR&S e-learning

Hitachi Rail believes that the impact on culture and training for the issues of sustainability and corporate social responsibility must be continuously cultivated. Sensitivity, personal progression on the issues of climate change, and the ways in which each of us can contribute directly, are a precious value both for individuals and for the whole community and company. For this reason, with respect for cultural diversity and engagement, Hitachi Rail has also become a promoter and innovator in internal training. After an internal communication process, the company presented the first global new e-learning course on UN Sustainable Development Goals.

Amplify the internal Culture as Climate Change Innovator

4 Cartoons boards (presented on monthly basis with articles on intranet)

4 boards of about four strips each. The children continue their trip, and each of them becomes attached and interested in a specific GOAL. They gain experience and then arrive at a generic Hitachi Rail production site, where trains and signalling are made.

1. The children head towards the Metro station, they notice:

- traffic,
- smog (grey colors)

and comment thinking about possible solutions and what it would do to live better

2. They get on the train and notice:

- automatic ticketing
- a nice new train
- ecological interior materials and comfortable spaces

3. Still on the train they notice the digital systems to control it.

They get off the train and see a way with less smog (more colours). They notice bicycles and scooters, micro mobility, and in the background the entrance to the Hitachi factory

4. They finally enter Hitachi's smart factory.

Cleaning, organization, diverse workforce, use of digital systems and robots, are all important details that children experience, always commenting according to their personal sensitivity for the single UN goal

Think responsibly, act sustainably

The aim of this call on our heritage, our spirit of collaboration and our technology to do better for generations to come is for a new 'human-centric' society, which grows like a child, that discovers a world in continuous evolution and also the world that previous generations have left.

For this reason, Hitachi Rail will continuously explain the meaning of fundamentals of Sustainability, SDG and CSR.

The course is available in four languages, for all Hitachi Rail employees. It has an intriguing and engaging approach that leads to the deepening and discovery of the needs and commitments for a real change in the way of thinking and living.

Internal communication

Hitachi Rail's internal communication strategy is linked directly to the Strategic Objectives of the Global Rail Strategy. It is set up to connect employees with their shared direction and purpose and keep them up to date with business achievements. It also recognises and celebrates the part that employees play in business success.

Its role is to enable employee engagement by promoting health and wellbeing, recognition and reward, professional development and demonstrating that the business acts on employee feedback.

There are many activities supported by the internal communication team at group and regional level:

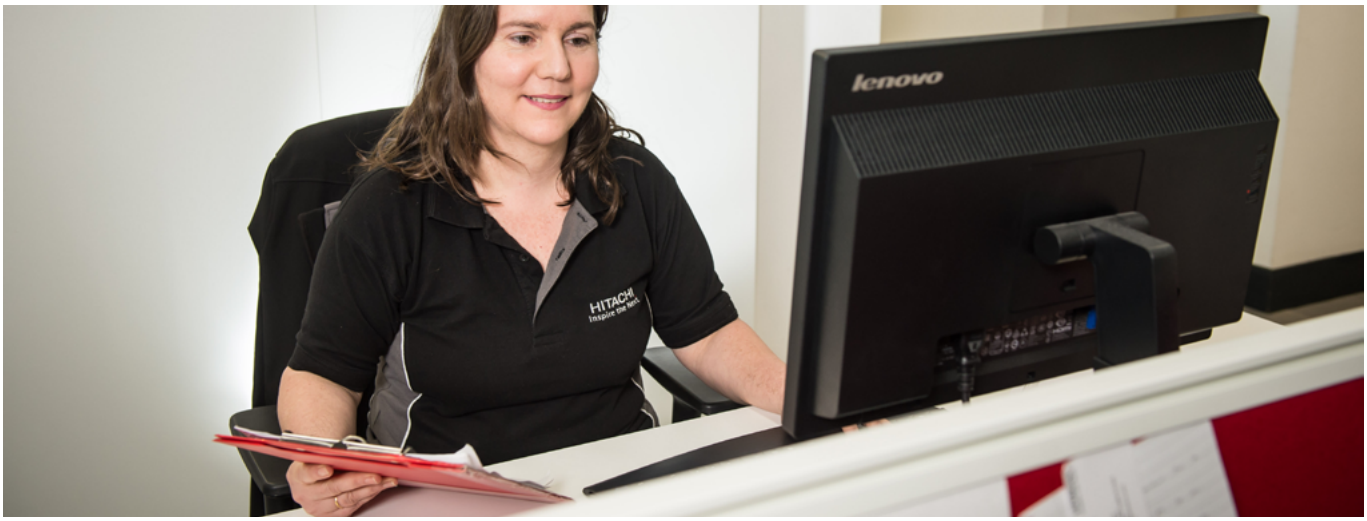
Ongoing HR engagement campaigns: such as Hitachi Insights Survey, Diversity and Inclusion, Innovation, Learning and Development, Organisation Development, Hitachi Rail Values Awards and Employee Wellbeing.

Senior leader announcements to all employees: maximum reach, leadership moments, reactive and planned. Project updates: news about contract wins, project milestones and delivery to customers.

Senior leader announcements to all employees: maximum reach, leadership moments, reactive and planned. Project updates: news about contract wins, project milestones and delivery to customers.

Multiple channels are used, in up to five languages, recognising the diversity of Hitachi Rail's people. They are:

- COSMO: A global intranet accessible to all Rail employees: updated regularly with one site dedicated specifically to Sustainability and CSR topics.
- This Week on COSMO: Weekly email to all employees with links to latest COSMO news.
- Regular video announcements and written messages about Strategic and Engagement themes.
- Digital display screens at production sites for employees without regular access to PCs.
- Large scale video conferences with senior leaders.
- Employee App: two way communication with polling and real time alerts mechanism.



People Care

The "People Care" concept applies to employees' wellbeing as both professionals and individuals. Generally, People Care is linked to Hitachi Rail's "Total Reward" strategy, based on tangible and intangible measures to improve staff satisfaction and to create a working environment where employees can continuously gain experience, develop skills, forge relationships and find motivation.

The programme aims to guarantee a comfortable and motivational working environment by actively supporting relationships between managers and employees and relationships between colleagues.

Furthermore, there are various support services available in different countries for both part time and full-time employees and, in some cases, their families as well. For example, flexible schedules that allow work-life balance, special arrangements with local entertainment and sports centres, benefits such as health insurance, accident insurance, company car, employee scholarships, corporate welfare, canteen and breakfast areas, and celebrations of successful projects are just some of the tools used and they vary across regions.

2020 was unique in that we were challenged with enhancing the "People Care" concept to a greater level to ensure our employees utmost wellbeing during the Covid-19 pandemic. This touched everyone around the world to varying degrees at different points in time. As a global company with presence in many countries, we needed an approach that would ensure measures were robust and consistent in ensuring our employees wellbeing whilst also responding to each country's Covid challenge at the right time (and respecting government guidance/ Covid-19 laws).

A global taskforce was put in place consisting of senior representation from key functions - the aim was to achieve business continuity whilst ensuring not only significantly enhanced health and safety, but also wellbeing measures that would protect our employees as much as practicably possible. The most obvious measure was for employees to work from home, where possible.

However, this was not where it ended. Resources and guidance were established to support employees/managers in making this transition with a focus on mental health and assuring more than ever that sufficient rest/breaks were taken as a concerted effort to ensure that a distinction between work and home was achieved.

Asia Pacific - Employee initiatives (Australia)

In Australia, the creation of the Health and Wellbeing Committee has led to significant improvements in employees' work-life balance. The Committee – a work group formed of volunteers from various departments and supervised by a local HSE manager and the local HR Manager – meets once a month to discuss initiatives and measures to improve employees' wellbeing and, with the support of the company (including the provision of a budget), promotes events and initiatives on health issues in connection with local traditions.

Some of the initiatives are:

- "R U OK?" Australian Day to raise awareness on the importance of mental health and to remind of the importance of caring for each other's wellbeing. The event in particular was designed to remind employees how dialogue with colleagues, friends and family can help to overcome difficulties.

- National Harmony Day. Celebration of cultural diversity as a wealth of Australia. Virtual and Covid-19 safe site activities where employees were encouraged to wear their traditional dress and share fun facts about their cultural heritage. Posters were also displayed in the office to encourage exchange and engagement.Work Life Balance workshop organised by the Health and Wellbeing Committee in collaboration with Learning and Development and the EAP provider on the reconciliation of life and work balance initiatives.
- The “MCG” Program (Mindfulness, Care and Gratitude) - A wellness initiative that involves toolbox talks, whiteboards placed at office sites for staff to share their MCG experiences/ideas, amongst other initiatives and competitions aimed at providing staff with hands-on strategies to take personal action for improving wellbeing and happiness, focusing on the pillars of Mindfulness, Care and Gratitude.
- White Ribbon Day. Awareness and fund-raising initiative in aid of violence against women.
- Morning Connections. Meetings respecting Covid-19 safe regulations among staff groups from different departments, enjoying a morning tea.Wear Red Day (Brisbane). Fundraising day for heart disease research.
- Cancer Skin Checks (Karratha project site). Australia has one of the highest rates of skin cancer in the world. More than 50 employees underwent a medical check-up.
- Bike to Work Day (Brisbane / Perth). Staff who were interested in fitness, health and wellbeing took part in Bike to Work Day.
- Fitness Challenge. Staff were encouraged to walk, run, swim or cycle to reach the 1,000 km goal in 31 days.
- Table Tennis Tournament (Brisbane / Perth).
- In addition, the Australian Offices count with dedicated office space in their facilities for people care. A room that serves as a mixed faith/silent space. Staff are welcome to use the space for silent prayer, meditation, yoga, to rest if feeling unwell and to perform first aid if ever needed. These facilities are also used as the location for employees to have their annual skin and health check.

Asia Pacific - Employee initiatives (India)

Hitachi Rail’s India Social Committee is an employee engagement initiative that aims to plan, organise and implement social events for the company throughout the year.

Their mission was to bring more engagement and enthusiasm to the workplace, ensuring entertainment and participation in staff events, enriching employee interactions, networking between different office locations in India and much more.

- Weekly motivational /Inspirational email from Social committee to all employees.
- Holi festival celebration: Festival of colours celebration.
- Earth day poster competition.
- World Environment Day celebration by carpooling to office.
- Movie Time: watching movies with colleagues and increasing the understanding between employees.
- Diwali (Festival of Lights): Festival of Lights celebration by Rangoli computation.

In India, where Covid-19 pandemic effects were rather severe, additional efforts and attention was given to improve the already existing Group Insurance coverage (which among others provides employees access to company funded health and medical services), with the provision of additional Covid-19 specific Corporate Insurance Plan, covering employees and family members for a range of services including Covid-19 Inpatient Hospitalisation, Home Care Treatment, Road Ambulance and others. In addition, Oxygen concentrators were purchased and made available for staff use, when required by their Medical Practitioners and support was offered to staff members willing to join the Country Vaccination campaign, via the reimbursement of vaccination costs incurred by staff and family members.

Asia Pacific - Employee initiatives (Malaysia)

Just like in every other country of operation, in Malaysia, our employees' health and safety is paramount. Hitachi Rail Malaysia employees are covered under a range of "top market" people insurances. Corporate Plans which not only offer our employees and family members the chance to enjoy high level medical & hospital care, but also covers staff members for more stringent cases under our group Term Life Policy (including Total Permanent Disability & Partial Permanent Disability), Accidental Death & Disablement Policy and Critical Illness Policy.

In addition, a number of staff engagement and people care initiatives are performed every year. Among them in the past period, focus was given to the "In house screening program" which was offered to employees on a strictly voluntary basis. The screening included full blood / urine test, ultrasound scan, body composition analysis and dietary briefing. The objective was to ensure employees understand their personal health condition and how to eat properly.

Asia Pacific - Employee initiatives (Greater China, Taiwan and S. Korea)

In Greater China, Taiwan and South Korea Hitachi Rail sponsored some initiatives in 2020/21 aimed at benefiting our employees, their family and society. Below are the main initiatives across the region:

- Employee Social Committee: where employees discuss initiatives/measures and perform monthly activities to improve employees' wellbeing (book reading / chess context / etc.).
- Annual all employees meetings: Functional Managers / Department Heads share overall status of the activities being performed in their department, their current projects and future strategy. Employees are given the opportunity to ask questions
- and engage with and participate in the business plan. Event was held physically under a Covid-19 safe plan and remotely with staff attending from various locations.
- Christmas Lunch: Team-building event to celebrate team efforts and accomplishments in the year.

Europe & Middle East - Employee initiatives (UK)

In the EMEA Region, Hitachi Rail sponsored many initiatives in 2020 to benefit employees, their families and their local communities, below are just some of the main actions in UK:

- Mental health awareness week – focused on a different area of wellbeing each day with links to internal and external resources.
- Male Health workshops – run on site and virtually, men-oriented workshops focusing on the five biggest preventable killers of men.
- Responder workshops – delivered both on site and virtually – manager mental health training that also explores own stressors, triggers and coping strategies.
- Thrive workshops – delivered on site and virtually – open to all. Help you to thrive inside and outside of work. Explores stress and resilience, triggers and strategies.
- World Mental Health Day – encouraged teams to start the conversation with 'this week I have felt….'cards. Sign posted to support services available. Also delivered a workshop where two senior leaders talked about their own mental health battles.

- Suicide Prevention Day – wallet cards handed out with the EAP (Employee Assistance Programme) and Samaritans number on. Promoted Samaritans well-being toolkit and self-help app.
- Partnered with Samaritans to raise awareness and funds. Employees took part in the Samarathon campaign to walk a marathon in the month of July.
- Trained new Mental Health First Aiders – now approx. 65 across all sites
- Take a Breather – helping leaders to support their teams in these changing and challenging times.
- Monthly wellbeing bulletin – distributed site wide with monthly wellbeing topics and links to internal and external support services.
- Health check days – BMI, blood pressure, cholesterol level with onward referral to GP where needed across all sites.
- Flu Vaccinations vouchers offered to all employees in October 2020
- Wellbeing area – launch of the wellbeing area on The Source giving everyone access to support at work or at home.
- Newton Aycliffe' facility achieved Continuing Excellence for the Better Health at Work Award

Europe & Middle East - Employee initiatives (France)

- "Happy Trainees" label was awarded for the seventh time – rewarding excellence in the welcome and support of students in businesses. 93% of Hitachi Rail trainees and apprentices recommend the company to their network appreciating diversity of projects, quality of missions, the start-up spirit and evolving possibilities.
- Active partnerships are established focused on diversity to increase women's awareness of technical jobs, to support underprivileged communities in terms of access to higher education and job opportunities as well as those with disabilities.
- Mobility Challenge at the Riom plant to promote and raise awareness of alternative modes of transportation to cars.
- Active partnerships with "Elles Bourgent" Women's campaign to increase awareness of jobs that have a low proportion of women.

Europe & Middle East - Employee initiatives (Saudi Arabia)

- Saudi national day - Saudi Arabian National day is always celebrated on September 23rd; giveaways are distributed to the employees, which contained the Saudi flag and brooch with the Hitachi logo next to the Saudi flag.

Europe & Middle East - Employee initiatives (Abu Dhabi)

- Pink Day: Everyone wears one pink item for a day in solidarity for the women suffering from Breast Cancer.
- Board Game Meetings. Team gathers in the meeting room to have a fun quick game to lessen tensions and stress at the workplace and build stronger connections through communication and engagement between all the various units.
- Question day. Employees are encouraged to ask one question about Hitachi, to promote learning in the workplace.

Italy - Employee initiatives

In 2020/21 Pandemic restrictions as well as the integration process between the two Italian legal entities (Hitachi Rail STS and Hitachi Rail Italy SpA) offered an opportunity to further focus on caring for our employees.

We have continued many initiatives to benefit employees, their family and the society, below are the main examples:

- Corporate Wellbeing - a wellbeing plan is provided to all employees through a dedicated portal, called “Easy Welfare”. In line with the provisions of the national labour agreement for the industry, it offers numerous services and possibilities to choose from including some tax advantages and social security benefits.
- Recreation Centres - employees have recreation centres, referred to as “CRAL”. These are a form of free association for workers and are separate to the Company. Employees who join as members may participate in a number of activities and take advantage of discounts at partnering companies (e.g. bookshops, opticians, theatres etc.)
- Women’s day: March 8th is Women’s day and to observe this the company donated to “Associazione Onlus”, a non-profit association that takes care of women in need.
- KIVA Donation: Before the Christmas holiday the company usually organises a Christmas party across all sites for employees to celebrate the company’s achievements and receive some gifts. 2020 was different due to Covid-19 in that employees could not come together in the same way and as such, the budget for this celebration was donated to the KIVA foundation, an organisation that provides loan funds to under-served communities

around the world, helping small businesses strengthen their communities, create jobs, scale innovative social solutions and drive sustainable economic growth.

- Work-life balance: The concept of “smart working” continues to be successful in Italy with all sites participating. During the fiscal year, a new way of working was set up to leverage cultural development and maximise flexibility according to both people and business needs. Smart working took on a completely new meaning during 2020 due to Covid-19 with more employees working remotely and of those that could work from home, adjusting to doing so full-time with the support of the company and their managers.
- Covid-19: As Italy was one of the first regions to be hit by the pandemic, early measures were put in place as well as continuous support to take care of all employees and managers with limited business interruptions. The company has also provided health insurance to cover Covid-19 expenses for all employees.
- Service awards given to senior employees with over 25 years.
- Every year the company participates in the “Stelle a merito” award programme in recognition of employees with long service and great achievements.
- Project “Va.Bene.” – designed during the fiscal year, aims to give 360 degree support to employees and their families, offering a wide range of services from counselling to tax and legal advice.
- Covid-19: during 2020 HR worked in close conjunction with SHEQ to prepare for a vaccination programme that would rollout in 2021 to accelerate the process so that employees did not have to wait too long to be contacted via the national medical route.

USA - Employee initiatives

Both Hitachi Rails STS USA and Hitachi Rail USA Inc typically sponsor many initiatives to benefit employees, their families and society. 2020 has been more limited due to Covid-19. The below reflects initiatives for 2020:

- Treasures for Children Programme: In previous years, Angel Tree Employees provided gifts of toys for the Holiday season to individuals and families in need via the Salvation Army. Due to Covid-19 they were unable to do this in the usual way and as such for 2020 the company donated to the Salvation Army.
- Veterans' Day: Day to honor those who are serving and, have served the country in the armed forces.
- Wellness Series: Wellness facilitator introduces ways to live a healthier life.

JAPAN - Employee initiatives

In Japan the initiatives for 2020 to benefit employees, their family and the society were as follows:

- For the 100th anniversary of Kasado works, a Kasado history museum was opened bringing together the 100-year history of manufacturing power in Kasado. Shinkansen vehicles are displayed at a memorial hall for employees and their families to see and feel the history and Kasado pride. The company may consider opening it to the public post pandemic.
- Work-Life balance: The company has implemented flexible working, accelerated through the new work style reform committee on each site in Japan.
- Covid-19: The company continues to support employees in preventing the spread of Covid-19 in both personal and work life, and recommends work from home, where possible.
- Awards: The company has year-end awards and monthly Most Valuable Player (MVP) awards to continuously recognise employees who have contributed to projects and the business every year.

Mobility

Covid-19 has had a devastating impact on travel. 2020 saw a dramatic reduction in business travel thus decreasing volumes and transactions.

Despite the reduction in travel, progress was still made in terms of digitalisation during 2020. Hitachi Rail has finalised the implementation of self-booking tools in France and the United States. Furthermore, it has been preparing to implement these tools in Australia for the next fiscal year. When travel increases this will make our process more efficient and sustainable.

MOBILITY OF PEOPLE	Unit	FY2018	FY2019	FY2020	Var % FY19-20
TOTAL short haul flights	Km	29,392,124	26,149,323	5,079,878	-81%
TOTAL long haul flights	Km	62,216,059	61,043,029	6,934,071	-89%
TOTAL	**km**	**91,608,183**	**87,192,352**	**12,013,949**	**-86%**

Hitachi places high importance on Sustainability. Priority is given to green hotels in the hotel directory and to environmentally conscious airlines.

Even in fleet management, the Company gives priority to sustainability: this year it has started a pilot project in Italy with the new car policy focusing on green cars (hybrid and electric), green benefits, incentives for those who choose green cars and next year each Hitachi Rail site will be provided with electric charging points.

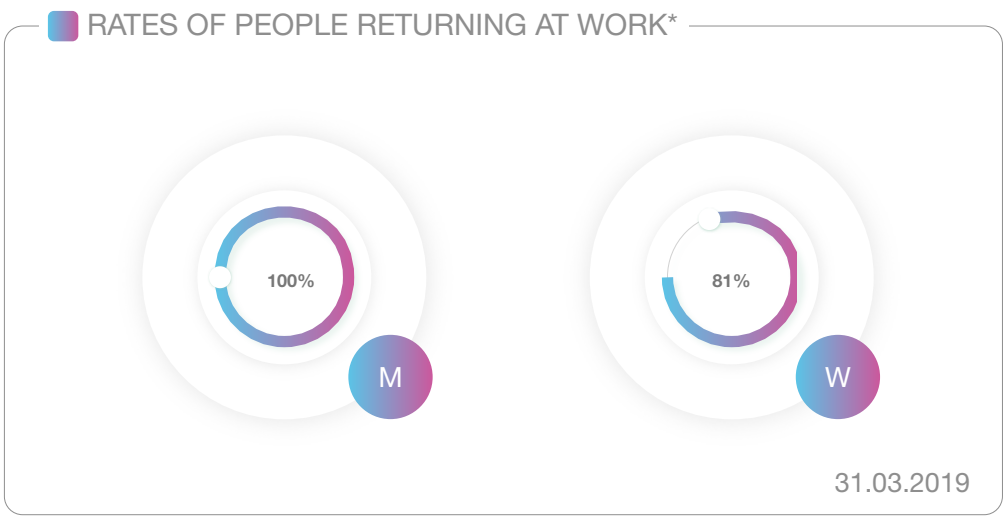
Travellers' safety and security is a fundamental theme heightened more so by the pandemic. All travellers are covered by health insurance and provided with necessary assistance for the understanding and assessment of risk related to the social, political and health situations in all countries. This ensures the immediate protection and safety of employees.

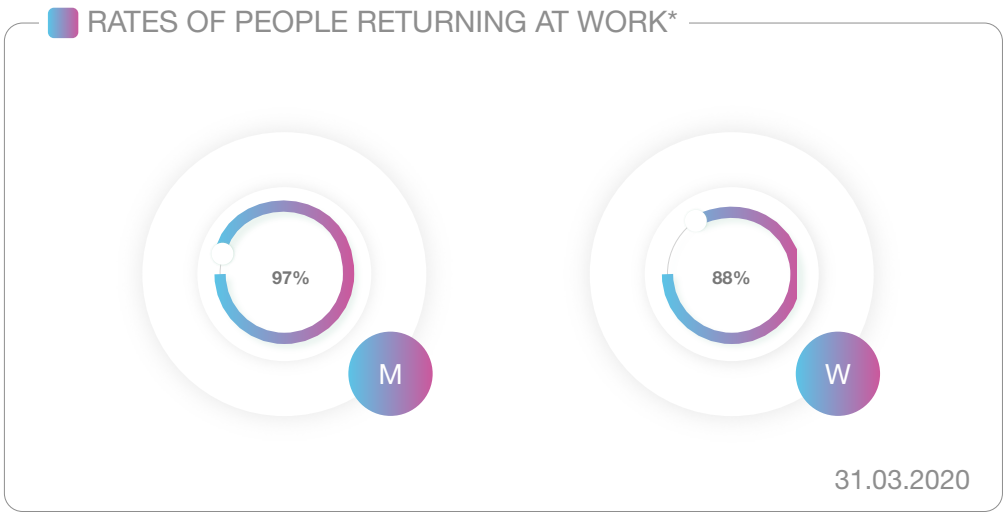
Parental leave

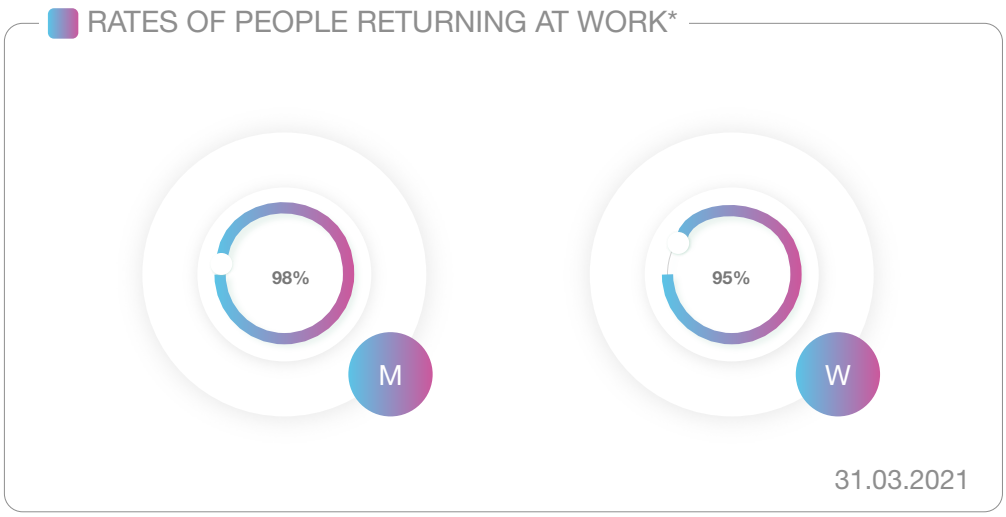
Hitachi Rail grants parental leave in accordance with legislation, collective agreements and company policy.

PARENT LEAVE	31.03.19		31.03.20		31.03.21	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
Total number of employees that were entitled to parental leave	9,944	1,685	9,976	1,675	9,157	1,397
Total number of employees that took parental leave	77	117	87	105	141	63
Total number of employees that returned to work in the reporting period after parental leave ended	77	95	84	92	138	60
Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work	69	84	68	87	134	64

The return to work rates are shown in the following table:







*The rate is calculated as the number of people returning to work in the year compared to the number of periods of leave granted in the same year. It was not possible, in the calculation, take into consideration the leave granted in a year whose re-entries took place the following year.

Protected categories

The policies for the inclusion of people with disabilities are defined by relevant country laws.

In Italy, Law no. 68/99 introduced the key concept of “targeted” employment, defined as “a set of technical and support tools which make it possible to adequately assess the working capabilities of people with disabilities. Successful appointments are made by analysing positions, forms of support, positive actions and solutions to issues related to the work environment, tools and interpersonal relations that a person would experience in the role.

In Japan, the law mandates that a certain percentage of the workforce must constitute people with disabilities. Hitachi Rail provides opportunities and positions both in office-based and in Production.

The table below shows the total number and percentage of the workforce represented by people with disabilities in Central and Eastern Europe, the Middle East and Western Europe.

PEOPLE WITH DISABILITIES BY REGION	31.03.2021									
	ITALY		JAPAN		EMEA		USA		APAC	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
People with disabilities	66	24	NA	NA	9	11	NA	NA	NA	NA
% of total workforce	1.6	3.4	NA	NA	0.2	3.7	NA	NA	NA	NA

In the United States, it is common practice for customers to require the mandatory allocation of a percentage of the contract to DBEs (Disadvantaged Business Enterprises), which are regulated by federal and state departments. Each DBE must be certified by the relevant Transit Authority. To meet its contractual obligations in the US, Hitachi Rail has identified and vetted various DBEs with which it may now operate in order to meet the quota required by the contractual targets. In general, this includes training employees of DBEs to carry out the work usually performed by Hitachi Rail employees in line with labour standards.

Remuneration systems

Hitachi Rail manages employment relationships with its employees in accordance with the laws in place in the various countries in which it operates. The employment terms set forth in individual contracts are usually more rather than less favourable to employees than those defined under general labour legislation or collective agreements.

Furthermore, Hitachi Rail periodically evaluates organisational positions through the contribution of specialist companies in the field, and compares its own remuneration policies with those of the reference market, considering the weighting of the position.

Hitachi Rail has defined a total reward framework strategy to include the design, standardisation, implementation and communication of pay and benefits to ensure it is embedded in the RSBU's ways of working and organisational culture, to include market analysis and best practices.

Hitachi Rail can establish higher levels of remuneration compared to the general market for positions that are particularly critical and important to the business to avoid the loss of expertise.

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RATIO OF BASIC SALARY OF WOMEN TO MEN	31.03.2021				
	ITALY	JAPAN	EMEA	USA	APAC
	WOMEN /MEN	WOMEN /MEN	WOMEN /MEN	WOMEN /MEN	WOMEN /MEN
Executives	0.94	-	-	-	1.06
Middle management	0.97	0.93	0.89	0.81	0.80
White collar	0.88	1.00	0.96	0.83	0.92
Blue collar	1.00	0.88	0.96	0.84	-

Performance-based incentive systems

Hitachi Rail is committed to providing a reward system that recognises employees' performance against both individual and global objectives and encourages participation in the wider success of global business objectives and financial results.

Employee relations management

At Group level, as of 2020, Hitachi Rail has various existing formal agreements with the trade unions in the countries concerned and the relationship is generally positive in every site.

Furthermore, in February 2021 the procedure for merging the two Italian entities completed and both relationships and negotiations with trade unions to this effect is ongoing with initial focus on smart working given the pandemic.

The positive relationship that Hitachi Rail maintains with its employees and unions is reflected also by an extremely low rate of trade union disputes. Generally speaking, this context often leads to the resolution of any issues with employees internally, in a cohesive cooperation with trade unions, maintaining a context of general cooperation.

The total number of employees covered by national labour agreements, where different types of trade union negotiation is applicable, is shown below:

EMPLOYEES COVERED BY COLLECTIVE LABOUR AGREEMENTS as at 31.03.2021	31.03.2021									
	ITALY		JAPAN		EMEA		USA		APAC	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
Executives	92	9	29	0	24	0	0	0	0	0
Middle management	449	81	746	20	41	5	0	0	0	0
White collar	2,052	546	1,656	252	1,203	396	0	0	42	1
Blue collar	1,351	60	863	37	1,603	158	14	1	42	1
TOTAL	3,944	696	3,294	309	2,871	559	14	1	0	0

The percentage of employees covered by national labour agreements in Italy is 100%, while in the Europe, Middle East and Africa region the number is 25%. The percentage is minimal in Asia Pacific due to Hitachi Rail's ongoing efforts to invest in a fair work environment.

Occupational Health and Safety

Hitachi Rail is committed to providing a reward system that recognises employees' performance against both individual and global objectives and encourages participation in the wider success of global business objectives and financial results.

Hitachi Rail's Health and Safety policy is based on the application of the requirements of relevant standards, namely UNI ISO 45001, and other international standards, in compliance with national and international regulations. Hitachi Rail's plan is focused on continuously improving health and safety standards.

For Health and Safety, Hitachi Rail undertakes to:

- ensure and maintain a safe and healthy workplace environment and prevent injuries, illnesses or damage to the health of employees, suppliers, customers and visitors.
- Extend UNI ISO 45001 certification to all Hitachi Rail sites, continuously improving the effectiveness of the Health and Safety in the workplace Management System;
- Continuously improve the aforementioned management systems' performance, not only with respect to the prevention of injuries and work-related illnesses, but also in terms of more general employee wellbeing.
- Adopt risk assessment criteria for all hazards relating to work activities which, in compliance with national and international legislation, also consider best practices;
- increase the training and information activities for all employees in order to make them more aware of the risks related to their activities.
- Continue developing activities to spread a culture of safety with all suppliers and concerned parties.

This policy is shared with all Hitachi Rail personnel and all Stakeholders online and via the company intranet. The initiatives adopted by Hitachi Rail to promote employee welfare in the workplace are adequate to risk assessment (e.g. analysis and monitoring of working activities, including the nature of the work, equipment, workspaces, personal and collective protective measures, technical infrastructure and contractual issues, both for internal and contracted tas.

Activities and results

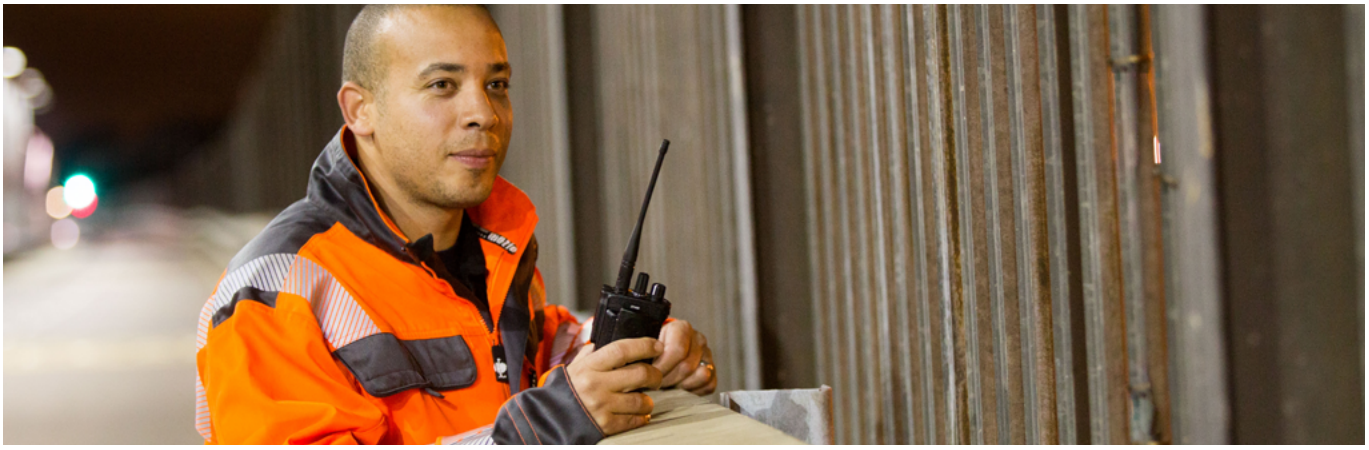
Health and safety performance indicators are monitored and analysed over time, and used to set objectives by breaking them down by risk factor and location.

Safety is therefore a vital element for Hitachi Rail and a value for all workers, as they contribute every day to the safety for end users as concerns products and services.

In order to acquire the information needed to continuously improve injury frequency and severity rates, in accordance with the Health and Safety Policy, Hitachi Rail also tracks the so-called near misses (accidents without consequences that arise out of undesired or unforeseen situations that could have put people at risk), in order to gather and analyse data and information and identify potential solutions in advance.

The main initiatives that have been carried out in this respect include:

- implementation of the procedure to manage accidents and near misses at the global level: Hitachi Rail has created a procedure to provide information on how to correctly manage events entailing injuries, accidents and near misses. This procedure is a valid prevention and information management tool for statistical purposes, to identify the causes of an accident and to meet legal requirements relating to Health, Safety and Hygiene in the workplace. Central to this is learning from incidents.



INJURY INDEXES	31.03.20	31.03.21
No. injuries sustained (with days of absence, excluding commuting injuries)	72	56
Injury frequency index (no. injuries/h. worked x 200,000)	0.56	0.46
Injury severity index (no. days lost/h. worked x 200,000)	0.28	0.51

- HSE reporting to monitor and gather information on the performance of activities carried out in relation to the application of SGS/SGA. These reports are prepared by all HSE officers at work sites.
- Safety meetings for all main work sites. ks).

Social Innovation

Social Innovation starts with an idea – one simple thought that has the power to change the world. Hitachi Rail's Social Innovation, through a unique co-creation business paradigm, has always set itself the goal of creating technological innovation to improve people's quality of life and achieve a sustainable society, helping to solve global social and environmental issues and achieving the Sustainable Development Goals (SDGs) set by the UN for 2030.

Hitachi Rail devotes constant attention to innovation, in order to identify and create advanced technical solutions and develop products of the very highest quality, safety and environmental standards.

Innovation management

Innovation begins with a problem that needs to be solved. Hitachi meets these needs with new technologies for designing solutions that can create a tangible and positive social impact, and a visible and persistent change.

Hitachi Rail manages its innovation projects by regarding them as plans or proposals aimed at providing solutions that can work. It creates a prototype with the project, and demonstrates how to implement the idea and achieve the expected results. This "scientific" approach allows it to assess the feasibility, costs, market and value of the solutions.
Therefore, social innovation for Hitachi is the way to:

- reflect on the impact that the technological innovations are making on society, by developing new solutions in the world of transport, industry, infrastructure, health and energy.
- Understand how advanced technologies can affect the development of smart communities by creating new and dynamic business models.
- Evaluate how the new technological solutions improve company management by adopting integrated processes thanks to the availability of additional data and information together with the customer and the Stakeholders.
- Discover how Hitachi Rail is taking part in virtuous systems to guide businesses, institutions and towns by adopting a collaborative approach and by integrating IT and Operational Technologies.

A team dedicated to innovation

In January 2019, Hitachi Rail created a team explicitly and exclusively dedicated to the theme of innovation, with a development plan covering the next few years, aimed at building a group of people working on innovation projects with dedicated budget and resources.

The team and its activities are built around a clear definition of the concept of innovation, given in The Little Black Book of Innovation by Scott D. Anthony:

“Blueprinting is an idea to seize that opportunity, and implementing that idea to achieve results: no impact, no innovation.”

This definition highlights how, in Hitachi Rail, innovation is based on a structured process that requires a rigorous approach, relevant needs and requirements, clear objectives and a well-defined set of activities to achieve them. Starting from the customer need, Hitachi Rail identifies a business opportunity that can be fulfilled. The best solutions (ideas) are identified, and alongside with them new technologies and competences required for their development are acquired, according to the logic of ‘open innovation,’ finally, the prototypes of these new solutions are developed to demonstrate their effectiveness in fulfilling the need. This creates a positive impact on the business and the community.

The following figure summarises the domain of the innovation team and where it is located – away from current solutions and business. As a result, it becomes a collector of opportunities, ideas and skills, delving into new technologies. The final objective is to create prototypes of new products and solutions that, transferred to the engineering and development departments together with the related new skills, can enrich the company’s product portfolio of tomorrow.

The Innovation team gives priority to those projects that best meet the sustainability requirements and the most innovative needs of Hitachi Rail’s customers and their own customers.

From this process, two important framework projects were created: “Zero Infrastructure” and “Services for Mobility (S4M).”

The “Zero Infrastructure” framework encompasses projects aimed at eliminating parts of the physical infrastructure such as servers and power and telecommunications cables alongside railway lines. This will allow Hitachi Rail to provide solutions with less equipment and consequently that consume less. In the case of physical equipment still needs to be powered, green alternative sources of energy are used together with batteries and capacitors. In addition to being greener, this solution also reduces the cost of operating and maintaining the railway.

The projects within the “Zero Infrastructure” framework are:

- study and design of alternative green power sources to power the signalling systems along the line.
- Study and design on the use of cloud computing in signalling and automation systems, including the implementation of Verification and Validation laboratories on the Cloud.
- Use of wireless communications to connect the signalling systems installed along the line with the central station.

The S4M (Services for Mobility) framework consists of projects with the objective to develop services aimed at improving the management of the public transport traffic, consequently increasing its attractiveness towards the passengers. S4M will enable the migration from private to public transport and so reduce the environmental contamination.

The projects inside S4M framework are:

- Study and design of a multimodal traffic management system in order to improve the management of the public transport traffic analyzing in real time the information coming from technologies that monitor the passenger flow.
- Design of door-to-door, multimodal services for passengers, which providereal-time information about the position and occupancy of the public transport vehicles, including the occupancy of the stations. With this information, passengers will be able to plan the trip in a more flexible way, which is a necessary condition of safe travel during the Covid-19 pandemic. These services will be provided via a mobile application, which will also integrate other services such as seamless ticket payment methods for public transport and parking.

Hitachi Rail is now collecting and analysing data regarding people flow on AMT buses in Genoa (Italy). This information will be used to support a flexible and seamless use of public means of transportation, increasing their attractiveness. During FY 2021 this pilot project will be completed, delivering a relevant application in the field of S4M, and will be extended to other means of transportation and further clients, to actively promote a sustainable mobility.

The Zero Infrastructure program can be regarded as addressing some of the most relevant SDG such as Goal 9, building resilient and sustainable infrastructures reducing waste, use of raw materials, energy consumption and, indirectly, use of land by reducing the need at our clients' sites for dedicated space for our equipment. The S4M program on the other hand mainly focuses on Goal 11, by making transport systems more attractive, reliable, convenient and safe for passengers.

A partnership established with HTT (Hyperloop Transportation Technologies) will allow Hitachi Rail to test the applicability of high speed railway signaling systems in an innovative context, contributing to the implementation of the "fifth mode of transportation". Hyperloop systems are largely powered by alternative sources of energy, and this cooperation will foster the adoption of the Zero Infrastructure paradigm by providing a real use case for an innovative signaling and communication architecture for ERTMS.

In FY20 the Innovation Team also launched a pilot crowdsourcing initiative (HInnova Pilot) asking our colleagues from the UK and Italy to propose innovative ideas; in FY21 Proof Of Concept of the winning ideas, selected by a panel of senior experts in the RSBU, will be implemented by the Innovation Team. This initiative encourages the active participation of our colleagues, fostering a corporate culture of innovation, exploiting our company's intellectual potential and encouraging the sharing of ideas. In FY21 the initiative will go Global, including colleagues from all geographic areas, and focusing explicitly on the RSBU's strategic innovation pillars, built around the concepts of safety, availability, accessibility, convenience and sustainability.

Value Chain Management

Management of customer satisfaction

Customer Satisfaction ("CS") activities are handled by a team made of the managers of the various departments: Safety, Health Environment, Quality, EMEA Business Unit, Americas & APAC Business Unit, Operation & Maintenance Business Unit and Operations Units.

Customer Satisfaction activities take place at various stages and are carried out using different tools to accurately monitor the level of customer satisfaction and project status until the completion of the project.

These stages include the following main activities:

- Customer Satisfaction Survey: a series of one-on-one interviews with top representatives of the selected customers. The survey can be carried out either by external agencies, or by internal resources, using a specific questionnaire.
- Complaints Management: the Project Managers are responsible for recording customers' complaints, which are sent to the Project Quality Engineer assigned to every Project in order to properly manage th complaints and the needed action plans to resolve them. The Customer Satisfaction Team checks and records all information and, on a yearly basis, prepares a global summary to be shared with the top management. This analysis is used as the basis to calculate the "customer complaint" KPI.
- Project Customer Satisfaction self evaluation: for specific projects, the Project Quality Engineer is responsible to coordinate the collection of the project team's self evaluation of the Customer's perception, covering areas such as project schedule, costs, quality of Products/Services (including also Non Conformities, Product failures, etc). Results of these internal evaluations will be an input for the yearly summary CS report.

Customer communications

Alongside project management customer communication, Hitachi Rail actively engages with customers proactively to ensure they are aware of business news, updates and developments to support the wider brand.

This is achieved through virtual and face-to-face conferences, trade shows, press releases, editorial content and through the group website – www.hitachirail.com. Advertising publications and online advertising support these efforts, specially through the use of social media channels, to reach decision makers, media and industry associations.

Customer surveys are also undertaken as part of a 360-degree feedback loop to fully understand customer needs and requirements. These surveys are actively undertaken with new and existing customers – allowing communication plans and tactics to be adjusted as appropriate based on qualitative feedback.

Industry awards further support these initiatives and the Hitachi Rail team submit projects for consideration to a wide range of industry bodies and awards covering mobility and sustainability excellence.

Awards won between April 2019 and March 2020 include:

- National Invention Award – Imperial Award: Design of high-speed train (Class 800) for the UK.
- Good Design Gold Award: Limited Express – SEIBU RAILWAY Co., Ltd – Laview.
- Japan Industrial Technology Award - Judging Committee Special Award: Development of high-speed train (Class 800 series) for British Intercity routes.
- Okochi Memorial Production Prize: Development of high-speed railway vehicles that can run on both electrified and non-electrified section.
- Hitachi Inspiration of the Year Global Award South America: Hitachi Rail's Lima Line 2 Project.
- Hitachi President's Technology Award: New High Capacity Double Deck train platform – Hitachi Rail Rolling Stock.
- Golden Spanner - Gold, Silver and Bronze Awards: North Pole and Stoke Gifford Train Maintenance Centres, UK.
- Freight Rail Excellence Award: Hitachi Rail STS for AutoHaul.
- Rail Business Awards: Hitachi Rail & London North Eastern Railway (LNER) – Azuma Trains Introduction.

These combined communication tactics are essential to how Hitachi Rail develops existing customer relationships and supports bidding activity to ensure new customers have a deep understanding of Hitachi as a business, as well as the solutions it can provide.

Supply Chain

Hitachi Rail is currently undergoing a transformation of its Supplier Management capabilities as part of a broader Procurement improvement agenda.

During this reporting period, Hitachi Rail initiated a multi-year transformation programme of its Supplier Management capability with a specific focus on improving visibility, monitoring and defining improvement actions on risks in our Supply Chain.

As part of this, Hitachi Rail has introduced a new coordinated, global approach to Supplier Management across Hitachi Rail with close collaboration between Procurement, SQA and other functions.

Supplier Management defines the key interfaces between Hitachi Rail and our suppliers which require an integrated approach and defined governance. Supplier Management's role and mandate to drive additional value and functional excellence is to:

- Implement and operate a global supplier qualification process for Rail to qualify our supply base against a defined set of criteria, improve visibility of key risks (including Sustainability) and enable the on-going tracking and management of suppliers against these criteria and risks.
- Support the improvement of quality and risk management of the supply base.
- Drive more effective performance management with our suppliers with a particular focus on tracking performance against key sustainability metrics.
- Working collaboratively with suppliers to define and implement innovative solutions that support sustainability.

SUPPLIER DISTRIBUTIONS	31.03.21	
	n.	% on total
Europe	4,062	52.7%
Asia Pacific	1,632	21.2%
Americas	1,450	18.8%
Africa	34	0.4%
Middle East	187	2.4%
Other	342	4.4%
TOTAL	7,707	100%

Hitachi considers the supply chain management processes a critical factor for the success of its business. Strategic procurement management requires a broad vision of the process along the entire value chain, from the definition of product specifications and service to the delivery and use.

Hitachi Rail has adopted an interdepartmental management approach which provides for the involvement and approval of all bodies concerned by the overall logistics. Given that it designs, builds and operates transportation and signalling systems for railways and urban rail transport, Hitachi Rail supplies include:

- Materials – purchase of circuit boards, mechanical and plastic parts, wayside equipment, cables, racks, cabins, industrial PCs, on-board equipment and electromechanical components.
- Services – facility management and HSE, payroll services, professional and ICT services, logistics services and travel.
- Business services – engineering and development services and RAMS activities (reliability, maintenance, availability and security).
- Turnkey projects and subcontracts – the award of a turnkey contact relates to systems that interact with the rest of the technologies for the specific contract, such as installation systems, telecommunications systems, auxiliary braking systems, power supply and systems, supervision and control systems, depots for equipment, signalling systems, rails and civil works.

In view of the increasing importance of the supply chain's environmental, social and governance aspects, Hitachi Rail is working cross-functionally to define common criteria across all lines of business within Hitachi Rail to assess and monitor its suppliers. This will generate a new action plan to assist suppliers in partnership in improving their sustainability performance.

In order to strengthen integration and improve the management of suppliers along the Supply Chain, a new function called Supplier Quality Assurance was elevated to cover all three lines of business (Signalling and Turnkey, Rolling stock, Operation Service and Maintenance). The group SQA1 team, in partnership with Procurement, are defining and deploying a harmonized process for supplier qualification and monitoring across all lines of business and geographies.

Hitachi Rail selects suppliers based on its Procurement Strategy and in line with its Supplier Quality Manual and various procedures.
Supplier qualification and sourcing is transparent and executed in accordance with the principles of the Code of Ethics and The Supplier Code of Conduct. Hitachi Rail requires its employees to conduct themselves in accordance with the principles of loyalty, fairness, transparency, efficiency and legal compliance.

Digital Supply Chain Management

To support the digitisation strategy, a group-wide platform will be implemented to standardise and centralise the supplier qualification process. The digitisation of this process will lead to greater control in improving our data management.

Hitachi Rail has defined that the qualification process is inter-functional and based on collaboration of several departments, this includes Engineering, Procurement, and Quality and HSE departments. Their requirements are captured within specific supplier questionnaires. As part of the cross-functional working, these questionnaire are being reviewed to ensure they assess:

- Introduction of safety management system compliance with the BS OHSAS 18001 standard.
- introduction of environmental management system compliance with the UNI EN ISO 14001:2007 standard.
- introduction of ISO 45001 for those companies that have already transitioned from the above mentioned standards to this new one.
- introduction of sustainability procedures/programmes e.g. Sustainable Procurement Guidelines and Green Procurement.
- application of the legislative requirements to comply with the REACH/ROHS/RAEE regulations.
- collection of data about accidents, non-compliance, training and emergencies.

The supplier questionnaires are issued to all new suppliers during the initial qualification phase and monitored periodically as part with the monitoring of our incumbent supply base.

Supplier mapping

Hitachi Rail has initiated the mapping of its supply chain concerning compliance with Environmental, Social and Governance (ESG) criteria. The standard purchase order model includes general supply conditions and compliance with the Code of Ethics; furthermore, when vetting new suppliers, Hitachi Rail gathers information on their compliance with quality, hygiene, health and safety in the workplace standards and their environmental policies and requires certification according to standards ISO 9001, ISO 14001, OHSAS 18001 and ISO45001. These characteristics are considered preferential requisites and contribute to assigning the supplier's eligibility for qualification.

The ongoing mapping of the supplier base, facilitated by centralising the global process management and its digitalisation, is one more step towards ensuring responsible sourcing and a sustainable supply chain.

Monitoring Activities

Hitachi Rail uses various due diligence and supplier management tools.
This can range from contractual provisions, levels of due diligence or the type of agreement adopted. In all instances, the overall aim is to ensure that the action adopted by Hitachi Rail is proportionate to the level of risk and this is applied consistently throughout the business relationship.

As an example of this, suppliers are monitored through meetings or communications between them and the Hitachi Rail departments with which they operate (i.e. Procurement, PM, Engineering, Quality and Supply Chain Management, Logistics and Construction).
Furthermore, periodic audits, both remote and on-site, are performed on suppliers throughout contract execution to enforce continued compliance with Hitachi's requirements and standards.

Within the new organisation, the extension of a risk-based supplier rating process that takes into account the suppliers' conduct and performance is being developed to further monitor and control risk and supplier performance.

Glossary and Main Acronyms contained in the documents

This glossary aims to facilitate understanding of the terminology used both for sustainability issues and for those more specific to the business sector.

ANIE (Associazione Nazionale Industrie Elettrotecniche ed Elettriche)

It is one of the largest trade organizations in the Confindustria system in terms of weight, size and representativeness. ANIE is joined by 1,500 companies in the electrotechnical and electronic sector. The ANIE Regulatory Technical Environment Area follows both transversally and vertically the environmental and energy issues of interest to the Italian electrotechnical and electronic sector, from national and EU product or process legislation, to product technical regulations.

AICQ (Italian Association for a Quality Culture)

AICQ is a non-profit association, which aims to spread the Culture of Quality in Italy and the methods for planning, building, controlling and certifying the quality of products, services, organizations and related disciplines. Aicq aims to achieve its goal through training (national and local courses) and information (the Quality magazines, the Quality On Line web magazine, periodical publications), seminars, round tables and conferences in the main Italian cities.

Accountability 1000 (AA 1000)

AccountAbility's AA1000 Series of Standards are principles-based frameworks used by global businesses, private enterprises, governments, and other public and private organizations to demonstrate leadership and performance in accountability, responsibility, and sustainability. For over two decades, organizations large and small, private and public, have come to rely on AccountAbility's standards to guide their approach to sustainability strategy, governance, and operations.

BAT (Best Available Technique)

Best available techniques' (BAT) means the available techniques which are the best for preventing or minimising emissions and impacts on the environment. You need to use BAT if your operation is an installation (eg a facility that carries out an industrial process like a refinery, food factory or intensive farm). 'Techniques' include both the technology used and the way your installation is designed, built, maintained, operated and decommissioned. The European Commission produces best available technique reference documents or BREF notes. They contain 'best available techniques' (BAT) for installations. For example, there's a BREF for intensive agriculture which contains BAT for housing for pig rearing units and a BREF for the textiles industry which contains BAT for selecting materials for textile manufacture.

Cosila (Consortium for safety in the workplace)

The Cosila, Consortium for the safety and health of workers in the workplace, established in 1995 under the aegis and sponsorship of the Union of Industrialists of the Province of Naples, is a consortium of companies whose purpose is to provide, non-profit, consultancy services, assistance and training on safety and health in the workplace, as designed by current legislation.

CMS (Carbon Management System)

The system comprises 10 essential elements from four broad perspectives: carbon governance, carbon operation, emission tracking and reporting, and engagement and disclosure. The proposed new approach focuses on cross-functional integration, enforcement of proactive strategies and group rather than individual accountability. Many organizations are taking actions to reduce their carbon footprints. Carbon-reducing initiatives in organizations are varied: they range from green product innovations to encouraging behavioral changes by customers and employees. Carbon management systems (CMS), can be designed and used in order to persuade employees to perform ecologically responsible behaviours.

CSR (Corporate Social Responsibility)

CSR, acronym for Corporate Social Responsibility, is a term to which different meanings have been given in recent years; in general terms, it identifies the role of the company as a component of the social community, capable of influencing and at the same time being influenced by the morals and ethics that characterize the entire community. The goal of the company still remains the maximization of profit, but to be pursued with a different perspective, that is, with a total openness to the social needs of the community involved. Corporate Social Responsibility (also called Corporate Responsibility) is the set of behaviours that companies should adopt in order to conduct their activities in a responsible manner towards society as a whole, contributing to Sustainable Development.

EU Ecolabel

EU Ecolabel or EU Flower is a voluntary ecolabel scheme established in 1992 by the European Commission. The label includes a green flower with inclined green "ϵ" (Greek epsilon) as the flower, surrounded by 12 blue stars. On EU Ecolabelled products, it must always be used together with the license number. Because of the logo, the label has a nickname EU Flower.

GHG (Greenhouse gas)

It is a gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect. The primary greenhouse gases in Earth's atmosphere are water vapor (H2O), carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and ozone (O3). Without greenhouse gases, the average temperature of Earth's surface would be about −18 °C (0 °F), rather than the present average of 15 °C (59 °F). The atmospheres of Venus, Mars and Titan also contain greenhouse gases. Human activities since the beginning of the Industrial Revolution (around 1750) have produced a 45% increase in the atmospheric concentration of carbon dioxide, from 280 ppm in 1750 to 415 ppm in 2019. The last time the atmospheric concentration of carbon dioxide was this high was over 3 million years ago. This increase has occurred despite the uptake of more than half of the emissions by various natural "sinks" involved in the carbon cycle.

The vast majority of anthropogenic carbon dioxide emissions come from combustion of fossil fuels, principally coal, petroleum (including oil) and natural gas, with additional contributions coming from deforestation and other changes in land use. The leading source of anthropogenic methane emissions is agriculture, closely followed by gas venting

and fugitive emissions from the fossil-fuel industry. Traditional rice cultivation is the second biggest agricultural methane source after livestock, with a nearterm warming impact equivalent to the carbon-dioxide emissions from all aviation. It is the process by which radiation from a planet's atmosphere warms the planet's surface to a temperature above what it would be without this atmosphere. Radiatively active gases (i.e., greenhouse gases – not only CO2) in a planet's atmosphere radiate energy in all directions. Part of this radiation is directed towards the surface, thus warming it. The intensity of downward radiation – that is, the strength of the greenhouse effect – depends on the amount of greenhouse gases that the atmosphere contains. The temperature rises until the intensity of upward radiation from the surface, thus cooling it, balances the downward flow of energy. Earth's natural greenhouse effect is critical to supporting life, and initially was a precursor to life moving out of the ocean onto land. Human activities, mainly the burning of fossil fuels and clearcutting of forests, have increased the greenhouse effect and caused global warming.

Eco-design

Environmentally sustainable design (also called environmentally conscious design, eco design, etc.) is the philosophy of designing physical objects, the built environment, and services to comply with the principles of ecological sustainability.

EFQM (European Foundation for Quality Management)

European Foundation for Quality Management is a not-for-profit membership foundation in Brussels, established in 1989 to increase the competitiveness of the European economy. The initial impetus for forming EFQM was a response to the work of W. Edwards Deming and the development of the concepts of Total Quality Management. The foundation was formed in 1989, with 67 members. The first version of the EFQM Excellence Model was created by a group of experts from various sectors and academic institutions and launched in 1992. It acted as the framework for assessing applications for the European Quality Award, the transnational quality awards of Europe.

EMAS (EU Eco-Management and Audit Scheme)

The (EMAS) is a premium management instrument developed by the European Commission for companies and other organizations to evaluate, report, and improve their environmental performance. EMAS is open to every type of organization eager to improve its environmental performance. It spans all economic and service sectors and is applicable worldwide.

EPD (Environmental Product Declarations)

The International EPD® System is a global programme for environmental declarations. EPDs signal a manufacturer's commitment to measuring and reducing the environmental impact of its products and services and report these impacts in a hyper-transparent way. With an EPD, manufacturers report comparable, objective and third-party verified data that show the good, the bad and the evil about the environmental performance of their products and services.

ESA (European Space Agency)

The European Space Agency is an intergovernmental organisation of 22 member states dedicated to the exploration of space. Established in 1975 and headquartered in Paris, ESA has a worldwide staff of about 2,200 in 2018 and an annual budget of about € 6.68 billion (~US$7.43 billion) in 2020.

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EU Ecolabel or EU Flower is a voluntary ecolabel scheme established in 1992 by the European Commission. The label includes a green flower with inclined green "ϵ" (Greek epsilon) as the flower, surrounded by 12 blue stars. On EU Ecolabelled products, it must always be used together with the license number. Because of the logo, the label has a nickname EU Flower.

GHG (Greenhouse gas)

It is a gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect. The primary greenhouse gases in Earth's atmosphere are water vapor (H2O), carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and ozone (O3). Without greenhouse gases, the average temperature of Earth's surface would be about –18 °C (0 °F), rather than the present average of 15 °C (59 °F). The atmospheres of Venus, Mars and Titan also contain greenhouse gases. Human activities since the beginning of the Industrial Revolution (around 1750) have produced a 45% increase in the atmospheric concentration of carbon dioxide, from 280 ppm in 1750 to 415 ppm in 2019. The last time the atmospheric concentration of carbon dioxide was this high was over 3 million years ago. This increase has occurred despite the uptake of more than half of the emissions by various natural "sinks" involved in the carbon cycle. The vast majority of anthropogenic carbon dioxide emissions come from combustion of fossil fuels, principally coal, petroleum (including oil) and natural gas, with additional contributions coming from deforestation and other changes in land use. The leading source of anthropogenic methane emissions is agriculture, closely followed by gas venting and fugitive emissions from the fossil-fuel industry. Traditional rice cultivation is the second biggest agricultural methane source after livestock, with a nearterm warming impact equivalent to the carbon-dioxide emissions from all aviation. It is the process by which radiation from a planet's atmosphere warms the planet's surface to a temperature above what it would be without this atmosphere. Radiatively active gases (i.e., greenhouse gases – not only CO2) in a planet's atmosphere radiate energy in all directions. Part of this radiation is directed towards the surface, thus warming it. The intensity of downward radiation – that is, the strength of the greenhouse effect – depends on the amount of greenhouse gases that the atmosphere contains. The temperature rises until the intensity of upward radiation from the surface, thus cooling it, balances the downward flow of energy. Earth's natural greenhouse effect is critical to supporting life, and initially was a precursor to life moving out of the ocean onto land. Human activities, mainly the burning of fossil fuels and clearcutting of forests, have increased the greenhouse effect and caused global warming.

GHG emissions: Scope 1 covers the emissions from operations under a facility's control, including onsite fuel combustion.

- In-house activities and direct emissions from Hitachi Rail's own sites - Scope 1 emissions.

GHG emissions: Scope 2 covers the emissions from usage of electricity, steam, heat and/or cooling purchased from third parties.

- Electrical energy and heat suppliers and their operating emissions related to Hitachi Rail's activities - Scope 2 emissions.

GHG emissions: Scope 3 covers upstream and downstream value chain emissions, including procured products, transport of suppliers and business travel, usage of sold products and product disposal.

- Hitachi Rail's supply chain and the emissions resulting from the production and delivery of goods and services - Scope 3 emissions.

GNSS (Global Navigation Satellite System)

Global Navigation Satellite System (GNSS) refers to a constellation of satellites providing signals from space that transmit positioning and timing data to GNSS receivers. The receivers then use this data to determine location. By definition, GNSS provides global coverage. Examples of GNSS include Europe's Galileo, the USA's NAVSTAR Global Positioning System (GPS), Russia's Global'naya Navigatsionnaya Sputnikovaya Sistema (GLONASS) and China's BeiDou Navigation Satellite System. The performance of GNSS is assessed using four criteria: 1. Accuracy: the difference between a receiver's measured and real position, speed or time; 2. Integrity: a system's capacity to provide a threshold of confidence and, in the event of an anomaly in the positioning data, an alarm; 3. Continuity: a system's ability to function without interruption; 4. Availability: the percentage of time a signal fullfils the above accuracy, integrity and continuity criteria.

GRI (Global Reporting Initiative)

The GRI Standards create a common language for organizations – large or small, private or public – to report on their sustainability impacts in a consistent and credible way. This enhances global comparability and enables organizations to be transparent and accountable. The Standards help organizations understand and disclose their impacts in a way that meets the needs of multiple Stakeholders. In addition to reporting companies, the Standards are highly relevant to many other groups, including investors, policymakers, capital markets, and civil society. The Standards are designed as an easy-to-use modular set, starting with the universal Standards. Topic Standards are then selected, based on the organization's material topics – economic, environmental or social. This process ensures that the sustainability report provides an inclusive picture of material topics, their related impacts, and how they are managed.

Hazard

A hazard is defined as a "Condition, event, or circumstance that could lead to or contribute to an unplanned or undesirable event." Seldom does a single hazard cause an accident or a functional failure. More often an accident or operational failure occurs as the result of a sequence of causes. A hazard analysis will consider system state, for example operating environment, as well as failures or malfunctions.

HSE (Health Safety Environment)

HSE is an acronym for the methodology that studies and implements the practical aspects of protecting the environment and maintaining health and safety at occupation. In simple terms it is what organizations must do to make sure that their activities do not cause harm to anyone. Commonly, quality - quality assurance & quality control - is adjoined to form the company division known as HSQE. From a safety standpoint, it involves creating organized efforts and procedures for identifying workplace hazards and reducing accidents and exposure to harmful situations and substances. It also includes training of personnel in accident prevention, accident response, emergency preparedness, and use of protective clothing and equipment. Better health at its heart, should have the development of safe, high quality, and environmentally friendly processes, working practices and systemic activities that prevent or reduce the risk of harm to people in general, operators, or patients. From an environmental standpoint, it involves creating a systematic approach to complying with environmental regulations, such as managing waste or air emissions all the way to helping site's reduce the company's carbon footprint.

HSE (Health IPPC (Integrated Pollution Prevention and Control)

The International Plant Protection Convention (IPPC) is a 1951 multilateral treaty overseen by the Food and Agriculture Organization that aims to secure coordinated, effective action to prevent and to control the introduction and spread of pests of plants and plant products. The Convention extends beyond the protection of cultivated plants to the protection of natural flora and plant products. It also takes into consideration both direct and indirect damage by pests, so it includes weeds. The Convention created a governing body consisting of each party, known as the Commission on Phytosanitary Measures, which oversees the implementation of the Convention. As of August 2017, the Convention has 183 parties, which includes 180 United Nations member states, the Cook Islands, Niue, and the European Union.[1] The Convention is recognized by the World Trade Organization's (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement) as the only international standard setting body for plant health.

ISO (International Standards Organisation)

ISO is an international standard-setting body composed of representatives from various national standards organizations. Founded on 23 February 1947, the organization promotes worldwide proprietary, industrial, and commercial standards. It is headquartered in Geneva, Switzerland, and works in 165 countries. It was one of the first organizations granted general consultative status with the United Nations Economic and Social Council.

Joint implementation

The mechanism known as "joint implementation", defined in Article 6 of the Kyoto Protocol, allows a country with an emission reduction or limitation commitment under the Kyoto Protocol (Annex B Party) to earn emission reduction units (ERUs) from an emission-reduction or emission removal project in another Annex B Party, each equivalent to one tonne of CO2, which can be counted towards meeting its Kyoto target. Joint implementation offers Parties a flexible and cost-efficient means of fulfilling a part of their Kyoto commitments, while the host Party benefits from foreign investment and technology transfer.

The Kyoto Protocol

The Kyoto Protocol was adopted on 11 December 1997. Owing to a complex ratification process, it entered into force on 16 February 2005. Currently, there are 192 Parties to the Kyoto Protocol. In short, the Kyoto Protocol operationalizes the United Nations Framework Convention on Climate Change by committing industrialized countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets. The Convention itself only asks those countries to adopt policies and measures on mitigation and to report periodically. The Kyoto Protocol is based on the principles and provisions of the Convention and follows its annexbased structure. It only binds developed countries, and places a heavier burden on them under the principle of "common but differentiated responsibility and respective capabilities", because it recognizes that they are largely responsible for the current high levels of GHG emissions in the atmosphere.foreign investment and technology transfer.

LoB (Line of Business)

Line of business (LOB) is a general term which refers to a product or a set of related products that serve a particular customer transaction or business need. In some industry sectors, like insurance, “line of business” also has a regulatory and accounting definition to meet a statutory set of insurance policies. It may or may not be a strategically relevant business unit. “Line of business” often refers to an internal corporate business unit, whereas the term “industry” refers to an external view that includes all competitors competing in a similar market. A line of business will often examine its position within an industry using a Porter five forces analysis (or other industry-analysis method) and other relevant industry information.

MaaS (Mobility as a Service)

MaaS is an integrated system of transport aimed at optimizing urban mobility through modular solutions, which are more coordinated and efficient. The goal is to answer in a flexible way to the increasingly emerging transport necessity of mass transport in sustainable mobility ecosystem.

Non-renewable sources

A non-renewable resource (also called a finite resource) is a natural resource that cannot be readily replaced by natural means at a quick enough pace to keep up with consumption.[1] An example is carbon-based fossil fuel. The original organic matter, with the aid of heat and pressure, becomes a fuel such as oil or gas. Earth minerals and metal ores, fossil fuels (coal, petroleum, natural gas) and groundwater in certain aquifers are all considered non-renewable resources, though individual elements are always conserved (except in nuclear reactions). Conversely, resources such as timber (when harvested sustainably) and wind (used to power energy conversion systems) are considered renewable resources, largely because their localized replenishment can occur within time frames meaningful to humans as well.

OECD (Office of Economic Cooperation and Development)

OECD is an intergovernmental economic organisation with 37 member countries, founded in 1961 to stimulate economic progress and world trade. It is a forum of countries describing themselves as committed to democracy and the market economy, providing a platform to compare policy experiences, seek answers to common problems, identify good practices and coordinate domestic and international policies of its members.

OHSAS (Occupational Health Safety Assessment Series)

It was a British Standard for occupational health and safety management systems. Compliance with it enabled organizations to demonstrate that they had a system in place for occupational health and safety. BSI cancelled BS OHSAS 18001 to adopt ISO 45001 as BS ISO 45001. ISO 45001 was published in March 2018 by the International Organization for Standardization. Organizations that are certified to BS OHSAS 18001 can migrate to ISO 45001 by March 2021 if they want to retain a recognized certification.

PM10/PM 50

It is the fraction of particles in the air of smaller size, less than 10/50 microns (one micron corresponds to one thousandth of a millimiter). Give them small dimensions, they can remain suspended in the atmosphere for a long time without settling to the ground and are also the ones that penetrate deeper into the streets respiratory tract causing the greatest health problems in humans.

PPE (Personal Protective Equipment)

PPE is protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection. The hazards addressed by protective equipment include physical, electrical, heat, chemicals, biohazards, and airborne particulate matter. Protective equipment may be worn for job-related occupational safety and health purposes, as well as for sports and other recreational activities. "Protective clothing" is applied to traditional categories of clothing, and "protective gear" applies to items such as pads, guards, shields, or masks, and others. PPE suits can be similar in appearance to a cleanroom suit.

Renewable energy

Renewable energy is useful energy that is collected from renewable resources, which are naturally replenished on a human timescale, including carbon neutral sources like sunlight, wind, rain, tides, waves, and geothermal heat. The term often also encompasses biomass as well, whose carbon neutral status is under debate. This type of energy source stands in contrast to fossil fuels, which are being used far more quickly than they are being replenished. Renewable energy often provides energy in four important areas: electricity generation, air and water heating/cooling, transportation, and rural (off-grid) energy services.

PCR – Product Category Rules

A PCR is a copyrighted document that is part of the EPD "cookbook" and contains the recipe to create a high-quality EPD for the product category you are interested in. The PCR provides the instructions for how the life-cycle assessment (LCA) should be conducted. It sets out what you need to consider, including but not limited to:

- System boundaries, i.e. which processes and stages of the product's life cycle need to be considered.
- Declared/functional unit: the amount, weight and service life of the product being assessed.
- How to define e.g. the use phase and end-of-life options.
- What impact categories need to be assessed in addition apart from the standard set as described in our General Program Instructions (GPI).

SA 8000 (Social Accountability 8000)

SA8000 is an auditable certification standard that encourages organizations to develop, maintain, and apply socially acceptable practices in the workplace. It was developed in 1989 by Social Accountability International, formerly the Council on Economic Priorities, by an advisory board consisting of trade unions, NGOs, civil society organizations and companies. [1] The SA8000's criteria were developed from various industry and corporate codes to create a common standard for social welfare compliance. SA8000 certification is a management systems standard, modeled on ISO standards. The criteria require that facilities seeking to gain and maintain certification must go beyond simple compliance to the standard. Prospective facilities must integrate it into their management practices and demonstrate ongoing compliance with the standard. SA8000 is based on the principles of international human rights norms as described in International Labour Organization conventions, the United Nations Convention on the Rights of the Child and the Universal Declaration of Human Rights. It measures the performance of companies in eight areas important to social accountability in the workplace: child labour, forced labour, health and safety, free association and collective bargaining, discrimination, disciplinary practices, working hours and compensation.

Stakeholders engagement

Stakeholders engagement is the process by which an organization involves people who may be affected by the decisions it makes or can influence the implementation of its decisions. They may support or oppose the decisions, be influential in the organization or within the community in which it operates, hold relevant official positions or be affected in the long term. is a key part of corporate social responsibility (CSR) and achieving the triple bottom line. Companies engage their Stakeholders in dialogue to find out what social and environmental issues matter most to them and involve Stakeholders in the decision-making process. Stakeholders engagement is used by mature organizations in the private and public, especially when they want to develop understanding and agreement around solutions on complex issues and large projects. An underlying principle of Stakeholders engagement is that Stakeholders have the chance to influence the decision-making process. A key part of this is multiStakeholders governance. This differentiates Stakeholders engagement from communications processes that seek to issue a message or influence groups to agree with a decision that is already made. Jeffrey (2009) in "Stakeholders Engagement: A Roadmap to meaningful engagement" describes seven core values for the practices of gaining meaningful participation of which perhaps the three most critical are:

- Stakeholders should have a say in decisions about actions that could affect their lives or essential environment for life.
- Stakeholders participation includes the promise that Stakeholders's contribution will influence the decision.
- Stakeholders participation seeks input from participants in designing how they participate.

The practitioners in Stakeholders engagement are often businesses, non-governmental organizations (NGOs), labor organizations, trade and industry organizations, governments, and financial institutions.

Sustainable development

Is the organizing principle for economic development while simultaneously sustaining the ability of natural systems to provide the natural resources and ecosystem services on which the economy and society depend. The desired result is a state of society where living conditions and resources are used to continue to meet human needs without undermining the integrity and stability of the natural system. Sustainable development can be defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability goals, such as the current UN-level Sustainable Development Goals, address the global challenges, including poverty, inequality, climate change, environmental degradation, peace and justice.

SDG (Sustainable Development Goals)

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

S4M (Services for Mobility)

S4M – The drive-to-store platform. S4M delivers advertising that drives more customers to stores, dealerships and restaurants. His drive-to-store platform, Fusio, delivers incremental customer visits which are always independently verified. Founded in 2011, S4M's platform is available globally, and used by over 1,000 brands worldwide to drive customers to physical locations.

TEG is a group of 35 experts on sustainable finance, set up by the European Commission. Its function is to support the Commission in implementing the Action Plan approved in May 2018, through in-depth studies on:

- SRI taxonomy, or a single system of classification of economic activities that can be defined as "sustainable" (with priority on the issues of mitigation and adaptation to climate change);
- improvement of guidelines on the reporting of activities related to climate change by banks, insurance companies and other large companies;
- common criteria for the construction of low-carbon and positive-carbon impact benchmarks, ie reliable reference parameters to reduce the risk of greenwashing and increase market transparency;
- Green Bond Standard, a European quality certification for green bonds.

The Technical Expert Group (TEG) on Sustainable Finance published a proposal for an EU classification system, or a Taxonomy, which sets out screening criteria for economic activities that can contribute substantially to climate mitigation and adaptation. The taxonomy is a tool to support private investments towards meeting GHG emission reductions in line with the Paris Agreement.

TEG

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- common criteria for the construction of low-carbon and positive-carbon impact benchmarks, ie reliable reference parameters to reduce the risk of greenwashing and increase market transparency;
- Green Bond Standard, a European quality certification for green bonds.

The TEG began its work in July 2018. The mandate of the SRI taxonomy, benchmark and Green Bond Standard subgroups, whose work was expected to be completed in June 2019, was officially extended until the end of 2019. The members of the TEGs come from civil society, academia and finance, as well as from European and international public bodies.

The TEG works through plenary sessions and subgroup meetings that have been set up for each of the four study themes. As part of the UNIFE Sustainable Transportation committee, Hitachi Rail has given its contribution in the definition and path of the TEGs.

TMR (Total Material Requirement)

The new indicator, Total Material Requirement (TMR), expresses the total mass of primary materials extracted from nature to support human activities. Thus, TMR is a highly aggregated indicator for the material basis of an economy.

UNIFE (Association of European railway builders)

Operating in Brussels since 1992, UNIFE represents European train builders and rail equipment suppliers. The

association advocates on behalf of more than 100 of Europe's leading rail supply companies – from SMEs to major industrial champions - active in the design, manufacture, maintenance and refurbishment of rail transport systems, subsystems and related equipment. UNIFE also brings together national rail industry associations from 11 European countries. Our members account for 84% of the European, and 46% of the global, market for rail equipment and services. We communicate members' interests at the European and international levels while actively promoting rail equipment and standards worldwide.

UNIFE's membership reflects all segments of Europe's rail supply industry from rolling stock manufacturers and infrastructure suppliers to system integrators and engineering companies. Our members are committed to collaborating on common challenges facing our sector. They are also providing the innovative technology needed to meet the growing demand for sustainable transport. We work together to help shape interoperability standards and the coordination of EU-funded research projects that contribute to the technical harmonisation of railway systems. This broad spectrum of work has established UNIFE as a trusted partner for EU institutions interested in rail and transport matters. This reputation has allowed us to cooperate closely with the EU Agency for Railways, European Standardisation Organisations (e.g. CEN and CENELEC, ETSI), and other organisations representing rail sector Stakeholders.

UNISIG (Association of European railway signalling companies)

UNISIG is an industrial consortium which was created to develop the ERTMS/ETCS technical specifications. As an Associate Member of UNIFE, a recognised Stakeholders, UNISIG actively contributes to the activities of the European Union Agency for Railways in the field of ERTMS/ETCS technical specifications. The UNISIG Consortium is an Associate Member of UNIFE. Eight companies now known as Alstom, AŽD Praha, Bombardier, CAF, Hitachi Rail STS, MERMEC, Siemens, and Thales are its Full Members. ECM and SIRTI are Associate Members of UNISIG.

UITP (The International Association of Public Transport)

UITP (Union Internationale des Transports Publics) is the International Association of Public Transport and a passionate champion of sustainable urban mobility. Established in 1885, with more than 135 years of history, it is the only worldwide network to bring together all public transport Stakeholders and all sustainable transport modes. UITP represents an international network of 1,800 member companies located in more than 100 countries and covers all modes of public transport – metro, light rail, regional and suburban railways, bus, and waterborne transport. It also represents collective transport in a broader sense. UITP's network counts one main and EU office in Brussels and fifteen regional and liaison offices worldwide (Abidjan, Astana, Bangalore, Casablanca, Dubai, Hong Kong, Istanbul, Johannesburg, Moscow, New York, Rome, São Paulo, Shenzhen, Singapore and Tehran).

UNI ISO 9001:2000

The ISO 9000 family of quality management systems (QMS) is a set of standards that helps organizations ensure they meet customer and other Stakeholders needs within statutory and regulatory requirements related to a product or service.ISO 9000 deals with the fundamentals of QMS,including the seven quality management principles that underlie the family of standards. ISO 9001 deals with the requirements that organizations wishing to meet the standard must fulfil. Third-party certification bodies provide independent confirmation that organizations meet the requirements of ISO 9001. Over one million organizations worldwide are independently certified, making ISO 9001 one of the most widely used management tools in the world today. However, the ISO certification process has been criticized as being wasteful and not being useful for all organizations.

UNI EN ISO 14001

UNI EN ISO 14001 is internationally recognized as the reference standard for EMS Environmental Management Systems and is applicable to organizations of all sizes and sectors. The ISO 14001 standard provides a management structure for the integration of environmental management practices, pursuing environmental protection, pollution prevention, as well as the reduction of energy and resource consumption. Many organizations choose to go further, combining ISO 14001 certification with registration with respect to the European EMAS regulation. This is an option applicable to companies that intend to report to Stakeholders on their environmental performance using a scheme defined at European level and designed to make the performance of similar companies comparable through specific indicators. The ISO 14001 standard (implemented in Italy in the UNI EN ISO 14001: 1996 standard and subsequently UNI EN ISO 14001: 2004) is a certifiable standard, i.e. it is possible to obtain, from an accredited certification body operating within certain rules, certificates of conformity the requirements contained therein.

UNEP (United Nations Environment Programme)

The United Nations Environment Programme (UNEP) is responsible for coordinating responses to environmental issues within the United Nations system. It was established by Maurice Strong, its first director, after the United Nations Conference on the Human Environment in Stockholm in June 1972. Its mandate is to provide leadership, deliver science and develop solutions on a wide range of issues, including climate change,the management of marine and terrestrial ecosystems, and green economic development. The organization also develops international environmental agreements; publishes and promotes environmental science and helps national governments achieve environmental targets. As a member of the United Nations Development Group, UNEP aims to help the world meet the 17 Sustainable Development Goals.

Methodological Note

The Corporate Social Responsibility and Sustainability Report 2021 of Hitachi Rail, in its second edition, has been prepared in accordance with the "GRI Sustainability Reporting Standards" of the Global Reporting Initiative, using the "in accordance – core" reporting option.

In order to ensure the quality of the Report, Hitachi Rail follows the reporting principles for defining report content and quality in accordance with the GRI Standards, which provide a set of criteria to select the information to be included in the report and the related representation methods.

Principles for defining report content

- **Stakeholders Inclusiveness** – The application of this principle has led the company to carry out and report on the involvement activities, mainly described in the "Stakeholders engagement" chapter. In addition, almost 400 people were involved and contacted in the new materiality analysis, both among top management and external Stakeholders (suppliers, customers, partners, etc.).
- **Sustainability Context** – In paragraphs " Hitachi Rail Contribution to Net-Zero" and "Road map to sustainability" have tried to give a clear definition of how the company interprets the sustainability as related to the business sector to which it belongs. Further, without losing an overall view, we have tried to describe local initiatives, reporting the features of the different markets (see "Human Capital" chapter and "People care" section).
- **Materiality** – The relevance of the sustainability issues considered is consistent with the new materiality analysis carried out for this edition of the CSR and Sustainability Report. The materiality analysis was composed of a set of 20 questions for internal Stakeholders and 15 for external ones.

The company also wanted to underline the close link between these topics and the Sustainable Development Goals of the UN (SDGs) and the related Targets, both by inserting them directly in the materiality matrix and through a specific table that highlights the existing connection (see paragraph "Sustainability topics and contribution to SDGs"). The criterion that allowed the positioning of the SDGs within the matrix was the overlapping of each Goal with the most relevant topic related to it.

The following table reports the material topics identified by Hitachi Rail while defining the applicable reporting scope and limitations, if any, for each topic.

		REPORTING SCOPE		LIMITATION REGARDING THE REPORTING SCOPE	
		INSIDE	OUTSIDE	INSIDE	OUTSIDE
CUSTOMER FOCUSING	Stakeholders engagement	Hitachi Rail	-	-	-
ANTI-CORRUPTION	Anti-corruption	Hitachi Rail	-	-	-
R&D E PRODUCT INOOVATION	Customer health and safety	Hitachi Rail	-	-	-
OCCUPATIONAL HEALTH AND SAFETY	Occupational health and safety	Hitachi Rail	Suppliers	-	Reporting scope partially extended to suppliers
EMPLOYEE WELFARE	Employment;	Hitachi Rail	-	-	-
HYBRID WORKING MODELS	Non-discrimination	Hitachi Rail	-	-	-
TRAINING AND CAREER DEVELOPMENT	Employment;	Hitachi Rail	-	-	-
SUPPLY CHAIN ETHICAL MANAGEMENT	Non-discrimination	Hitachi Rail	Suppliers	-	Reporting scope partially extended to suppliers
PROTECTION OF DIVERSITY AND OPPORTUNITY	Training and education	Hitachi Rail	-	-	-
ECO-DESIGN	Procurement practices;	Hitachi Rail	-	-	-
CIRCULAR ECONOMY	Supplier environmental assessment;	Hitachi Rail	-	-	-
ENERGY EFFICENCY	Supplier social assessment	Hitachi Rail	Suppliers	-	Reporting scope partially extended to suppliers
SUPPLY AND PRODUCTION OF ELECTRICITY FROM RES	Diversity and equal opportunities	Hitachi Rail	Suppliers	-	Reporting scope partially extended to suppliers
SUPPORT FOR LOCAL COMMUNITY	Materials; Emissions; Energy; Effluents and waste	Hitachi Rail	-	-	-
WASTE MANAGEMENT	Materials; Effluents and waste	Hitachi Rail	Suppliers	-	Reporting scope partially extended to suppliers
MITIGATION OF CLIMATE CHANGE	Energy	Hitachi Rail	Suppliers	-	Reporting scope partially extended to suppliers
AIR QUALITY	Energy	Hitachi Rail	-	-	-
WATER CONSUMPTION OPTIMISATION	Local Communities	Hitachi Rail	-	-	-
MANAGEMENT OF EFFLUENTS	Effluents and waste	Hitachi Rail	-	-	-

- **Completeness** – The report has been issued in order to provide Stakeholders with a complete picture of Hitachi Rail's global activities, but information reported in this second edition of report Japanese business was included.

Principles for defining report quality

- **Balance** – In describing the outcomes of Hitachi Rail's activities, we have sought to reflect both the positive and negative aspects to give a balanced view of the overall performance.
- **Comparability** – To enable Stakeholders to analyze changes in the Hitachi Rail's performance, the Report includes comparative data of the two-year period for the years ending 31 March 2020 – 31 March 2021. The report structure has undergone some changes to make it easier to read.
- **Accuracy** – The accuracy of environmental, health and safety data and information come from certified management systems (ISO 14001 and ISO 45001).

The source of conversion rates used for the calculation of GHG emissions are as follows:

  - Scope 1 direct emissions: DEFRA – Department for Environment Food & Rural Affairs (Gov. UK).
  - Scope 2 indirect emissions: GHG emission factors used by Hitachi Ltd. and its consolidates subsidiaries
  - Scope 3 indirect emissions: DEFRA – Department for Environment Food & Rural Affairs (Gov. UK).

- **Timeliness** – The Corporate Social Responsibility and Sustainability Report will be prepared annually.
- **Clarity** – The report has been structured to make the information easily identifiable by Stakeholders. The Corporate Social Responsibility and Sustainability Report 2021 opens with the letter from the CEO, and includes four sections: Hitachi Rail Identity; Environmental; Social Governance; the document ends with the Glossasry, Methodological Note and the GRI Content Index. The report refers to the Hitachi Rail's website for certain matters, indicating the relevant web page address.
- **Reliability** – The Corporate Social Responsibility and Sustainability Report 2021 has been approved by the Steering Sustainability Committee.

GRI CONTENT INDEX

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102-46	Defining report content and topic Boundaries	pp.15-19; 161	
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102-48	Restatements of information	FY2019 data has been recalculated to include the Kasado production site	
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102-53	Contact point for questions regarding the report	p.4	
102-54	Claims of reporting in accordance with the GRI Standards	p.160	
102-55	GRI content index	pp.163-167	

SPECIFIC DISCLOSURES

ECONOMIC

		Cross-reference	Omission/Reason/Explanation
PROCUREMENT PRACTICES			
103-1	Explanation of the material topic and its Boundary	pp.17; 18; 47; 161	
103-2	The management approach and its components	pp.143;147	
103-3	Evaluation of the management approach	p.147	
204-1	Proportion of spending on local suppliers	Hitachi Rail tends to procure materials, services and labour mostly on local markets, also with the aim to contribute to the development of local economies	The Corporate will in the future undertake to collect the data necessary for complete coverage of the indicator.
ANTI-CORRUPTION			
103-1	Explanation of the material topic and its Boundary	pp.17; 18; 161	
103-2	The management approach and its components	pp.48-50	
103-3	Evaluation of the management approach	p.48	
205-3	Confirmed incidents of corruption and actions taken	no incident of corruption occurred in the period considered	

ENVIRONMENT

		Cross-reference Direct answer	Omission/Reason/ Explanation
MATERIALS			
103-1	Explanation of the material topic and its Boundary	pp.17; 19; 43; 161	
103-2	The management approach and its components	pp. 92-94; 96-98	
103-3	Evaluation of the management approach	pp.33-34. Management reviews	
301-1	Materials used by weight or volume	pp.92-94	

ENERGY		
103-1	Explanation of the material topic and its Boundary	pp.17; 19; 42; 161
103-2	The management approach and its components	pp.89-92
103-3	Evaluation of the management approach	pp.33-34. Management reviews
302-1	Energy consumption within the organization	p.90
302-3	Energy intensity	p.91
302-4	Reduction of energy consumption	p.92
302-5	Reduction in energy requirements of products and services	pp.68-71
WATER		
103-1	Explanation of the material topic and its Boundary	pp.17; 19; 44; 161
103-2	The management approach and its components	pp.94-95
103-3	Evaluation of the management approach	pp.33-34. Management reviews
303-1	Water withdrawal by source	pp.95
EMISSIONS		
103-1	Explanation of the material topic and its Boundary	pp.17; 19; 35-37; 42; 44; 161
103-2	The management approach and its components	pp.66-67; 77-79
103-3	Evaluation of the management approach	p.79. Management review
305-1	Direct (Scope 1) GHG emissions	pp.80-83
305-2	Energy indirect (Scope 2) GHG emissions	pp.81; 84
305-3	Energy indirect (Scope 3) GHG emissions	pp.81; 85-86; 87-88
305-4	GHG emissions intensity	p.87
305-5	Reduction of GHG emissions	pp.82-86
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	p.100
EFFLUENTS AND WASTE		
103-1	Explanation of the material topic and its Boundary	pp.17; 19; 43; 161
103-2	The management approach and its components	pp.97-100
103-3	Evaluation of the management approach	pp.33-34. Management reviews
306-2	Waste by type and disposal method	p.99
ENVIRONMENTAL COMPLIANCE		
103-1	Explanation of the material topic and its Boundary	pp.17; 42-44
103-2	The management approach and its components	pp.32-34
103-3	Evaluation of the management approach	pp.33-34. Management reviews

307-1	Non-compliance with environmental laws and regulations	During the FY2021 there were no fines and non-monetary sanctions for non-compliance with environmental laws and regulations	
SUPPLIER ENVIRONMENTAL ASSESSMENT			
103-1	Explanation of the material topic and its Boundary	pp.17; 18; 47; 161	
103-2	The management approach and its components	pp.143-146	
103-3	Evaluation of the management approach	p.147	
308-1	New suppliers that were screened using environmental criteria	p.146	

SOCIAL

		Cross-reference/ Direct answer	Omission/Reason/ Explanation Omission/Reason/ Explanation
EMPLOYMENT			
103-1	Explanation of the material topic and its Boundary	pp.17; 18; 46; 161	
103-2	The management approach and its components	pp.105-107; 118-126; 128-129	
103-3	Evaluation of the management approach	p.114	
401-1	New employee hires and employee turnover	pp.105-107	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	pp.118-126	
401-3	Parental leave	pp.128-129	
LABOR/MANAGEMENT RELATIONS			
103-1	Explanation of the material topic and its Boundary	pp.17; 132	
103-2	The management approach and its components	pp.132	
103-3	Evaluation of the management approach	p.114	
402-1	Minimum notice periods regarding operational changes	In the event of particularly significant organizational changes, specific communications initiatives targeting broad categories of employees are envisaged to explain the reasons for the changes.	
OCCUPATIONAL HEALTH AND SAFETY			
103-1	Explanation of the material topic and its Boundary	p.17; 18; 45-46; 161	
103-2	The management approach and its components	pp.24-27; 133-135	
103-3	Evaluation of the management approach	p.33-34. Management reviews	
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	p.134	The corporate will in the future undertake to collect the data necessary for complete coverage of the indicator.
TRAINING AND EDUCATION			
103-1	Explanation of the material topic and its Boundary	p.17; 19; 161	

103-2	The management approach and its components	pp. 110-113
103-3	Evaluation of the management approach	pp.112-114
404-1	Average hours of training per year per employee	p.111
404-2	Programs for upgrading employee skills and transition assistance programs	pp.110-113
404-3	Percentage of employees receiving regular performance and career development reviews	pp.111-112
DIVERSITY AND EQUAL OPPORTUNITY		
103-1	Explanation of the material topic and its Boundary	pp.17; 45; 161
103-2	The management approach and its components	pp.107-109
103-3	Evaluation of the management approach	p.144
405-2	Ratio of basic salary and remuneration of women to men	p.133
HUMAN RIGHTS ASSESSMENT		
103-1	Explanation of the material topic and its Boundary	p.46
103-2	The management approach and its components	pp.48; 51
103-3	Evaluation of the management approach	p.48
412-2	Employee training on human rights policies or procedures	p.112
LOCAL COMMUNITIES		
103-1	Explanation of the material topic and its Boundary	pp.17; 19; 161
103-2	The management approach and its components	pp.54-56; 119-126
103-3	Evaluation of the management approach	p.55
413-1	Operations with local community engagement, impact assessments, and development programs	pp.119-126
SUPPLIER SOCIAL ASSESSMENT		
103-1	Explanation of the material topic and its Boundary	pp.17; 18; 47; 161
103-2	The management approach and its components	pp.143-146
103-3	Evaluation of the management approach	p.147
414-1	New suppliers that were screened using social criteria	p.146
CUSTOMER HEALTH AND SAFETY		
103-1	Explanation of the material topic and its Boundary	pp.35-36
103-2	The management approach and its components	pp.72-75; 135-142
103-3	Evaluation of the management approach	pp.72-75
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	There were no cases of noncompliance related to service and products health and safety impacts

This Sustainability Report has been prepared
by Hitachi Rail Global CSR & Sustainability department.
For information, please contact:
CSR & Sustainability team to
csr@hitachirail.com
Respecting the environment, Hitachi Rail has printed
this Sustainability Report on paper produced from
responsibly managed forests, according to FSC® criteria
(Forest Stewardship Council®)

Hitachi Rail Ltd
7th Floor, One New Ludgate,
60 Ludgate Hill,
London, EC4M 7AW

Hitachirail.com

On the front cover:
Lumo – A new sustainable way to travel
The new Hitachi Rail trains for Lumo provide low-carbon and affordable long-distance travel for an estimated 1 million+ passengers a year.
The fleet started operation in October 2021 on routes from London to Edinburgh.