Hitachi Rail
Corporate Social Responsibility and Sustainability Report 2020

HITACHI
Inspire the Next

CONNECTING THE FUTURE OF MOBILITY

CONTENTS

The Hitachi Rail sustainability report

This report is the way and tool with which we open and continue the 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 last years.

Additionally, in creating the report, as well as referring to the industry disclosure standards, Hitachi Rail answers to our clients and people needs, to give concrete knowledge of company solutions and commitment.

The report covers

Period. The main period covered is fiscal 2019 (April 1, 2019, to March 31, 2020)
Note. Some information on activities in April 2020 and after is also included.
Company perimeter. This edition covers Hitachi Rail's global activities except for data related to Japan business. We aim to include the Japanese business in future editions..
Social data. Boundary of data indicated under each indicator.
Reporting Cycle. Published every year as an annual report.
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Introduction

During the last year the railway sector has been subject to increasing market competitiveness and industry consolidation. Moreover, customers are very often steering towards suppliers capable of providing fully integrated transport solutions, including full service.

To face market changes, achieve its growth target and leverage on its global presence and capabilities, in the first quarter of 2020 Hitachi Rail has implemented a fully integrated global organization ensuring a "one face to the customer" approach in each lifecycle stage and based on common standards and processes.

The implemented organisation meets the following main principles:

- **Integrated global organisation**, functions, and **responsibilities – legal entities** serve as the infrastructure.
- **Dedicated** business **responsibilities for New Equipment** ('Sales & Projects' units) and Service ('Operations, Service & Maintenance' unit).
- **The New Equipment business** operates in a **matrix organisation**:

  - **Sales & Projects** units: Business development, sales, project delivery.
  - **Operations** units: Functional execution, i.e. engineering, procurement, manufacturing, construction.

- **Service (OS&M) operates globally in a matrix organisation** with an end-to-end responsibility:

  - o **Sales & Projects** units: business development, sales, programme management.
  - o **Operations** units: Functional execution, i.e. engineering, procurement;

However, in the sales phase of integrated offerings, OS&M will co-ordinate with S&P to ensure a clear customer interface.

- **Sales & Projects** units focus on **regional markets** (EMEA, Americas, Japan, APAC) with strong global coordination.
- **Rolling Stock, Signalling & Turnkey** Operations units specialize **in products**.
- **"Project Driven" organization, with strong cross-functional project teams**.
- Dedicated unit for **advanced innovation & digital** and liaison with **Hitachi Corporate**.
- Global staff functions for **administration, governance** and **business services** (e.g. Strategy, Finance, Legal, HR, IT, Quality, SHEQ, Group Procurement), including the integrated CSR and Sustainability governance inside SHEQ (Safety, Health, Environment and Quality).

Letter from the Chief Executive Officer

Dear Readers and Stakeholders,

Hitachi's mission, since it was founded more than a century ago, has been to develop superior technology for the benefit of society. As we enter 2021 and looking ahead to the coming decades, the challenge of climate change, coupled with global population growth – predicted rise by more than a quarter to 9.7bn people – looms large. As a world-leading mobility provider, with an objective to 'power good', these challenges give Hitachi Rail a clear focus.

Despite the impact of COVID-19, the evidence still suggests that an increasing majority of us will choose to live and work in cities in the longer-term. So for city authorities and urban transport providers, these global trends mean they will need new, improved transport networks, which are better integrated and digitally connected. They will also need to make their public transport networks far more environmentally friendly – by decarbonising existing services and introducing new green technology. And, this all has to happen within 20-30 years! Not a challenge for the faint of heart.

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, as well as committed to achieving ambitious 2050 decarbonisation targets.

There a several ways we can help with decarbonisation. The first and most important approach is to work with transport providers around the world to provide green, attractive public transport options. Getting people out of cars and planes and on to trains is the fastest way to have the biggest impact. For example, in Honolulu we're due to open a brand new electric railway that will offer a fast, comfortable alternative to passengers to get downtown. In Japan, our Shinkansen bullet trains have shifted the vast majority of people away from high emission domestic air travel.

Many of the world's older railways still rely upon diesel trains and, in those cases, our role is to provide new decarbonising solutions. We're pioneering battery technology around the world – with trains operating in Japan, the UK and Italy – to provide an alternative power source for trains. Often, this is a faster and cheaper way to cut carbon emissions where the railway's infrastructure is not electrified. Our ability to work with other Hitachi Group companies, including Hitachi Power Grids, enhances the offer to customers by including fast charging solutions. Our mission this decade is to rollout out

battery and charging technology to fleets across the world, so we put diesel on course to be a relic of the past, much like stream power is today.

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 waste is lower (-23.3% per hour worked), water consumption decreased (-23.7% per hour worked) and greenhouse gas emissions are down (-14.2% total CO2 equivalent per hour worked.) We also know we have more to do.

Making a difference to climate change isn't easy, and it will take a huge collective effort from all of us, but it is challenge we must rise to. Hitachi is in the unique position of having technological leadership to innovate the whole systems experience 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 mobility - for the benefit of the next generation.

Andrew Barr
Chief Executive Officer
Hitachi Rail Group

Hitachi Rail Identity

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 stocks, signalling systems and digital technology, Service & Maintenance activities as well as turnkey solutions worldwide.

The company is leading integrated rail business, offering sustainable solutions, providing people with safe, secure, comfortable transportation. Sophisticated OT defines us and manufacturing technology, cutting-edge IT, and products trusted for their high quality and reliability.

The aim is to use our technology and business to help build a sustainable society, with 100+ years of experience delighting our customers and passengers.

Hitachi Rail is a global company, which delivers railway products as its core business ranging from metro, commuter and high-speed rolling stock through to traffic management, traction and signalling solutions.

Rolling Stock

Hitachi Rail has over 100 years' experience of delivering for customers and passengers. Using engineering excellence and commitment to innovation, the teams work in partnership with customers to improve the passenger experience across rolling stock products. The aim of the design is to be accessible to all and impact society in a positive way improving people's daily lives.

Operation, Service & Maintenance

The OS&M Department has the goal 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 innovative solutions across a range of services from Service & Maintenance (S&M) for both rolling stock equipment and legacy signalling installations, as well as the Operation & Maintenance business, which includes turnkey operations, signalling infrastructures,

vehicles, buildings and facilities. Hitachi Rail's global experience across both passenger and freight systems enables to anticipate customers' needs, offering a wide range of high quality, reliable services, leading to a high-quality passenger experience.

Digital Signalling & Systems

Hitachi Rail designs, manufactures, installs and commissions signalling components, systems and integrated mobility solutions for the management and control of the new and upgraded railway, transit and freight lines worldwide and acts as a lead contractor and turnkey provider on major projects worldwide. 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.

From the wayside, on-board and office products that comprise a heavy haul or freight network, to complete turnkey systems - advanced, modular and scalable planning and control systems have improved network safety, reliability and efficiency to new levels. That's how Hitachi Rail moves the rail industry forward, connecting people and cities around the world.

Turnkey

Hitachi Rail is a global leader in designing and building automatic and fully-unmanned driverless (UTO) turnkey transportation systems, working on innovative solutions around the world; it has a structured and integrated approach, offering bespoke solutions from infrastructure and signalling to rolling stock and services, designed by teams of experienced engineers. Hitachi Rail's automatic transportation systems are designed with whole-life cost at the forefront, meaning the solutions provide a high-performance levels, increased transport capacity, high levels of safety and service availability and meet high passenger expectations from the beginning the operation. 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. The approach ensures one client contact and construction organisation leadership in place to drive the construction team during the implementation phases, during the warranty period or during operation & maintenance periods, which is often included as part of the turnkey contract. 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 project acceptance.

Components

Hitachi Rail design, develop and manufacture an extensive range of modular components across the areas of rolling stock and signalling.

Through the knowledge of experienced team and continuous improvements, the customers have access to reliable and advanced solutions.
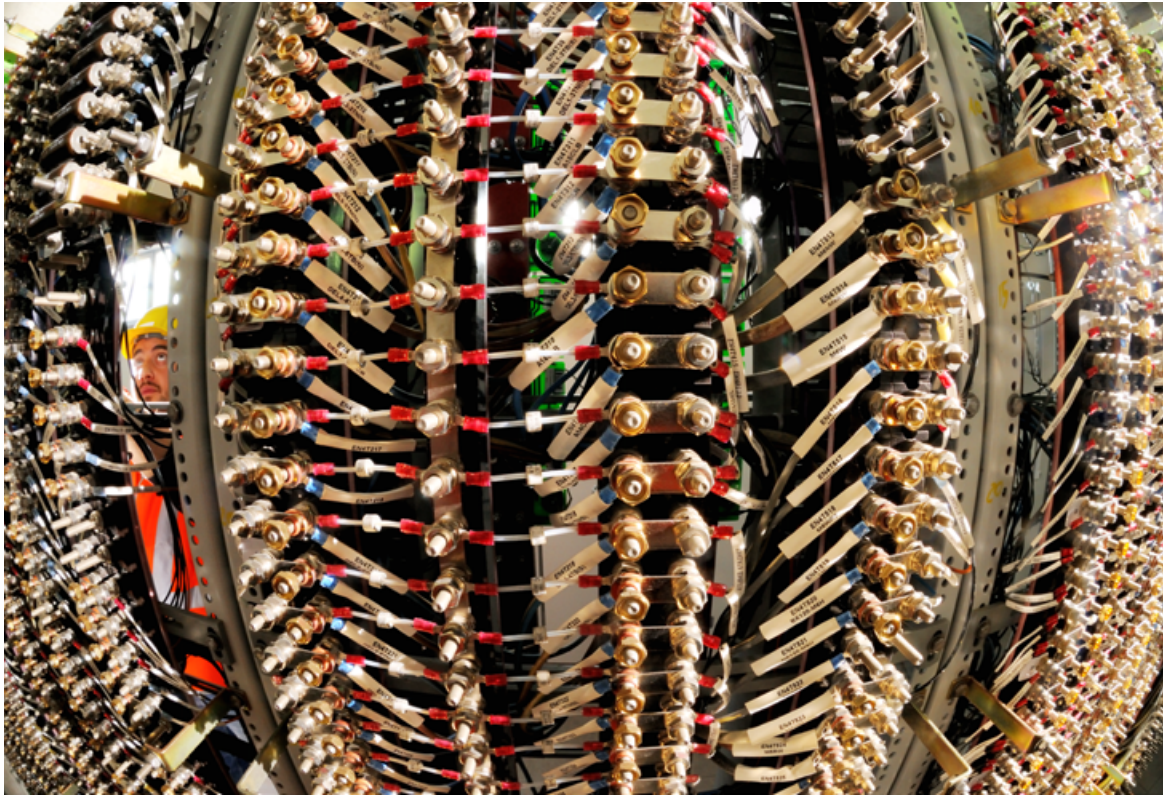
Mission, vision and values

Hitachi Rail's purpose is to contribute to society through the development of superior, original technology and products that power sustainable connectivity.

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.

Originally 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

The mission is to contribute to society through the development of superior, original technology and products.

Vision

Hitachi delivers innovations that answer society's challenges. With talented teams and proven experiences in global markets, the Group can inspire the world.

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 saying and doing, this shows that the sincerity in holding to stated values. To maintain fairness in all dealings; the reputation is founded on how go about the business.

Kaitakusha – Seishin (Pioneering Spirit)
Means to lead with ambition, seeking new challenges; be not afraid to be flexible and adapt to the changing needs of business.

Global presence

Hitachi Rail is present in 38 countries, across 11 manufacturing sites on three continents.

With around 12,000 employees, Hitachi Rail interprets the culture of sustainability as best practice, with clear goals and plans for the development of the business and the growth of group's people.

Global Head Office	Headquarters	
7th Floor, One New Ludgate, 60 Ludgate Hill, London, EC4M 7AW	Hitachi Rail SpA Headquarters Via Argine, 425, 80147 Napoli (NA) Hitachi Rail STS Headquarters Via Paolo Mantovani 3-5, 16151 Genova (GE)	Hitachi, Ltd. Headquarters Akihabara Daibiru Building, 1-18-13, Soto-Kanda, Chiyoda-ku, Tokyo, 101-8608

Main Offices	
Hitachi Rail Honolulu JV	Hitachi Rail STS - Torino
Hitachi Baltimore Rail Partners, LLC	Hitachi Rail STS - Napoli
Hitachi Rail STS Canada Inc (Toronto)	Hitachi Rail STS Deutschland Gmbh
Hitachi Rail STS Canada Inc (Mississauga)	Hitachi Rail STS Sweden AB
Hitachi Rail STS USA, Inc.	Engineering, Operations and Projects Office - UK
Hitachi Rail STS UK Ltd	Hitachi Rail STS Malaysia Sdn Bhd
Hitachi Rail STS UK Ltd (BT)	Hitachi Rail STS India Private Limited (3)
Hitachi Rail STS France	Hitachi Rail STS Australia Pty Ltd. (3)
Hitachi Rail Espana	Hitachi Rail STS Hong Kong LTD
Hitachi Rail STS España (2)	Hitachi Rail STS Railway Signaling Technology (Beijing) Co. Limited

Plant and Maintenance	
Hitachi Rail USA - Miami	Hitachi Rail STS France
Hitachi Rail STS USA, Inc - Batesburg	Hitachi Rail STS - Tito
Newton Aycliffe Manufacturing Facility	Hitachi Rail SpA - Pistoia
Doncaster Train Maintenance Centre	Hitachi Rail SpA - Reggio Calabria
Ashford Train Maintenance Centre	Hitachi Rail S.p.A. - Greece
Stoke Gifford Train Maintenance Centre	Hitachi Rail S.p.A. - Denmark PE.
Craigentinny Train Maintenance Centre	Hitachi Rail SpA/STS Naples Train Maintenance Centre
Swansea Train Maintenance Centre	Hitachi Rail SpA Florence Train Maintenance Centre
North Pole Train Maintenance Centre	Hitachi Rail SpA Milan Train Maintenance Centre
Bounds Green Train Maintenance Centre	Hitachi, Ltd. - Mito Works
	Hitachi, Ltd. - Kasado Works

Sustainability topics and contribution to SDGs

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 positioned well to make a meaningful contribution to achieving the selected SDGs. Sustainability is at the heart of company business and with an obligation to inspire and build a better and more sustainable future for employees, customers and all users of products.

Think responsibly and Act sustainably initiative is at the heart of the way the company design and plan 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: **corporate commitment**;

- 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: **business strategy**.

CORPORATE COMMITMENT

4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	15 ON LAND	16 AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS

BUSINESS STRATEGY

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
11 AND COMMUNITIES

Global Reporting Initiative Sustainability Standards

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, also considering 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 materiality of various issues along with the company's performance as well as the possibility of improving both its competitive advantage and reputation, taking related risks into account.

The topics analysed were then associated with the Sustainable Development Goals and the respective Targets[1]. 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. This resulted in the following matrix.

Sustainability Development Goals Matrix
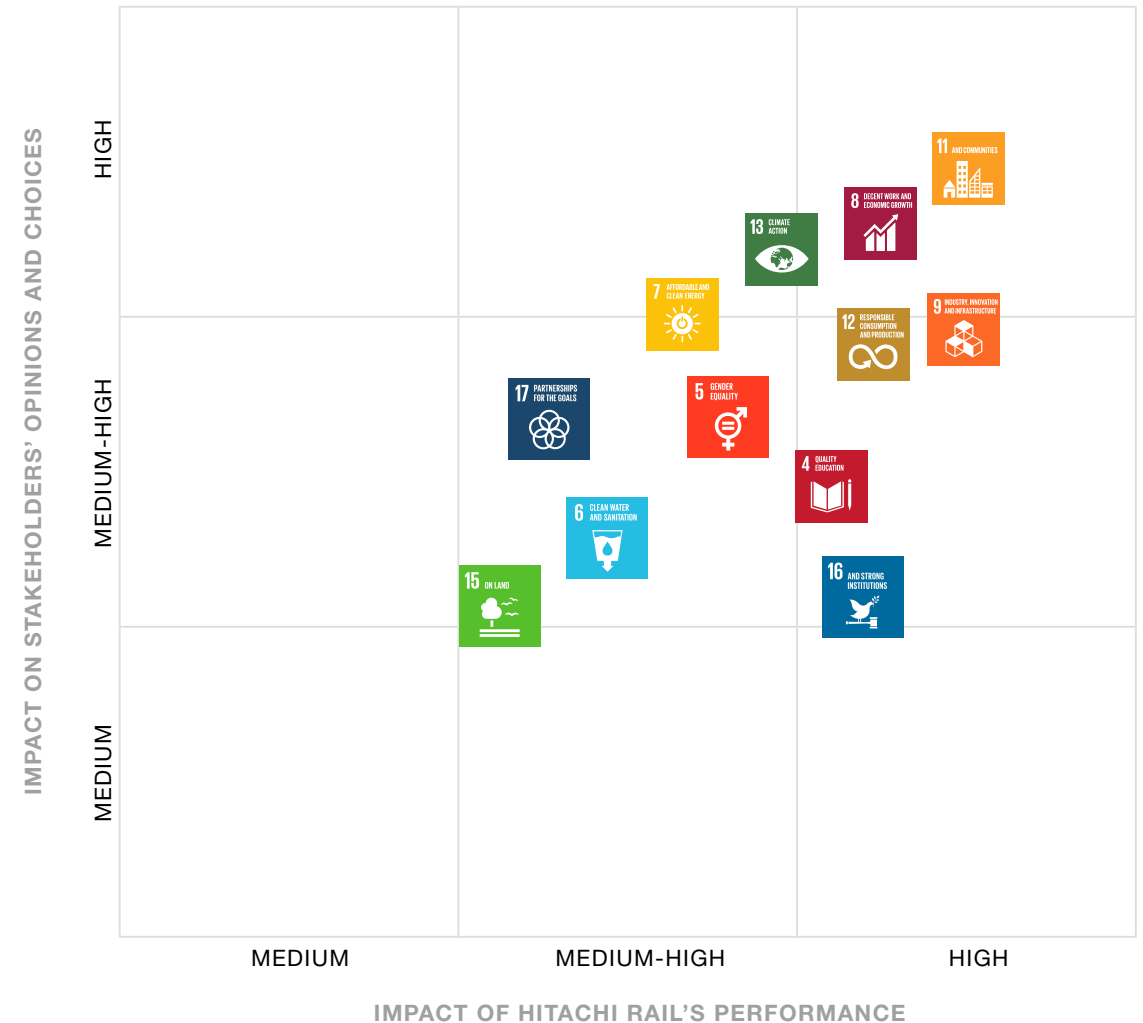
[1]The analysis was conducted using the Business Reporting on SDGs – AN ANALYSIS OF THE GOALS AND TARGETS publication developed by the Global Reporting Initiative and the UN Global Compact as reference.

SDGs	MATERIAL TOPIC (environmental, social, economic and governance)	UN TARGET to which the company contributes with its business and its policy

Goal 11: Make cities inclusive, safe, resilient and sustainable

| | CUSTOMER SATISFACTION (economic and governance) SOCIAL INNOVATION (social) INTEGRATED TRANSPORT SOLUTIONS (social) | **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

| | SOCIAL INNOVATION (social) ETHICAL MANAGEMENT OF SUPPLY CHAIN (social) | **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 (economic and governance) STAKEHOLDER INVOLVEMENT (economic and governance) EMPLOYEES RELATIONS MANAGEMENT (social) | **16.5** Substantially reduce corruption and bribery in all their forms. **16.6** Develop effective, accountable and transparent institutions at all levels. **16.7** Ensure responsive, inclusive, participatory and representative decision-making at all levels. **16b** Promote and enforce non-discriminatory laws and policies for sustainable development. |

Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all

| | HEALTH AND SAFETY (social) EMPLOYEE WELL-BEING (social) CUSTOMER SATISFACTION (economic and governance) ETHICAL MANAGEMENT OF SUPPLY CHAIN (social) RESPECT OF HUMAN RIGHTS (social) | **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

| | PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT GOVERNANCE OF SUSTAINABILITY (economic and governance) SOCIAL INNOVATION (social) | **17.7** Promote the development, transfer, dissemination and diffusion of environmentally sound technologies… **17.16** Enhance the Global Partnership for Sustainable Development,… **17.17** Encourage and promote effective public, public-private and civil society partnerships,… |

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

| | TRAINING AND DEVELOPMENT (social) LOCAL COMMUNITY DEVELOPMENT PROGRAMMES (social) | **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

| | DIVERSITY AND EQUAL OPPORTUNITY (social) | **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 CONSUMPTION (environmental) ETHICAL MANAGEMENT OF SUPPLY CHAIN (social) | **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. **7b** By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services… |

Goal 12: Ensure sustainable consumption and production patterns

MATERIAL CONSUMPTION AND RECYCLING (environmental)

ECO-DESIGN (environmental)

MANAGEMENT OF EFFLUENTS AND WASTE (environmental)

POLLUTING EMISSIONS (environmental)

CIRCULAR ECONOMY (environmental)

WATER CONSUMPTION (environmental)

GLOBAL BUSINESS MANAGEMENT SYSTEMS (economic and governance)

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

GHG EMISSIONS (environmental)

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 (environmental)

MANAGEMENT OF EFFLUENTS AND WASTE (environmental)

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials,...

Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

BIODIVERSITY PROTECTION (environmental)

15.3 By 2030, combat desertification,... and strive to achieve a land degradation-neutral world

Sustainability Governance

Delivering a sustainable, safe and high quality railway business

Greenhouse gas emission reduction is typically one of company most important targets, but not the only one, to accelerate Hitachi Rail sustainable and environmental business.
Hitachi's updated mid-term strategy, concrete targets, performance measurements and transparent disclosure are the drivers of the company'sday-to-day activities.

Hitachi Rail set targets based on achieving emission reductions through direct action within operations and the value chain, for manufacturing high quality of products, solutions and OS&M, in premises with continues awareness of global commitment.

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.

ONE HITACHI RAIL

STEERING SUSTAINABLE COMMITTEE (SSC)

CSR&S in SHEQ

GREEN ECONOMY

ECONOMIC VALUES

GBMS, CSR & Business Continuity

ENVIRONMENTAL

SOCIAL

STRONG INTERNAL COLLABORATION WITH DIFFERENT BUSINESS FUNCTIONS

Business Continuity | GBMS & SHEQ Office | CSR & Sustainability

PARTICIPATING / COLLABORATING WITH MANY EXTERNAL COMMITTEES AND GLOBAL INITIATIVES

A global cross functional strategy, highly integrated and synergic with the other business areas

Hitachi Rail defines the sustainability and corporate social responsibility strategy based on innovation and as the protagonist of a great wave of change.

- **Technological,** because the world reports 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 center 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 explosively. With a clear shift of the Supply and Demand axis towards those countries with the fastest growth.

- **Cultural (of a way of thinking),** because the change in mentality and habits is clear, only partly already started to address problems such as global environmental issues and social disparity that in 2015 led the United Nations and our companies to commit to the SDGs.

Hitachi Rail promotes and invests in the research of new ideas and in the development of new solutions to improve the quality of life of the main stakeholders (customers, employees and, finally, our planet).

In response to the Intergovernmental Panel on climate change, Hitachi Rail confirms its leadership as a sustainable, integrated and global player in the transport business as shown in this report.

The company continues to promote and aims to increase the use of recycled materials and reduce greenhouse gas emissions, innovate the processes of recycling products, and design efficient products and solutions.

At the same time, thoughts inevitably turn to the impact of the pandemic on people's lives. Hitachi Rail knows that some changes and adaptations, such as remote working, could become the new normal in the future.
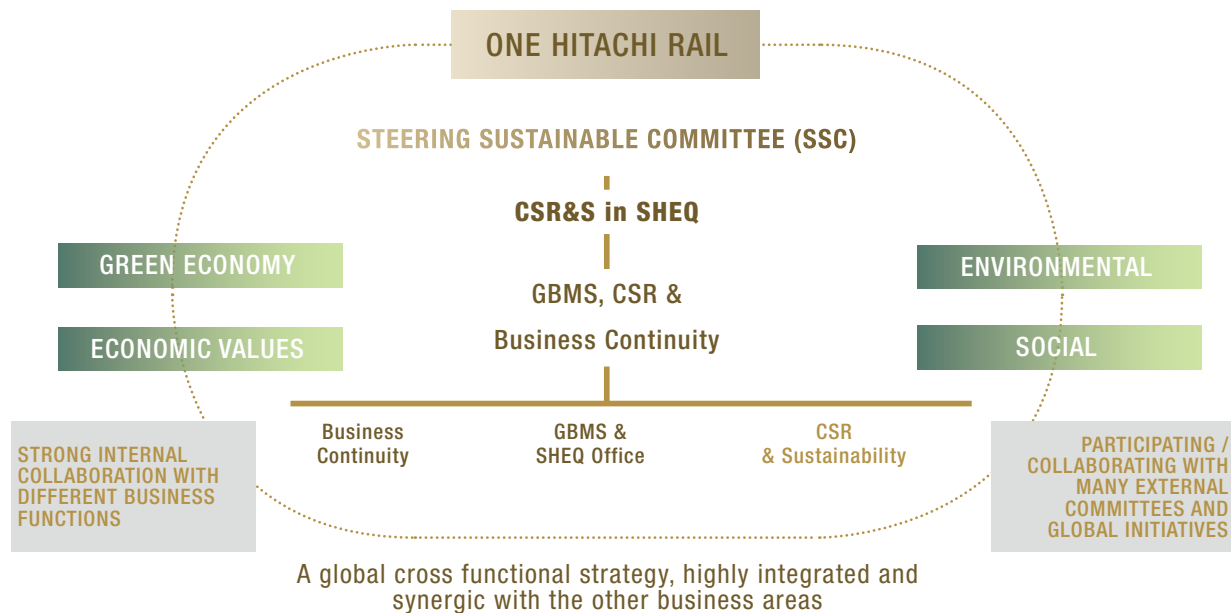
In this pandemic period, the company has understood that the measures taken to combat the Covid-19 emergency and the economic trend are so intertwined that they can hardly be separated. For this reason, the Health, Environment and Safety department and the Corporate Social Responsibility and Sustainability function of the group address these issues to provide solutions to multinationals distributed all over the world such as Hitachi Rail.

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.
- Implement concrete projects on product/services development.
- Have a premises management for Environmental and Sustainable impact.
- Promote sustainable products referring to its social and environmental Impacts during manufacturing and after the product's uses.

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.
- Have a premises management for Environmental and Sustainable impact.
- Promote sustainable products referring to its social and environmental Impacts during manufacturing and after the product's uses.

Using a common language and shared purpose

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

OUR CULTURE & VALUES
- Designing smart city solutions to be more convenient and environmentally-friendly
- Accelerating customer's innovation with advanced IoT solutions.

OUR PREMISES
- Green Plants and Offices thank to photovoltaic, Solar Power Solution and Electrical car Sharing;
- Developing the business and manufacturing of our products/solutions in sustainable and highly efficient plants in terms of climate impact

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 with strong COVID procedures
- Focus on skills development and training on CSR & Sustainable Goals
- (Think Responsibly, Act Sustainably campaign)

Hitachi Rail considers CSR as its business contribution to sustainability for which we all have responsibility, and develops its commitment through specific climate action plans.
The Hitachi Rail Action Plans covers a 10-year period and will allow emissions to be reduced through a series of innovative and wide-ranging actions.

The plans have defined actions, objectives and results, to accelerate the process of reducing CO_2 emissions and to design from the outset then develop concrete solutions. Hitachi Rail has an impact on most SDGs in four important ways, through:

- Products and solutions
- Managing responsibly the activity and its assets
- Continuous training
- The measurement of its performance in a perspective of continuous progress.

There are various possible strategies. It depends on what we want to promote, a brand or a product

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
- Improve efficiency
- New Value creation
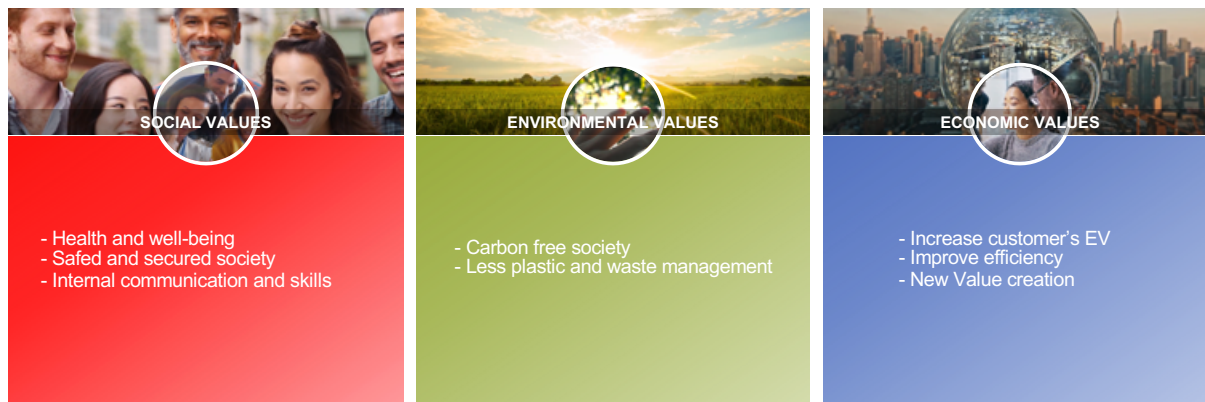
— **HITACHI RAIL WANTS TO PROMOTE SOLUTIONS** —

Hitachi Rail is committed to reducing the impact of its activities on the environment. Core 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 adopt 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 are in the process of acquiring 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.

In its supply chain and its own operations, Hitachi Rail is investing in a Circular Economy initiatives to reduce the amount of waste from its value chain. Increasingly, Hitachi Rail ensures that the factories of suppliers participate in an Energy Efficiency Program 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).

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 so Hitachi Rail, can continue and further encourage collaboration with governments, companies, non-governmental organizations and consumers around the world to support policies to strengthen environmental protection and transition to clean energy, already fundamental commitments of the Group, to 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 the analysis of policies, their implementation and the results achieved.

The assessment focuses on 21 topics divided into four categories: Environment, Employment and Human Rights, Ethics, 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, the results achieved are reported:

- **Hitachi Rail STS confirms its Gold Medal Award for the second consecutive year**
- **Hitachi Rail SpA receives 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.

Sustainability Steering Committee

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 plays an active role in the management of relationships with local communities.

Committee's mission is to achieve the company vision and long-term environmental goals, respecting and protecting social relations, in pursuing continuous improvement of governance through a global structure, with effective decision-making and implementation. It's dedicated to 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 developed.

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). The Committee makes decisions, requests and verifications regarding three macro areas of intervention:

- resource efficiency and environmental management process and the Group's social report;
- compliance with the relevant law and rules;
- performance and results monitoring.

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), organisation's structure, roles and responsibilities (organisational roles), operation practices and rules (process excellence), platforms and tools (enterprise architecture).

Health, Safety and Environment (HSE) Management System

The HSE Department provides the Management System, reporting arrangements and assurance for the related Company HSE Risks that could compromise the achievement of the Company's Objectives (i.e. stop of projects, stop bid participation, stop entire Company and very huge fines).

HSE issues could have high potential impact on the company:

- HSE Risk threatens business continuity. Adverse Public Opinion and Client lobby groups widespread at global level, could significantly impact the firm reputation and ability to raise capital.

- HSE has to set, maintain and improve a positive reputation of HSE Excellence contributing as a reliable partner for current and new customers, driving continuous improvement in HSE to meet and exceed market expectations.

Strong and competent HSE Management also helps to avoid the related 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 incarceration of Group senior managers which could disrupt 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

Production sites

COUNTRY	CITY	IRIS[2]	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	–	☑	☑

[2]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).

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.
- Less 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.

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 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.
- 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 anticipate changes to hazard identification or risk assessment requirements.

Risk management

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

Employee well-being

Risk description

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

Risk management

- Increase continues communications and employees well-being programs
- Continue to monitor employees' engagement through annual survey

Diversity and equal opportunity

Risk description

- Attracting appropriate talent
- Ensuring equal opportunity

Risk management

- Continue 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

Respect of Human Rights

Risk description

- Potential labour disputes

Risk management

- Ensure effective internal communication and measures to respect and protect Human Rights

Ethics and integrity

Anticorruption

Risk description
- Potential risk of employees, directors or administrators committing anti-corruption violations whilst carrying out business activities.

Risk management
- Implementation of an adequate compliance programme and relevant controls in place that: 1) applies a zero-tolerance principle on any form of corruption; 2) is properly diffused and regularly monitored to avoid compliance violations from behalf of the company's employees.
- Implementation of yearly and ad-hoc training provided to employees on the code of ethics principles, values as well as key anti-corruption laws that must be respected at all times.

Ethical management of Supply Chain

Risk description
- Changes in Government requirements mid contract.
- Supplier non-compliance.
- Increased volume of Suppliers globally.

Risk management
- Assessment of Suppliers during On Boarding Supplier phase.
- Supplier Code of Conduct signature at contracting stage.
- Continued surveillance to verify on going compliance.
- Escalation process for non-compliance.

Code of Ethics

The Hitachi Group Codes consist of rules and principles (Ethics, Conduct, Supplier Code of Conduct, Compliance Manual) intended to assist officers and employees in making decisions and taking actions in accordance with the Hitachi Group Identity.
The management of Hitachi Rail continuously confirms the commitments and ethical responsibilities, which must guide the conduct of the business and corporate activities of all of those who have relationships of any kind whatsoever with Hitachi Rail.
Hitachi Rail, in order to achieve its targets, bases its activity on values which are shared by all Directors, Senior Management, Employees and all of those who operate within its global structure.

Whistleblowing

Hitachi Rail promotes knowledge of and compliance with the Code of Ethics and laws and regulations. In case of any non-observance or violation, appropriate disciplinary action or contractual sanctions will take place. Any violations of laws and regulations 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 the following link: hitachi.ethicspoint.com[3]

The company ensures that no-one in the workplace is subject to any retaliation, illegal conditioning and discriminating treatment of any kind, for having made 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 risks of unlawful practices. The Group, promotes and implements a corporate culture inspired by responsibility, fairness and ethics, basing its activity on ethical values and compliance, critical for the achievement of corporate goals and success in the market and influencing the relationships with any parties with an interest in Hitachi Rail. In this regard, the Group in carrying out its activities considers integrity and respect for Laws, including Anti-Corruption laws and regulations, as fundamental ethical principles and requires its Groups' senior management to set the example for all employees and co-workers with their behaviour.

The various Group Companies have defined a Manual to provide principles, roles and responsibilities, identifies main risk areas of corruption as well as the main elements to be implemented to manage effectively the risk of corruption within the Group.

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 have 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 companies 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 of other regions in which Hitachi Rail conducts business. Furthermore, the Groups 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.

Export & Trade Compliance

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

Hitachi Rail shares the concerns of international community on the proliferation of weapons of mass destruction and the excessive accumulation of conventional weapons, therefore the Group decides to comply with the all applicable export control laws and regulations.

In order to reach this target Hitachi Rail will exercise Export and Trade Control due diligence against any possible illicit transactions and contribute to the maintenance of international peace and security.

Hitachi Rail ensure 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.

In order to achieve strict compliance, Hitachi Rail are developing in all Companies an Export and Trade Compliance Program (hereinafter ECP) in order to prevent, manage and monitor the risk of non-compliance with the applicable legislation and regulations on trade, export, import, re-export or re-transfer of goods (tangible or intangible), technologies, information, and services classified as "Dual-Use".

Hitachi Rail undertakes to implement an efficient and effective compliance program providing a risk management tool applicable to the complexities and specific characteristics of all Companies of the Group; all Hitachi Rail Employees – especially those directly involved in trade, export, transfer, re-export and re-transfer activities/processes – are requested to operate in fully compliance with the Laws and Regulations in force.

A Hitachi Rail Target is to provide an ECP that meet the standard controls required by the World Wide Best Practice (included the European Commission Recommendation 2019/1318).

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 fourth 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.

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. Rail sector is characterised by a predominance of male employees and, if Hitachi Rail has to meet the demands of a modern railway, it has to introduce people new to the industry from a multitude of backgrounds and possessing different skills. Equally importantly, greater diversity enables to create the best, most innovative products and services for customers and the wide cross-section of passengers they serve.

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

RELEVANT DOCUMENT - Gender Pay Gap Report 2019 - Hitachi Rail LTD

deliver.

Stakeholder 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 stakeholder engagement, aiming to progressively intensify dialogue and partnership opportunities to create shared value.

STAKEHOLDERS	OPPORTUNITIES FOR INFORMATION	CONSULTATION/ DIALOGUE	PARTNERSHIPS
CUSTOMERS	• Periodic project meetings • Meetings with customer senior and top management • Participation at trade fairs, conferences and opening ceremonies • Communication via the social media	• Customer satisfaction survey • Hazard Workshop to test the safety of products and solutions • Open Day to collect feedback from end users	• Joint venture agreements
HUMAN RESOURCES	• Information about the Company's performance, delivery of its main projects, acquisitions of new orders	• Employee engagement analysis through launching of a yearly global survey • Assessment of managers by groups of peers (360° for executives) • Talent selection and development programmes • Coaching sessions for international work teams (Project team effectiveness)	• Partnership with the Faculty of Electrical Engineering at the University of Genoa, with membership of the careers guidance committee. • Collaboration with the Department of Civil, Construction and Environmental Engineering of the University of Rome "La Sapienza" in relation to the Level II Masters in "Infrastructural and Rail Systems Engineering"
SUPPLIERS	• Requests for information, references, and catalogues. • Structured feedback to suppliers, recorded as to the progress of their qualification within the suppliers portal.	• Requests for technical and price-based bids and negotiations • Online survey of sustainability issues (TenP of Global Compact Network Italy Foundation) • Sharing of the necessary corrective actions requested and planning of actions following non-compliances discovered during the performance evaluation stage with the suppliers.	• Medium- to long-term supply contracts

STAKEHOLDERS	OPPORTUNITIES FOR INFORMATION	CONSULTATION/ DIALOGUE	PARTNERSHIPS
LENDING INSTITUTIONS	• Invitations to participate in deals • Communication and presentation of project data	• Meetings to present projects and their details • Contract negotiation (guarantee texts, credit letters and pricing negotiation)	• Partnership for the guarantees related to the O&M Riyadh Metro and O&M Riyadh Princess Noura, mRing 3 Copenhagen, Tel Aviv Red Line, Mumbai Line 3 and the Florence Hub projects • Partnership and beauty contest for guarantees relative to the newly acquired projects, among which O&M Riyadh
INVESTORS/ FINANCIAL ANALYSTS	• Roadshows • Conferences • Video conferences	• Roadshows • Conferences • Video conferences	• Joint research projects
LOCAL AUTHORITIES/ PUBLIC ADMINISTRATION	• Regular institutional communications	• Ongoing dialogue on different occasions and for jointly-managed projects	• CSR projects jointly-managed with local institutions
LOCAL COMMUNITIES	• Reports on the progress of projects to the local community (together with the local institutions)	• Participation in local stakeholder committees • Rail user satisfaction surveys	• Participation in local community development projects and CSR initiatives
INDUSTRY ASSOCIATIONS	• Institutional communications (internet news, press releases, etc.)	• Consultations about potential partnerships for research projects	• Joint research projects
MEDIA	• Regular institutional communications	• Consultations for more details of specific issues	• Joint research projects
DIGITAL USERS/ SOCIAL NETWORK	• Regular institutional communications	• Ongoing communications and regular updates of the website	• Partnerships with social networks to develop web communications and relations.

Involvement with local communities

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 supporting communities falls 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 a general coordination given by the strategy and mission of the company, but even more 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 operates.

An example of this commitment is given by the now historic initiative at factory in Riom in France. Since 2015 a collaboration started in the plant of Riom where the company hosts ACTIVADIS.

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

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

The localization of this activity facilitates training of quality staff over a long period. Finally yet importantly, support and give 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 fulfillment of the obligation to employ disabled workers.

Main initiatives

The major support and cooperation activities brought forward at the local level in each of the areas where Hitachi Rail operates are listed below, and the UN Sustainable Development Goals are also associated with each initiative.

ITALY

INITIATIVE	GOAL	GOAL CONSIDERED
We Care About Us	• In-house communication project for Italy with a view to promote well-being in the company	• **Goal 3:** Good health and well-being for people.
Liberidimuoversi	• Support provided to the association to build a cycle path in Genoa	• **Goal 11:** Sustainable cities and communities; • **Goal 9:** Industry, Innovation And Infrastructure.
A.F.co.D.A.	• Support provided to the Associazione Famigliari contro i Disturbi Alimentari (Association of Family Members Against Eating Disorders)	• **Goal 3:** Good health and well-being for people.
Dianova	• Support provided to the Dianova Onlus association that helps people with problems with various problems with addiction	• **Goal 3:** Good health and well-being for people.
Purchase of tickets to the Carlo Felice Theatre	• Purchase of tickets for Carlo Felice Theatre in Genoa for ANFFAS Onlus.	• **Goal 3:** Good health and well-being for people.
Differenza Donna Onlus	• Initiative to fight violence against women together with the Differenza Donna Onlus association.	• **Goal 5:** Gender equality.
Donation Umberto Veronesi Foundation	• To support the scientific research on female cancers in occasion of the International Women's Day	• **Goal 3:** Good health and well-being for people.
Alternating School and Work	• Initiative promoted by the MIUR (Italian Ministry of Education, Universities and Research) to bring the future generations closer to the world of work.	• **Goal 4:** Equal and quality education.
School Days	• To welcome school and university students into manufacturing plants to give an insight into work and the world of railway	• **Goal 4:** Equal and quality education.

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 the 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).

INNOVATIVE SOLUTIONS

SOCIAL RESPONSIBILITY

FINANCIAL SAVINGS

WORK AS ONE HITACHI

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 designed for specific local needs.

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

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

It is also a project as 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.

EMEA

INITIATIVE	GOAL	GOAL CONSIDERED
Covid-19 - Facial masks donation	• Mask donations to Charity associations in Denmark & Sweden	• **Goal 3:** Good Health & Well-being
Office Trainees	• Hitachi have office trainees, to train them and provide them with a general office education	• **Goal 4:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
DHL Relay run	• The world biggest relay-run. Employees run 5 km and the fee is sponsoring local sport clubs	• **Goal 3:** Good Health & Well-being
Donation of used jackets	• When the company changed name from Ansaldo to Hitachi, we had a lot of quality warm cloth with our logo on. We removed the logo, and donated the warm cloth and shoes to homeless people	• **Goal 12:** Ensure sustainable consumption and production patterns
Walk for climate	• The company donated 1 DKK for every kilometre that the employeed walked in the month of November. The employees could vote between 3 different organisations. They chose Rainforest Trust. Where the donated amount went to buy up rainforest.	• **Goal 15:** Life on land
International Women's day	• Participation to the social network campaign to promote the International Women's day	• **Goal 5:** Achieve gender equality and empower all women and girls
Alternance (School / Work) & apprenticeship	• Initiative followed every year in partnership with education world (High Schools, Engineering schools) to train and integrate students and graduates to the business	• **Goal 4:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

EMEA

INITIATIVE	GOAL	GOAL CONSIDERED
Petits Chaperons Rouges	• The company subsidizes cradles in creche for the children of employees	• **Goal 3:** Good Health & Well-being
Elles Bougent	• Partnership with Elles Bougent association to promote women's carriers in the industry	• **Goal 4:** Quality education
Walk for Climate	• For every kilometre the employeed worked in the month of November, the company donated Sek 1 per kilometer	• **Goal 3:** Good Health & Well-being
Floorball, renting a gym hall	• We pay for hall, give one hour during working hours per week to play floorball	• **Goal 3:** Good Health & Well-being
Pink Day	• Everyone wears one pink item for a day in solidarity for the women suffering from Breast Cancer	• **Goal 3:** Good Health & Well-being

UK

INITIATIVE	GOAL	GOAL CONSIDERED
Primary Engineer	• To engage primary aged children into STEM education – 50 schools across the UK involved	• **Goal 4:** Equal and quality education
Sponsorship of South Durham UTC (University Technical College)	• Governance, work experience and industry project mentoring to STEM students aged 14-18	• **Goal 4:** Equal and quality education
Women in Construction - Women on Track	• Work placement for unemployed women to encourage them back into work	• **Goal 5:** Achieve gender equality and empower all women and girls
Electric Engines & Future Engineers	• Primary and secondary school STEM education engagement sessions in partnership with the Science Museum Group	• **Goal 4:** Equal and quality education
Corporate support for the 'Railway children' charity	• Support for young people to get them off the streets across the world	• **Goal 16:** Promote just, peaceful and inclusive societies
Women who Wander - Community Rail Lines	• Girls from local colleges - interactive STEM day and how using the railway can open up opportunities	• **Goal 5:** Achieve gender equality and empower all women and girls
Period dignity	• Regular donations to the food bank of sanitary products	• **Goal 5:** Empower all women and girls
Local community and educational visits to factory and depots	• Engage with neighbours and educational institutions to promote the Hitachi Rail brand values	• **Goal 16:** Promote just, peaceful and inclusive societies

AMERICAS

INITIATIVE	GOAL	GOAL CONSIDERED
Blood Donation Drive (USA)	• Hitachi Rail's Pittsburgh employees participated in the annual blood donation drive led by the American Red Cross	• **Goal 3:** Good health and well-being for people
Greater Pittsburgh Community Food Bank charitable donation equal to 25,000 meals (USA)	• Supported the "Covid-19 Emergency Food Distribution" initiative of the Food Bank to help alleviate food insecurity in the Pittsburgh Region, which accelerated due to the pandemic.	• **Goal 1:** Zero poverty; • **Goal 3:** Good health and well-being for people; • **Goal 10:** Reduce inequalities.
Hawaii First® Robotics Tech Challenge sponsorship (USA)	• The FIRST® Robotics Tech Challenge is a pathway for students to develop science, technology, engineering and math ("STEM") skills.	• **Goal 4:** Equal and quality education
Project Homes (USA)	• Support for the special event that benefits Project Homes, an initiative of SEPTA that works to alleviate homelessness in the city of Philadelphia.	• **Goal 1:** Zero poverty; • **Goal 10:** Reduce inequalities.
Providing Surgical-grade Facemasks to the public (Panama)	• Supported the Panama Ministry of Health's campaign to provide 50,000 surgical-grade facemasks to the public, with the help and coordination of el Metro de Panama	• **Goal 3:** Good health and well-being for people.
Puericultorio A. Pérez Araníbar Care Center donation (Peru)	• To help the most vulnerable members of society during Covid-19, Hitachi Rail contributed to a Lima-based organization that specializes the care, feeding, housing and education of infants, children and teenagers facing extreme poverty and homelessness. Under the total protection of the state, these young people have been orphaned or referred for care by the judicial system.	• **Goal 1:** Zero poverty; • **Goal 3:** Good health and well-being for people; • **Goal 10:** Reduce inequalities.
Casa de Todos Charitable Donation to Alleviate Homelessness (Peru)	• With a focus on helping homeless children and youth, Hitachi Rail's Lima project donated to Casa de Todos to provide emergency housing to the most vulnerable members of the community during the Covid-19 pandemic.	• **Goal 1:** Zero poverty; • **Goal 3:** Good health and well-being for people; • **Goal 10:** Reduce inequalities.

AMERICAS

INITIATIVE	GOAL	GOAL CONSIDERED
Association of Public Transportation Authorities (APTA) member (USA)	• APTA is an association of the public transit industry that operates in the USA to promote economic impact, innovation and social prosperity of mass transit authorities and their industry suppliers, and fosters contacts between its members	• **Goal 8:** Decent work and economic growth; • **Goal 9:** Industry, Innovation and Infrastructure.
GoRail member (USA)	• GoRail is an association of the railway industry that operates in the USA to promote economic impact, innovation and social prosperity of Class 1 Freight Railroads and those who supply them.	• **Goal 8:** Decent work and economic growth; • **Goal 9:** Industry, Innovation and Infrastructure.
Move Oahu Forward member (USA)	• Move Oahu Forward is a coalition of Hawaii business and community leaders whose mission is to support initiatives that improve mobility and quality of life while also strengthening the economy, managing growth and protecting Oahu's unique environment and way of life.	• **Goal 8:** Decent work and economic growth; • **Goal 9:** Industry, Innovation and Infrastructure; • **Goal 11:** Sustainable cities and communities; • **Goal 13:** Action for the climate.
The Salvation Army's Treasures for Children campaign donation (USA)	• Hitachi Rail contributed to The Salvation Army's annual Treasures for Children campaign to help Pittsburgh-area families in crisis due to medical issues, unemployment, homelessness, or other difficult circumstances and otherwise would not have the resources to celebrate Christmas.	• **Goal 1:** Zero poverty; • **Goal 10:** Reduce inequalities.
National Railroad Construction and Maintenance Association (NRC) member (USA)	• NRC is a US-based trade association that advances the mutual interests of railway contractors and suppliers who construct, maintain and supply freight railroads and rail-transit lines.	• **Goal 8:** Decent work and economic growth; • **Goal 9:** Industry, Innovation and Infrastructure.
Railway Systems Suppliers, Inc. (RSSI) member (USA)	• RSSI is a trade association serving the communication and signal segment of the rail transportation industry. RSSI's primary effort each year is to organize the trade show for its members to exhibit their products and services.	• **Goal 3:** Good health and well-being for people

ASIA PACIFIC

INITIATIVE	GOAL	GOAL CONSIDERED
Australasian Railway Association (ARA) member	• Company membership of railway industry association that operates in Australia and New Zealand with a view to promoting economic productivity and social prosperity, and paving the way for technological uptake and emerging economic, freight and urban planning priorities	• **Goal 8:** Decent work and economic growth; • **Goal 9:** Industry, Innovation and Infrastructure.
Blood donations	• Participation of Hitachi Rail employees in blood donation campaigns promoted by the "Red Cross Blood Transfusion Service" in Australia and the "Red Cross" in India.	• **Goal 3:** Good health and well-being for people
White Ribbon Day	• Donation to the "White Ribbon Day" association committed to fighting domestic violence.	• **Goal 5:** Gender equality
R U OK? Day	• Initiative that promotes the development of attention paid to psychological well-being topics.	• **Goal 3:** Good health and well-being for people

ASIA PACIFIC

INITIATIVE	GOAL	GOAL CONSIDERED
Staff Social Days	• Initiative that takes our colleagues into a context outside the workplace that seeks to foster social interaction.	• **Goal 3:** Good health and well-being for people
Harmony Day	• "Harmony Day" is an Australian initiative that celebrates cultural diversity. Hitachi Rail coleagues gather together to share dishes typical of their respective cultures of origin.	• **Goal 3:** Good health and well-being for people
Wildlife Bushfire Recovery	• To support recovery efforts following Australia's devastating bushfires, Hitachi Rail employees joined together to raise funds for the WIRES wildlife rescue & rehabilitation charity which provides rescue and rehabilitation for all native Australian fauna.	• **Goal 13:** Take urgent action to combat climate change and its impacts • **Goal 15:** Protect. Restore and promote sustainable use of terrestrial ecosystems, sustainable manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

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, 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 to recognise the company's position among the founding members of the Italian Network in 2009 and 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 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 for a modal shift in transportation, in line with the indications of the transportation white book published by the EU Commission. Furthermore, also 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.

Brescia Metro Station

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; and
- Institutional investors' disclosure on ESG risks.

The European Commission subsequently appointed the Technical Expert Group on Sustainable Finance (TEG), comprising a multi-stakeholder group of experts brought together by the Commission to establish the guidelines for sustainable finance in Europe and to provide consulting on four specific issues referring to: taxonomy, prioritising environmental issues and more specifically, on the mitigation and adaptation to climate change; improving the guidelines on reporting information related to climate; the introduction of a European Green Bond Standard; 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

Environmental vision and targets

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.

In order 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 the preventive analysis of the aspects and impacts of its operations on the environment and the constant monitoring of consumption and waste generation. This approach has allowed the company to identify environmental improvement areas and to deliver specific measures to meet today's requirements and the future needs.

Environmental policy

Hitachi Rail has adopted a certified **Environmental Management System** that responds to international standard UNI EN ISO 14001.

The system comprises a series of internal environmental management regulations aimed at ensuring the prompt identification of the most significant environmental impacts and the adoption of the most effective management and mitigation measures through a structured service monitoring system.

In the context of its Environmental Management System, Hitachi Rail has adopted an Environmental Policy that places attention to the safeguarding of 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:

- Protect the environment by preventing impacts.
- Improve and foster the environmental characteristics of products and services.
- Create value for the company.
- Satisfy and go beyond the legal obligations of compliance and voluntary commitments.

The four strategic objectives

1. **Application** of **Environmental Management Systems** recognised at the international level to the entire Organisation, inspired 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 September 2020, the Hitachi Group announced its Hitachi Environmental Innovation 2050 vision, which contains long-term reduction targets for CO_2 emissions per unit of 50% by fiscal 2030 and 80% by fiscal 2050 (compared to fiscal 2010 levels) throughout Hitachi's value chain, including its businesses such as Hitachi Rail.

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 identifies 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

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 principle for many years. Different design solutions fitting the same technical requirements, are evaluated since 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 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 trainset 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 test 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 environmental impact generated by products services and infrastructures around us is determined at Project Stage"
(J. Thackara, 2008).

Most of environmental impacts related to 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, simulations for energy consumption calculation during operations have been validated by certification body during 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 wastes 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 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 hypothesis 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 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).

RAW MATERIAL
EXTRACTION

MANUFACTURING
ACTIVITIES

SUPPLIERS

HITACHI RAIL
MANUFACTURING
PLANTS

CORE
MODULE

USE
AND MAINTENANCE

DOWNSTREAM
MODULE

END OF LIFE
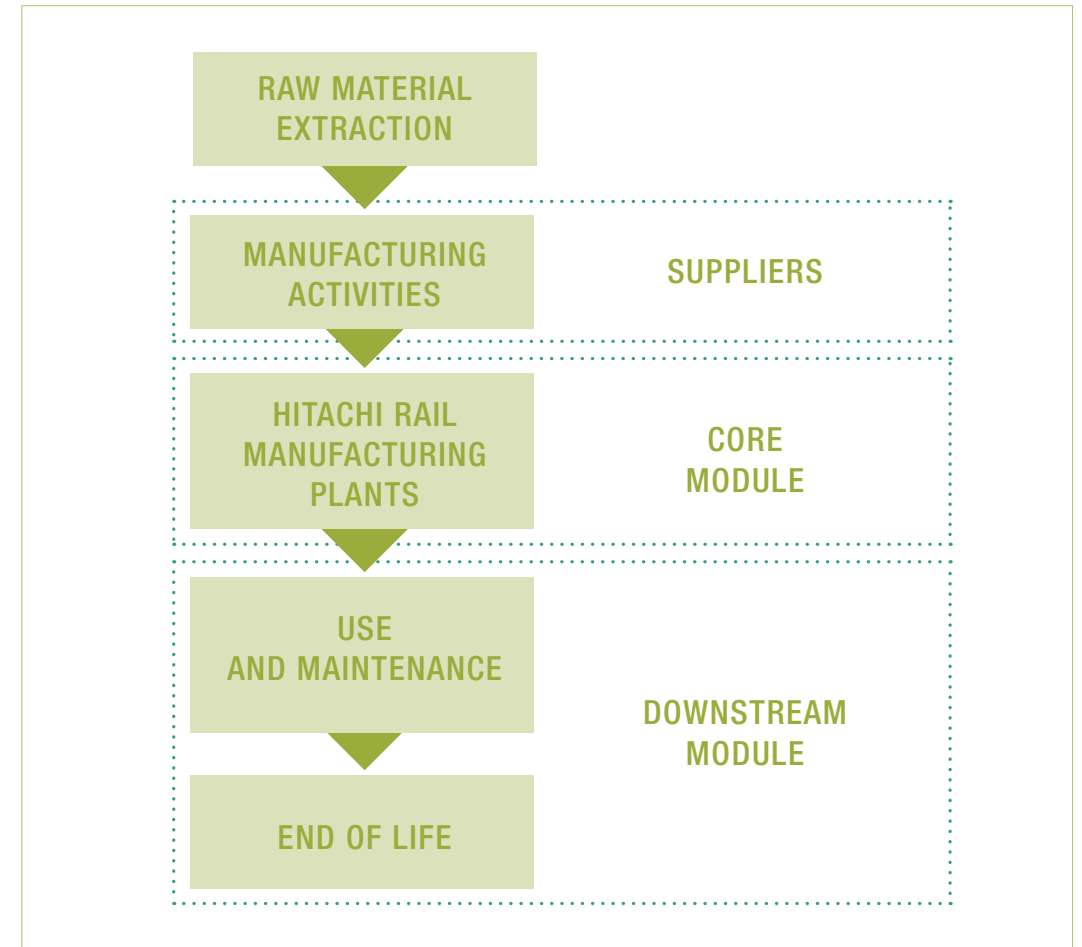
LCA studies are used by Hitachi Rail to let Design focus on the main sources of environmental impacts related to trainset life cycle, in order to find possible alternative solution to reduce environmental footprint.

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 trainset life cycle is modelled in the LCA study.
Hitachi Rail EPDs are published on International EPD System web site
https://www.environdec.com/library

CO$_2$ emission reductions at production sites and offices

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

Hitachi Rail's environmental policies aim to reduce its impact on the environment. Its policies identify the areas of intervention; the selected specific indicators and related targets to achieve.

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.

This strategy focuses mainly on three spheres of influence:
- in-house activities and direct emissions from Hitachi Rail's own sites - **Scope 1 emissions**;
- electrical energy suppliers and their operating emissions related to Hitachi Rail's activities - **Scope 2 emissions**;
- 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, as envisaged by the GHG Protocol , 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 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 77,449 tCO2e in the year ended 31.03.19 to 66,488 tCO2e in the year ended 31.03.20, with a reduction of 10,961 tCO2e (-14.2%).

GHG Emissions [tCO2e]

30.03.19: 17,745 / 26,486 / 33,128
31.03.20: 16,008 / 22,410 / 28,070

- Total scope 3
- Total scope 2 (location based)
- Total scope 1
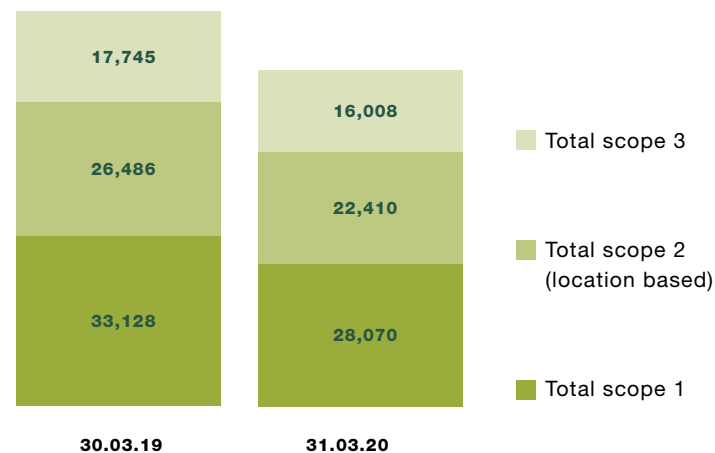
The following table provides detailed information on Greenhouse Gas emissions. It includes emissions coming from electricity consumption by location, calculated using average emission factors relating to the energy mixes of the different countries where the company operates. It also considers emissions according to the market-based approach, involving the use of emission factors defined on a contractual basis with the electricity supplier (and if not available, the residual mixes or secondly the national energy mixes).

GHG EMISSIONS[3]		UoM	31.03.19	31.03.20	
GHG Scope 1					
Emissions due to energy production (natural gas)		tCO2e	10,949.1	9,568.5	
Emissions due to energy production (diesel fuel)		tCO2e	21,502.6	17,101.6	
Emissions due to transport - company lorries and forklifts		tCO2e	766.5	1.399.5	
Total Scope 1 (direct emissions)		**tCO2e**	**33,218.2**	**28,069.6**	**-15.5%**
GHG Scope 2					
Emissions due to electricity consumption (location based)		tCO2e	26,203.3	22,373.6	
Emissions due to electricity consumption (market based)		tCO2e	29,894.0	24,385.3	
Emissions due to district heating		tCO2e	282.3	36.9	
Total Scope 2 (indirect emissions - location based)		**tCO2e**	**26,485.5**	**22,410.5**	**-15.4%**
Total Scope 2 (indirect emissions - market based)		**tCO2e**	**30,176.3**	**24,422.2**	**-19,1%**
GHG Scope 3					
Emissions due to employee mobility		tCO2e	9,514.2	9,104.1	-4.3%
	flights (short range)	tCO2e	2,523.0	2,244.7	
	flights (long range)	tCO2e	6,991.2	6,859.4	
Emissions due to consumed materials		tCO2e	7,138.0	6,073.2	-14.9%
	paper	tCO2e	121.6	99.7	
	packaging (cardboard, plastic and wood)	tCO2e	256,9	235.1	
	natural gas	tCO2e	1,522.1	1,330.2	
	diesel	tCO2e	5,154.7	4,403.5	
	petrol	tCO2e	0.3	0.1	
	LPG	tCO2e	82.3	4.6	
Emissions due to the production of waste		tCO2e	425.5	307.5	-27.7%
	recovered	tCO2e	261.5	213.7	
	disposed of	tCO2e	164.0	93.8	
Emissions due to water treatment		tCO2e	667.3	523.1	-21,6%
Total scope 3 (indirect emissions)		**tCO2e**	**17,745.0**	**16,007.9**	**-9,8%**
Total GHG emissions (location based)		**tCO2e**	**77,448.8**	**66,488.0**	**-14.2%**
Total GHG emissions (market based)		**tCO2e**	**81,139.5**	**68,499.7**	**-15.6%**

[3]The emission factors used for the calculation of GHG emissions are as follows:

- **Direct Emissions scope 1**: DEFRA – Department for Environment Food & Rural Affairs (Gov. UK).
- **Indirect emissions scope 2** (location based): Terna - Confronti internazionali 2016.
- **Indirect emissions scope 2** (market based): AIB - European Residual Mixes 2017 and Green-e Energy Residual Mix Emissions Rates (2018); the location based factor was used for countries for which a residual mix was not available.
- **Direct Emissions scope 3:** DEFRA – Department for Environment Food & Rural Affairs (Gov. UK).

In the year ended 31.03.20, all **GHG emission intensity indicators**, which measure tonnes of CO_2e per thousand hours worked, fell compared to the previous year.

GREENHOUSE GAS EMISSION INTENSITY	UoM	31.03.19	31.03.20	change (%)
GHG Emission Intensity scope 1	tCO2e/ M hour worked	2.204	1.813	-17.7%
GHG Emission Intensity scope 2 (location based)	tCO2/ M hour worked	1.757	1.447	-17.6%
GHG Emission Intensity scope 2 (market based)	tCO2e/ M hour worked	2.002	1.577	-21.2%
GHG Emission Intensity scope 3	tCO2e/ M hour worked	1.177	1.034	-9.8%
Total GHG Emission Intensity (location based)	**tCO2e/ M hour worked**	**5.138**	**4.294**	**-14.2%**
Total GHG Emission Intensity (market based)	**tCO2e/ M hour worked**	**5.383**	**4.423**	**-15.6%**

GHG Emission Intensity
[tCO2e/M hours worked]

- GHG Emission Intensity scope 1
- GHG Emission Intensity scope 2 (location based)
- GHG Emission Intensity scope 3
- TOTAL GHG Emission Intensity (location based)
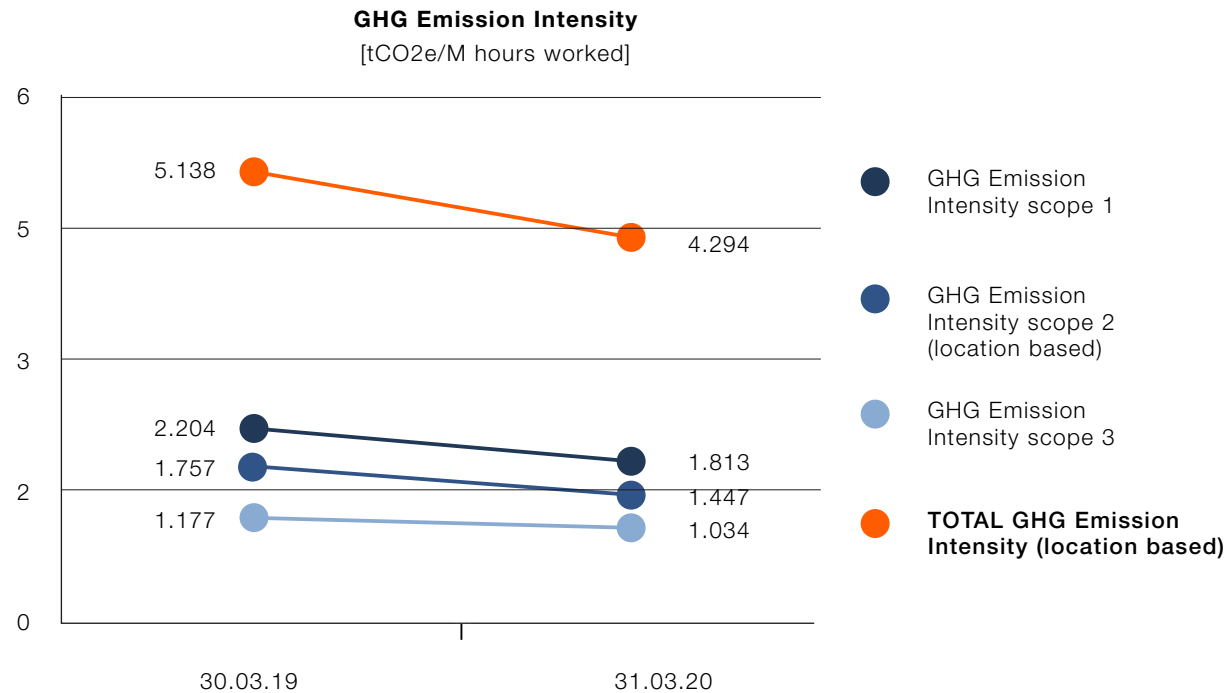
Towards a resource efficient society

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, 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 less resources and pursue products and solutions, as well internal processes and activities, with a low environmental burden.

Energy consumption

The majority of energy used is electricity for lighting, plants 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 31.03.20, total energy consumption - electricity, methane, diesel, district heating, petrol and LPG - amounted to 675,041.9 GJ, down 11.7% compared to the previous year.

Power Consumption [GJ]
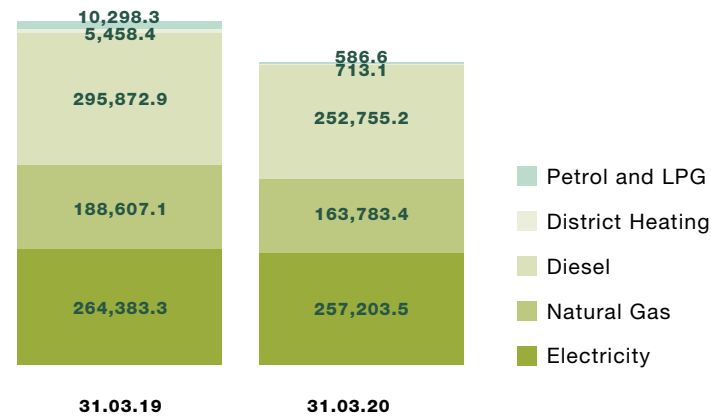
This reduction was due to the lower consumption of Natural gas, 24,824 GJ (-13.2%), Diesel, 43,118 GJ (-14.6%), Electricity, 7,180 GJ (-2,7%), District heating, 4,745 GJ and Petrol and LPG, 9,712 GJ.
The energy consumption trend of the two-year period at the production sites and train maintenance centres and office sites is illustrated in the following table

ENERGY CONSUMPTION	PRODUCTION SITES AND TRAIN MAINTENANCE CENTRES		OFFICES		TOTAL	
	31.03.19	31.03.20	31.03.19	31.03.20	31.03.19	31.03.20
Electricity (GJ)	200,216.4	189,003.1	64,166.9	68,200.4	264,383.3	257,203.5
Natural gas (GJ)	162,247.9	148,812.7	26,359.2	14,970.7	188,607.1	163,783.4
Diesel (GJ)	287,609.8	251,446.4	8,263.1	1,308.9	295,872.9	252,755.2
District heating (GJ)	-	-	5,458.4	713.1	5,458.4	713.1
LPG and Petrol (GJ)	180.3	442.4	10,118.0	144.2	10,298.3	586.6
TOTAL (GJ)	**650,254.4**	**589,704.6**	**114,365.5**	**85,337.3**	**764,620.0**	**675,041.9**

In the year ended 03.31.20 the energy consumption of the production sites and train maintenance centres represented 87% of the total energy consumption.

Power Consumption [GJ]
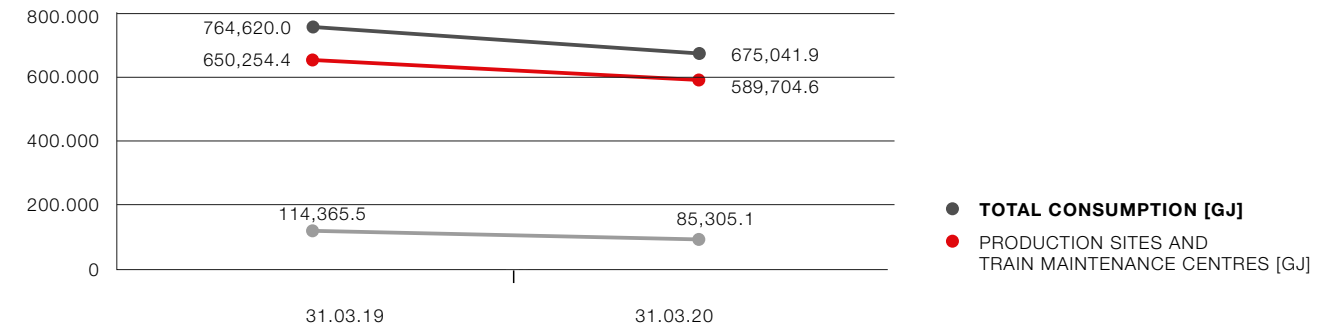
In both types of site there was a reduction in energy consumption in absolute terms.

Energy Intensity Indices [GJ per hour worked]
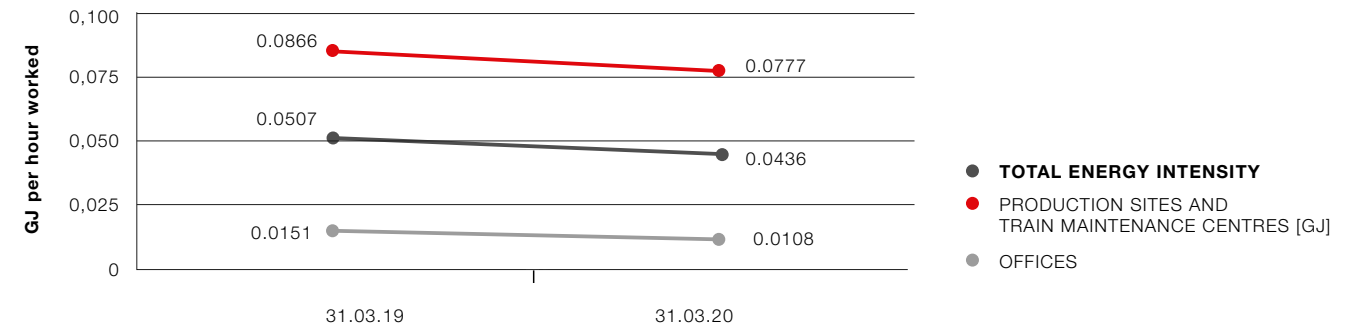
The total energy intensity index fell by 14.1% due to the combined effect of the reduction in absolute consumption and the increase in hours worked (+ 2.7%).

Renewable energies

Hitachi Rail promotes the use of 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.

ELECTRICAL ENERGY FROM RENEWABLE RESOURCES	31.03.19	31.03.20
Total consumption of electrical energy [KWh]	73,439,818.2	71,445,418.6
Energy from renewable sources [KWh]	5,771,908.0	19,690,631.0
KPI - % renewable sources of total	7.9%	27.6%

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 CO2 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 and innovation to lead an overall reduction in the direct or indirect consumption of raw materials.

SUBSTANCES USED		31.03.19	31.03.20
Liquefied compressed gases [t]		75.679,08	94.686,25
	Argon [t]	53.560,72	80.294,47
	Oxigen [t]	22.031,36	14.324,18
	Nitrogen [t]	69,08	50,43
	Carbon dioxide [t]	14,85	12,83
	Acetylene [t]	3,07	4,35
Paints (water based) [t]		60,70	45,96
Thinner (organic solvent) [t]		18,37	5,96
Catalyst [t]		40,26	35,17
Putty [t]		34,10	25,17
Oil [t]		7,91	14,16
Degreasing agents [t]		5,02	3,33
Glues and adhesives [t]		15,96	12,45

CONSUMPTION OF PAPER AND PACKAGING MATERIALS		31.03.19	31.03.20
Paper [t]		219,32	109,18
	new material [t]	124,42	80,19
	recycled material [t]	3,44	28,99
Mixed material packaging [t]		683,12	572,80
Wood packaging [t]		461,13	410,40
Plastic packaging [t]		56,55	47,50
Cardboard packaging [t]		23,40	50,79

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.

WITHDRAWAL OF WATER	PRODUCTION SITES AND TRAIN MAINTENANCE CENTRES		OFFICES		TOTAL	
	31.03.19	31.03.20	31.03.19	31.03.20	**31.03.19**	**31.03.20**
Water drawn from public main [mc]	315,859.3	320,188.3	381,970.7	269,031.1	**697,830.0**	**589,219.4**
Water drawn from wells [mc]	242,602.0	149,282.0	2,079.0	289.0	**244,681.0**	**149,571.0**
TOTAL	**558,461.3**	**469,470.3**	**384,049.7**	**269,320.1**	**942,511.0**	**738,790.4**

The data show a reduction of the water withdrawn equal to 203,721 cubic meters (-22.6%).

The **KPI – Total water withdrawal per hour worked** shows a reduction of 23.7% also due to a slight increase in hours worked.

KPI - Total water withdrawal per hour worked
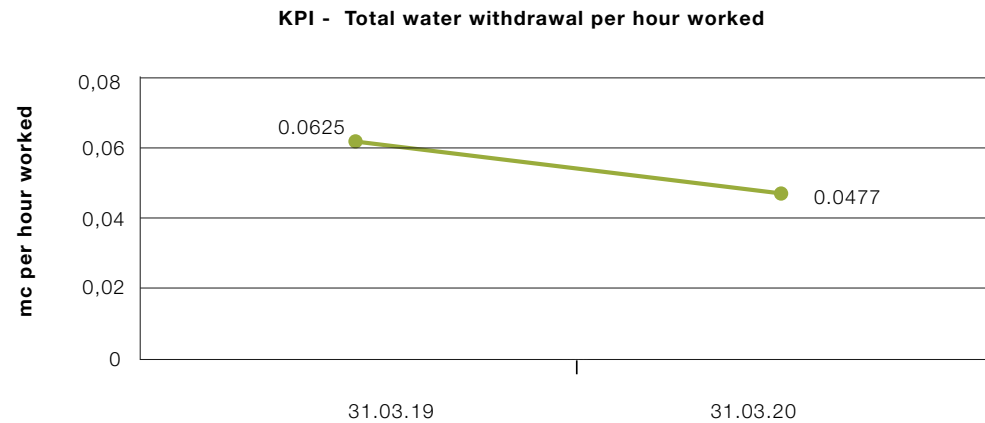
Towards a harmonized society with nature

To achieve a harmonized society with nature so that we may continue to enjoy nature's benefits, Hitachi has established targets to minimize 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 advance initiatives to reduce its negative impact and maximize its positive impact.

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 prevention, 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 out-of-order 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	
	31.03.19	31.03.20	31.03.19	31.03.20
Non-hazardous [t]	10,566.8	8,405.9	2,627.2	1,734.8
% recovered	91%	95%	79%	80%
% disposed of	9%	5%	21%	20%
Hazardous [t]	491.8	622.5	186.7	170.5
% recovered	72%	76%	80%	82%
% disposed of	28%	24%	20%	18%
TOTAL WASTE [t]	11,058.6	9,028.4	2,813.9	1,905.3
% recovered	90%	94%	79%	80%
% disposed of	11%	7%	27%	25%

TOTAL WASTE

- 1.644,2 11,9%
- 12.228,4 88,1%
- 940,6 8,6%
- 9.993,1 91,4%

■ Total waste disposed of
■ Total waste recovered

30.03.19   31.03.20

The data show a reduction in the total production of waste equal to 2,938.8 tons (-21,2%) with an increase of 3.3 percentage points in the recovered share.

KPI - Kg of waste produced per hour worked

Kg per hour worked

1,2

0.920

0,8

0.706

0,4

0

31.03.19   31.03.20
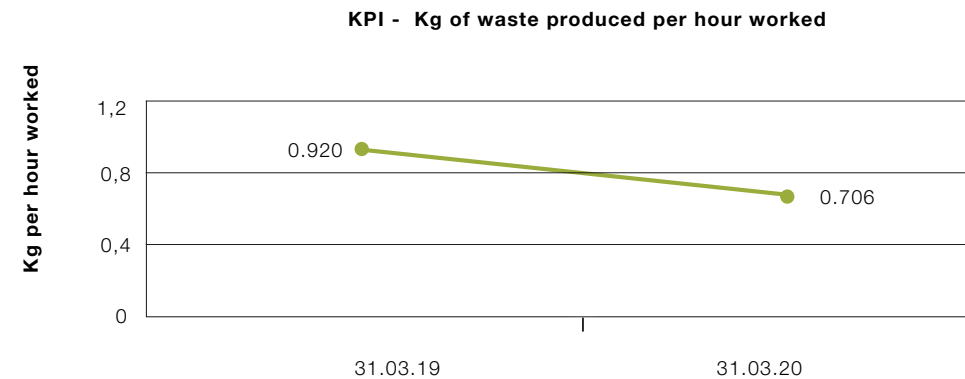
Same trend shows the **KPI - Kg of waste produced per hour worked** with a reduction of 23.3%.

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	
	31.03.19	31.03.20	31.03.19	31.03.20	31.03.19	31.03.20
Total volume of domestic or sanitary waste water [m³]	483,994.3	393,974.4	384,049.7	269,320.1	868,044.0	663,294.5
Total volume of industrial waste water produced on site [m³]	74,467.0	75,496.0	-	-	74,467.0	75,496.0
TOTAL	558,461.3	469,470.4	384,049.7	269,320.1	942,511.0	738,790.5

Polluting emissions

For Hitachi Rail, pollutant emissions relate 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.

ATMOSPHERIC EMISSIONS[5]	31.03.19	31.03.20
NOx (Kg)	13,081.5	11,436.0
SOx (Kg)	3,661.0	2,887.9
CO (Kg)	3,506.8	3,012.9
Volatile organic compounds (Kg)	13,021.8	11,670.0
Volatile inorganic compounds (Kg)	2.6	2.1

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

Social

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 with 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 values.

Hitachi Rail seeks to attract, develop, and organize employees by building good relations with them, respecting their fundamental rights, providing equal opportunities, and optimizing work-life balance. The Company also actively engages in regular dialogue with employees regarding compensation and career development through its Global People Management System.

In the pursuit of company objectives, the talents must be aware that ethics are of immense value to the company and accordingly, no conduct is tolerated that, although it may appear in the abstract to benefit Hitachi Rail, is in violates of the law, current regulations, the organisational, management and control model or the Code of Ethics.

The workforce of Hitachi Rail is represented 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	31.03.2019				31.03.2020			
BY REGION	MEN	WOMEN	TOTAL	% W on total	MEN	WOMEN	TOTAL	% W on total
ITALY	3,655	624	**4,279**	14.6%	3,768	634	**4,402**	14.4%
EMEA	3,052	556	**3,608**	15.4%	2,788	522	**3,310**	15.8%
USA	568	202	**770**	26.2%	608	212	**820**	25.9%
APAC	615	144	**759**	19.0%	686	160	**846**	18.9%
TOTAL	**7,890**	**1,526**	**9,416**	**16.2%**	**7,850**	**1,528**	**9,378**	**16.3%**

Following figures related to Hitachi Rail global activities not including yet the Japanese business.

PROFESSIONAL CATEGORIES	31.03.2019				31.03.2020			
	MEN	WOMEN	TOTAL	% W on total	MEN	WOMEN	TOTAL	% W on total
Executive	104	9	**113**	8.0%	103	10	**113**	8.8%
Middle Management	516	83	**599**	13.9%	533	87	**620**	14.0%
White collar	5,679	1,298	**6,977**	18.6%	5,626	1,300	**6,926**	18.8%
Blue collar	1,591	136	**1,727**	7.9%	1,588	131	**1,719**	7.6%
TOTAL	**7,890**	**1,526**	**9,416**	**16.2%**	**7,850**	**1,528**	**9,378**	**16.3%**

EMPLOYEES	31.03.2020									
	ITALY		EMEA		USA		APAC		**TOTAL**	
CONTRACT TYPES	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	**MEN**	**WOMEN**
No. with open-ended contracts	3,707	621	2,649	499	608	212	647	144	**7,611**	**1,476**
No. with fixed-term contracts	61	13	243	22	0	0	39	16	**343**	**51**
TOTAL	**3,768**	**634**	**2,892**	**521**	**608**	**212**	**686**	**160**	**7,954**	**1,527**

OTHER CONTRACT TYPES	31.03.2020									
	ITALY		EMEA		USA		APAC		**TOTAL**	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	**MEN**	**WOMEN**
Temporary workers	332	31	128	34	0	0	0	0	**460**	**65**
Workers with a project contract	0	0	0	0	0	0	0	0	**0**	**0**
Trainees	10	6	61	29	0	0	0	0	**71**	**35**
Other contract	1	0	0	0	0	0	3	3	**4**	**3**
TOTAL	**343**	**37**	**189**	**63**	**0**	**0**	**3**	**3**	**535**	**103**

FULL-TIME AND PART-TIME	31.03.2020									
	ITALY		EMEA		USA		APAC		TOTAL	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
No. Full-time employees	3,754	567	2,886	508	608	206	683	152	7,931	1,433
No. Part-time employees	14	67	6	13	0	6	3	8	23	94
TOTAL	3,768	634	2,892	521	608	212	686	160	7,954	1,527

AGE	31.03.2019				31.03.2020			
	MEN	WOMEN	TOTAL	% W on total	MEN	WOMEN	TOTAL	% W on total
< 30	735	186	921	20.2%	726	187	913	20.5%
30-50	4,974	969	5,943	16.3%	4,912	977	5,889	16.6%
>50	2,181	371	2,552	14.5%	2,212	364	2,576	14.1%
TOTAL	7,890	1,526	9,416	16.2%	7,850	1,528	9,378	16.3%

YEARS OF SERVICES	31.03.2019				31.03.2020			
	MEN	WOMEN	TOTAL	% on total	MEN	WOMEN	TOTAL	% on total
< 5 years	3,656	685	4,341	46.1%	3,690	689	4,379	46.7%
5-10 years	1,090	264	1,354	14.4%	981	248	1,229	13.1%
11-15 years	1,111	254	1,365	14.5%	1,055	240	1,295	13.8%
16-20 years	838	139	977	10.4%	939	177	1,116	11.9%
21-25 years	358	32	390	4.1%	370	28	398	4.2%
> 25 years	837	152	989	10.5%	815	146	961	10.2%
TOTAL	7,890	1,526	9,416	100.0%	7,850	1,528	9,378	100.0%

Talent acquisition

Hitachi Rail is characterized by the diversity of professionalism, cultures and skills that collaborate in the success of company projects around the world.

In 2019, a new global Talent Acquisition team was created to develop a global strategy that allows the best candidates to be hired locally with a single tone of voice and common recruiting method.

The new talent acquisition team is multicultural: 8 different cultures, different genders and different backgrounds are represented that lead to knowing how to listen to and approach potential candidates through diversified sources: social media, chosen recruitment partners, professional networks, refer a friend and ambassadorship campaigns.

In 2019, the Talent Acquisition team also attended the following job fairs and career days around the world.

In Italy: "Orientamenti" in Genoa, "Orientati al futuro" in Turin, the career day of the Federico II University of Naples and we were partner of the Master in Infrastructure and Railway Systems Engineering of the University of La Sapienza in Roma.

In France: Central Lille, Telecome Nancy, Sigma Clermont, Centrale Lyon, ESIEE Paris, ESTACA, ESME Sudria and Centrale Supelec.

In Peru: we took part at Feria Laboral at UNI – Universidad Nacional de Ingenieria in Lima.

Furthermore, from 2018 to 2019 the LinkedIn company site saw an increase of over 20,000 followers (from 76,000 to 96,000), making LinkedIn the main source of acquisition of new hires.

HIRES	ITALY		EMEA		USA		APAC		TOTAL		
31.03.2020	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	total
< 30	52	12	77	12	32	9	97	50	**258**	**83**	**341**
	41.3%	30.8%	18.4%	14.6%	44.4%	69.2%	89.0%	94.3%	35.5%	44.4%	37.3%
30-50	185	36	139	33	36	13	265	57	**625**	**139**	**764**
	7.5%	7.8%	8.1%	10.3%	12.2%	12.0%	59.0%	67.1%	12.7%	14.2%	13.0%
>50	36	3	32	4	13	4	51	5	**132**	**16**	**148**
	3.0%	2.3%	4.9%	3.3%	5.4%	4.4%	39.8%	22.7%	6.0%	4.4%	5.7%
TOTAL	273	51	248	49	81	26	413	112	**1,015**	**238**	**1,253**
	7.2%	8.0%	8.9%	9.4%	13.3%	12.3%	60.2%	70.0%	12.9%	15.6%	13.4%

TURNOVER	ITALY		EMEA		USA		APAC		TOTAL		
31.03.2020	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	total
< 30	15	5	109	25	10	0	5	2	**139**	**32**	**171**
	11.9%	12.8%	26.0%	30,5%	13.9%	0.0%	4.6%	3.8%	19.1%	17.1%	18.7%
30-50	84	24	304	41	18	6	64	16	**470**	**87**	**557**
	3.4%	5.2%	17.7%	12,8%	6.1%	5.6%	14.3%	18.8%	9.6%	8.9%	9.5%
>50	62	10	88	13	19	10	13	0	**182**	**33**	**215**
	5.2%	7.6%	13.5%	10,8%	7.9%	11.0%	10.2%	0.0%	8.2%	9.1%	8.3%
TOTAL	161	39	501	79	47	16	82	18	**791**	**152**	**943**
	4.3%	6.2%	18.0%	15,1%	7.7%	7.5%	12.0%	11.3%	10.1%	9.9%	10.1%

HIRES	ITALY		EMEA		USA		APAC		TOTAL		
31.03.2019	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	total
< 30	47	13	105	25	21	3	98	44	**271**	**85**	**356**
	42.0%	37.1%	23.1%	26.0%	36.8%	50.0%	88.3%	89.8%	36.9%	45.7%	38.7%
30-50	241	30	340	51	35	22	246	48	**862**	**151**	**1013**
	10.0%	6.6%	17.8%	15.4%	12.8%	21.4%	62.1%	60.8%	17.3%	15.6%	17.0%
>50	34	3	67	12	15	2	43	4	**159**	**21**	**180**
	3.0%	2.3%	9.7%	9.3%	6.3%	2.2%	39.8%	25.0%	7.3%	5.7%	7.1%
TOTAL	322	46	512	88	71	27	387	96	**1,292**	**257**	**1,549**
	8.8%	7.4%	16.8%	15.8%	12.5%	13.4%	62.9%	66.7%	16.4%	16.8%	16,.%

TURNOVER	ITALY		EMEA		USA		APAC		TOTAL		
31.03.2019	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	total
< 30	15	4	170	30	3	5	12	0	**200**	**39**	**239**
	13.4%	11.4%	37.4%	31.3%	5.3%	83.3%	10.8%	0.0%	27.2%	21.0%	26.0%
30-50	83	16	299	60	30	11	69	12	**481**	**99**	**580**
	3.5%	3.5%	15.7%	18.1%	11.0%	10.7%	17.4%	15.2%	9.7%	10.2%	9.8%
>50	47	1	65	11	29	9	13	1	**154**	**22**	**176**
	4.1%	0.8%	9.4%	8.5%	12.2%	9.7%	12.0%	6.3%	7.1%	5.9%	6.9%
TOTAL	145	21	534	101	62	25	94	13	**835**	**160**	**995**
	4.0%	3.4%	17.5%	18.2%	10.9%	12.4%	15.3%	9.0%	10.6%	10.5%	10.6%

Diversity, inclusion and multiculturalism

With a diverse workforce, strong teamwork and broad experience in the global market, Hitachi Rail is much better positioned to meet its customers' needs. 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 maintaining a high level of globalisation and a multicultural approach towards its employees in line with the interests of its stakeholders, customers and staff. As in previous years, this was enabled by consolidating the management process of international mobility of personnel.

Quantitative data continues to give a clear indication of the high percentage of "non-local personnel" (foreign employees hired in different countries to their native land) operating in the company and highlights the importance of international assignments which, although temporary in nature, nonetheless require spending a long period abroad (2-3 years on average).

In this respect, some of the steps taken in recent years are reported below:

- Preliminary ad hoc meetings, which not only provide basic technical and logistic information for staying abroad, but also strengthen staff engagement;

- Special training, including the new language;

- Constant monitoring of immigration issues, which are increasingly common around the world and differ widely from one country to the other, bearing in mind the global trend that on the one hand seeks to promote international mobility, while on the other seeks to protect the local population, for both political and economic reasons, especially in certain countries;

- Training to help encourage greater awareness of multi-culturalism and assist the overcoming cultural / conduct barriers, while respecting each person's values (home and host);

- Supervision of the integration process in the various countries, beginning with the management of job opportunities on a global scale;

- Implementation of a system that monitors connections activities between development of personnel and international experiences;

- Commitment to governing the structured connection between the performance provided during an international experience and remuneration policies, especially with the use of performance based bonuses connected to the results achieved during the work abroad;

- Focus on repatriation and retention, which are always particularly critical aspects of personnel management;

- Continuation of a network of relationships and information between HR specialists to support the internationalisation process with an integrated approach and also through a cross-cutting HR International Mobility Team;

- Ongoing attention to internal communication, using all of the channels provided by the company, especially technologically advanced and user-friendly solutions;

- Ongoing integrated activities with Health & Safety and Security to ensure safe working conditions abroad;

- Ongoing cooperation with the Administration department with respect to taxes and accounting, in order to comply with all relevant legislation and corporate procedures.

- Finally, the company has successfully implemented, including at procedural level, a global corporate commitment to extend a special welcome to new "non-local" personnel joining the company, providing information on immigration, tax and social security issues to encourage integration in the new country.

Training and performance appraisal

Through fiscal 2019, Hitachi Rail launched several programs to support the growth of a new work mind-set that can make everyone aware and active protagonist in the innovation and digitalization challenge, working in a global/matrix environment:

- Proactivity and accountability in decisions and actions.
- Orientation to results achievement and continuous improvement.
- Active international collaboration with all the company's stakeholders, internal and external.
- Competencies updating, reinforcement, and transfer of knowledge on key competencies.

This includes specific training initiatives on technical and soft skills for our Blue Collar workforce, as well as enlarging access to our E-Learning course catalogue with contents related to digitalization and innovation (Agile, Big data…), and project and risk management initiatives.

In Italy, the training plan also allowed the Company to meet the requirements of the CCNL Agreement (24 hours over 3 years of non-mandatory training for each employee).

Total hours by region and gender are illustrated below:

HOURS OF TRAINING	31.03.2020				TOTAL
	ITALY	EMEA	USA	APAC	
Hours of training by men	54,700	50,138	10,258	6,505	121,601
Hours of training by women	8,162	7,319	3,225	1,980	20,686
Total hours of training	62,862	57,457	13,483	8,485	142,286

Average training hours by gender follow:

AVERAGE HOURS OF TRAINING BY GENDER AND EMPLOYEE	31.03.2020	
	MEN	WOMEN
Average hours by gender	15,5	13,5
Average hours per employee	15,2	

Average hours by region and gender are illustrated below:

AVERAGE HOURS OF TRAINING BY GENDER AND REGION	ITALY		EMEA		USA		APAC	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
31.03.2020	14,5	12,9	17,3	14,0	16,9	15,2	9,5	12,4

From April 2019 to March 2020 the Localisation of Key Competences (LKC) Program was carried out. LKC makes strategic, hard-to-find, competences available to the business, increasing the global internal skills and effectiveness and expanding a knowledge sharing culture.

The Program is based on competences structured mapping, cross-analysis and has a «learning by doing on project» approach; a combination of learning by doing, traditional learning formats, direct observation, practical experiences, as well as conducting testing and providing active support to project teams.

LKC 4 Participants have been selected through a global internal job posting and a structured selection process.

The Performance Appraisal process has the role in supporting the ongoing integration and 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 plainly defined goals, clear and shared performance expectations, continuous feedback and coaching.
- Assure performance planning and, at the same time, a flexible approach to the changing context.
- Support a culture of continuous improvement, with regard both to results and productivity, on the basis of current and future business needs.
- Consistently support other areas including professional growth, career development, succession plans and compensation.

The final phase of the FY2019 performance appraisal process has been characterized by the alignment of the Performance & Development plan (PDP) of Hitachi Rail with the Global Performance Management (GPM) of Hitachi. The process covered over 97% of the Hitachi Rail entire population.

Both processes consisted in three phases: Goals setting phase; Mid-Term review phase and Final Review phase.

The launch of the Final Review phase in FY2019 has defined the starting point of the integration of the two processes in terms of timing, communication and analysis of the global results, even if performed in two different system tools (SABA Cloud and HiNext, Hitachi Rail's performance management tool).

In FY2020, Hitachi Rail is implementing new common rules and guidelines in alignment with the wider Hitachi Group's Global Performance Management system.

A common and integrated Hitachi Rail Performance Appraisal process, represents one of the main pillars of the new Talent Management system, aimed at aligning business' goals with the characteristics and aspirations of each individual.

Employee Engagement

As a way of measuring employee's engagement level, every year usually in September-October Hitachi conducts a Group Company Survey which is called Global Hitachi Insights Employees Survey.

The survey is administered online and through an external vendor. It is available for 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 strength and opportunities, to improve productivity and help leaders analyse and communicate the results, and work together with team members to develop and implement plans that will lead to enhance employee engagement and ultimately improve team's performance.

In FY2019 about 12,500 Rail employees were invited to participate across all legal entities with an average response rate of 64% in HRE, 87% in HRI, 97% in HRJ and 72% in STS.
Hitachi Rail looks forward to launch the initiative as One Integrated Hitachi Rail BU for the first time in the next fiscal year 2020.

Internal communication

Hitachi Rail's internal communication strategy is to connect the daily roles of employees with Hitachi Rail's strategy by keeping them up to date with business achievements and recognising and celebrating the part they play in business success.

It aims also 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, for example just to name a few:

Ongoing HR engagement campaigns: such as internal job posting, Hitachi Insights Survey,LKC, HiNext, Hitachi Rail Values Awards, health and wellbeing, Global Rail Strategy.

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.

Also, various channels are used, translated in up to five languages, recognising the diversity of Hitachi Rail's people:

COSMO: A global intranet accessible from all Rail employees where we have many sections updated regularly and one dedicated specifically to CSR topics.

Videos with announcements and messaging published as needed on different topics.

Digital display screens in offices and at production sites to reach all employees who not necessarily have access to PC.
Global Rail Buzz: short news and links to COSMO news updated on a monthly base.

VCs with senior leaders: usually updated on a monthly base pending on the topic.

F u s i o n magazine: A digital and physical magazine updated on a quarterly basis and distributed globally.

People care

The "People Care" concept applies to employees' wellbeing as both professionals and individuals. 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.

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 vice chairman of HR – 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. Recently, the Health and Wellbeing Committee has reached new horizons, succeeding in offering employees at the Perth office access to a "silent room", a space designed to be available to all employees at any time of the working day for use as a relaxation area. This room serves as a mixed faith silent space for silent prayer, meditation and yoga, a place to rest if feeling unwell and a space to perform first aid and annual skin and health checks. Meanwhile, employees at the Brisbane office have access to the "square", a covered outdoor space just outside the office equipped with picnic tables at which to eat or read and a tennis table for those who want to relax during their lunch break.

This room serves as a mixed faith silent space for silent prayer, meditation and yoga, a place to rest if feeling unwell and a space to perform first aid and annual skin and health checks. Meanwhile, employees at the Brisbane office have access to the "square", a covered outdoor space just outside the office equipped with picnic tables at which to eat or read and a tennis table for those who want to relax during their lunch break. Other initiatives include:

- R U OK? (Brisbane / Perth / Karratha). Australian Day to raise awareness on the importance of mental health and to remind 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 (Brisbane / Perth). Celebration of cultural diversity as a wealth of Australia. The employees joined together to share a series of traditional foods of the many cultures which make up the Hitachi Rail Australia's workforce.
- Work Life Balance (Brisbane / Perth / India / Malaysia). Workshop organized by the Health and Wellbeing Committee in collaboration with the Hitachi Rail Academy on the reconciliation of life and work timelines.
- White Ribbon Day. Awareness-raising initiative against women-related violence.
- Social Day (Brisbane/Perth). Day in which employees and their families meet to enjoy each other's company away from the work place.
- Morning Connections. Meetings every 15 days among staff groups from different departments for a morning tea.
- Red Apple Day (Brisbane). Cancer awareness day.
- Wear Red Day (Brisbane). Fundraising day for financing heart disease research.
- Sun Cancer Skin Checks (Brisbane / Perth). Australia has one of the highest rates of skin cancer in the world. More than 50 employees underwent a medical check-up.
- 5 minute seated massages (Brisbane / Perth). Employees that were interested were provided with 5 minute massages in order to improve their wellbeing at the workstation.
- 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.
- City to Surf Fun (Perth/Brisbane). Employees from the two cities joined together to take part in the great Perth City to Surf Fun Run event.
- Table Tennis Tournament (Brisbane / Perth).

ASIA PACIFIC - EMPLOYEE INITIATIVES (India)

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

The idea 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: Weekly motivational/inspirational email from Social committee to all employees.
- Annual Day /New year celebration (Bangalore/Kolkata/Noida): All employees get together and celebrate new year.
- Sports Day (Bangalore/Kolkata): Annual Sports day conducted among employees and distributed the prizes.
- One Hitachi Cricket tournament(Bangalore): Cricket tournament along with Hitachi group companies.
- Holi festival celebration : Festival of colours celebration.
- Earth day poster competition.
- World Environment Day celebration by call pooling to office.
- Potluck (Bangalore) : Joining together for lunch and share each other food and have good understanding each other.
- Movie Time: watching movie (Mission Mars) with colleagues and increase the understanding between employees.
- Diwali (Festival of Lights): Festival of Lights celebration at office by Rangoli computation.

ASIA PACIFIC - EMPLOYEE INITIATIVES (Malaysia)

- In house screening program for 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 right.

- Annual dinner and long service award ceremony - Held for employees and their spouse. Program included long service certificate presentation, best dressed couple competition, lucky draws and party games. This is also a session for employees to meet each other's' spouses.

ASIA PACIFIC - EMPLOYEE INITIATIVES (China)

- Annual Party 2019 (Beijing & Taipei) : 2019 Chinese new year theme party Beijing "The Night of Hollywood", dinner, employees prepared their own performance to show in the party and lucky draw.
- 2019 Chinese new year theme party Taipei dinner, employees prepared their own performance to show in the party and lucky draw.
- 2019 Sports Events: 2019 Foreign Company Sports Event, employees participated in the Football Competition, Badminton Competition.
- Employee Committee.
- Autumn Outing(Beijing & Taipei): team building and strawberry harvest.
- Christmas Lunch (Beijing).

EUROPE AND MIDDLE EAST - EMPLOYEE INITIATIVES (UK)

In the EMEA Region Hitachi Rail sponsored many initiatives in 2019 to benefit employees, their family and the society, below just some of the main in UK:

- Mental health awareness week – focused on different area of wellbeing each day with links to internal and external resources.
- Man Health workshops – ran on site and virtually, men only workshops focusing on the 5 biggest preventable killers of men.
- Respond workshops – delivered on site and virtually – manager mental health training which 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.
- Drug and alcohol campaign & training (Newton Aycliffe) – manager training and external support number to encourage people to come forward if they have a substance misuse problem.
- World Mental health Day – encouraged teams to start the conversation with 'this week I have felt….'cards. Sign posted to support services available.
- Suicide Prevention Day – wallet cards handed out with the EAP (Employee Assistance Programme) and Samaritans number on. Collection tins to raise funds.
- Cancer Awareness day – Macmillan bus visited Newton Aycliffe factory, provided cancer support information and held 121's. cancer support information provided site wide.

- Take a Breather –supporting leaders to support their teams in these changing and challenging times.
- World's biggest coffee morning – in support of Macmillan cancer, bake sale and competition.
- 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.
- Wellbeing area – launch of the wellbeing area on The Source giving everyone access to support at work or at home
- Better Health at Work Award – Newton Aycliffe factory achieved gold level now working towards continuing excellence.
- Newton Aycliffe factory switched to a new waste carrier in October 2019 when there was an opportunity to help support a local charity; the Great North Air Ambulance Service. The GNAAS are a non NHS Funded service in pre-hospital care rescuing hundreds of severely injured or ill patients each year. Newton Aycliffe's waste ink cartridges from printers are given to GNAAS and the money the charity generates from the recycling of these toners is reinvested back into the charity to allow them to keep flying and providing lifesaving services.
- At Ashford Train Maintenance Centre team members joined a record-breaking 563,163 participants to take part in the Great British Spring Clean, which took place in March and April. During this campaign volunteers collectively spent 1.1 million hours collecting litter in 17,097 clean ups across the country, with 957,377 bags of litter being collected (39% of which will be recycled).

EUROPE AND MIDDLE EAST - EMPLOYEE INITIATIVES (Saudi Arabia)

- Celebration of 5 million safe man-hours without lost time injury.
- Saudi national day - Saudi Arabian National day is always celebrated on September 23rd, giveaway's will be distributed to the employees containing the Saudi flag and brooch with the Hitachi logo next to the Saudi flag.

EUROPE AND 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 encourages to come in to work with one question about Hitachi, to promote learning in the workplace.

ITALY - EMPLOYEE INITIATIVES

Both Hitachi Rails STS and Hitachi Rail Italy SpA sponsored many initiatives in 2019 to benefit employees, their family and the society, below just some of the main:

- Corporate Wellbeing. In Italy 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, offers numerous services and possibilities to choose from including some tax advantages and social security benefits. In 2019 the portal was improved to ensure a smooth and friendly way to utilize the various benefits.
- Recreation Centres. In Italy employees have set up recreation centres, referred to as "CRAL". These are a form of free association of workers and are structured as separate entities from the Company. Employees who join as members may participate in a number of activities (sports or other) and take advantage of discounts at partnering shops (bookshops, opticians, theatres etc.). In 2019 many employees in various sites have reported an increased interest towards the recreation activities.
- Women's day: On March 8th in the occasion of Women's day the company donated €5000 in favour of Associazione Onlus which is a non-profit association that takes care of women's in need.
- Christmas party: Before the Christmas holiday break the company has organized a Christmas party in all sites in Italy where employees gather together to celebrate companies achievements and receive also some gifts. For example in 2019 a sustainable gifts such as a thermal bottle and a lunch bag with company logo was given to employees.
- Work-life balance: The concept of "smart working" has been implemented in Italy in all sites in 2019.
- COVID 19: As Italy was one of the first regions to be hit by the pandemic, early measures were taken and continuous support to take care of all employees, managers with limited business interruptions. The company has also provided an health insurance to cover COVID expenses for all employees.

- Service awards were given to senior employees who have been with company for over 25 years.
- Every year the company participates to the "Stelle a merito" award program for recognition of employees with long service and great achievements.

USA - EMPLOYEE INITIATIVES

Both Hitachi Rails STS USA and Hitachi Rail USA Inc . sponsored many initiatives in 2019 to benefit employees, their families and society. Below are just some of the main initiatives:

USA - EMPLOYEE INITIATIVES (Pittsburgh)

- Blood Drive: American Red Cross sponsors blood drives throughout the calendar year.
- Treasures for Children Program: Angel Tree Employees provide gifts of toys for the Holiday season to individuals and families in need.
- Fit for Life: Biking, running, volleyball and other activities.
- Ping Pong: Ping pong to improve flexes and balance and, burn calories while keeping brain sharp.
- Golf Outing: Annual Hitachi Rail Golf Outing.
- Service Awards Breakfast: A catered breakfast for employees with 5+ years of service with Hitachi Rail USA.
- Holiday Party: Holiday party in December for all employees, contractor and guests to get together for appetizers, dinner and dancing.
- Veterans Day: Day to honor those who are serving and, have served the country in the armed forces
- Poinsettie Raffle: Hitachi Rail USA purchases pointsetties to decorate the building for the Holiday season and then raffles them off to employees and contractors.
- Yoga Style: Lunchtime yoga offered periodically.
- Wellness Series: Wellness facilitator introduces ways to live a healthier life.

USA - EMPLOYEE INITIATIVES (Miami)

- 100th car celebration: event to congratulate the employees in Miami for the work in completing and delivering the 100th car on Miami Dade Metro Project.
- The company had food delivered, set up tents and chairs outside in parking lot and the employees and customer enjoyed a meal outdoors at lunch time along with cutting a cake and having pictures and videos taken of the progress of the project.
- Secret Santa: In December in Miami for a week employees could voluntarily participate in the exchange of small gifts and candies with the Secret Santa person's name they picked from the box.

JAPAN - EMPLOYEES INITIATIVES

In Japan there were a few initiatives in 2019 to benefit employees, their family and the society, below just some of the main ones:

- June 1, 2019: May Festival at Mito. This is a festival with pop up shops for engagement held in May to invite employees, families and regional stakeholders having around 4,600 people
- July 14, 2019: IEP train transportation on the road exhibition event. To celebrate 80 years of Kudamatsu city, which Kasado work is located, Hitachi organized an event to exhibit train transportation on the road having around 35,000 audience.
- October 5, 2019: Athletic festival at Mito. Inviting employees and families around 1500 people, an athletic festival was organized at Mito. This is not only for engaging people, but also good way for team building.

Mobility

Hitachi Rail launched its global mobility programme in 2010 for all countries with an initial yearly expenditure of over 30 Million euros. At that time travel mobility wasn't global and wasn't digitalized.

Over the last decade, Hitachi Rail has put significant effort to improve this important aspect both for business and for travellers: the company chose to manage it globally with a global contract with Amex travel agency and appointing a global travel manager and local travel managers for each countries, supported by a global and local account managers from the agency.

Building a strict travel policy with specific global rules focusing on advance booking, flights reductions investing on video conferences tools, in 2019 the total yearly expenditure was about 15 Million.

This global management assured Hitachi travel costs saving, but the most important goal is always to provide an efficient and safe service, which has, as the main objective, the satisfaction of the customer, that is colleagues who travel for business.
In 2019 the main travel pillars were digitalization and sustainability.

Hitachi Rail started implementing travel self-booking tool in order to standardize travel management and give more autonomy to travellers. The first country were Italy, and then France, followed next year by USA and Australia.

MOBILITY OF PEOPLE	31.03.2019	31.03.2020	Var. %
FLIGHTS			
Total short haul flights [km]	29,392,124	26,149,323	-11.0%
Total long haul flights [km]	62,216,059	61,043,029	-1.9%

Sustainability is also important for Hitachi: to give priority to "green hotels" in the hotel directory and to set CO_2 emissions limits in the company's Italian fleet. Indeed, the fall in both short and long haul flights in FY2019 will have helped to deliver further carbon savings related to the travel of our people.

Travellers' safety and security is also an important theme: all travellers are covered by a health insurance and provided with necessary assistance for the understanding and assessment of risks related to the social and political situation in foreign countries. This prevents any difficulties and implements immediately any measures necessary to ensure the protection and safety of employees.

Parental leave

Hitachi Rail has implemented the indications of the Collective Labour Agreement and grants parental leave on an hourly basis, while still providing the possibility of taking such leave on a daily or continuous basis in compliance with existing legislation.

31.03.2020 PARENTAL LEAVE	TOTAL	
	MEN	WOMEN
No. of employees who have the right to parental leave	6,831	1,379
No. of employees who took parental leave	87	94
No. of employees who returned to work after their period of parental leave	84	84
Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work, by gender	68	78

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

Rate of people returning at work[5]	TOTAL	
	MEN	WOMEN
Return to work rate as at 31.03.2020	96.6%	89.4%

Protected categories

The policies for the inclusion of persons with disabilities in the workforce fall within the framework of a programme defined at European level with respect to social inclusion policies.
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 capacities of persons with disabilities and to recruit them for the most suitable position by analysing positions, forms of support, positive actions and solutions to issues related to environments, tools and interpersonal relations in the daily place of work and contact".
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[1]	31.03.2020					
	ITALY		EMEA		APAC	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
People with disabilities	127	27	5	7	na	na
% of total workforce	3.4%	4.3%	0.2%	3.7%	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.

[5] 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.

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 (including the lowest levels of the Organisation using the results of the Global Job System project) 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.

This has enabled the creation of a tool which can be used to globally assess the consistency between the responsibilities and compensation, without distinguishing, gender, culture, etc., in accordance with company's values which protect and promote the equal treatment of people.

The following tables illustrate the ratio of women's gross average remuneration compared to men's, broken down by category and region:

31.03.2020	ITALY WOMEN/ MEN	EMEA WOMEN/ MEN	USA WOMEN/ MEN	APAC WOMEN/ MEN
Executives	0.9	-	0.9	-
Middle management	0.9	0.9	0.8	1.1
White collar	1.0	1.0	0.8	0.8
Blue collar	1.1	1.0	0.9	-

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.

Performance-based incentive systems

Performance-based incentive systems are mainly linked to the management by objectives (Performance-based incentive systems are mainly linked to the management by objectives (MBO) process or key performance indicators (KPI) for strategic projects entailing bonuses upon their successful conclusion.

Executives, certain middle managers in key positions for the business and strategic project team personnel are included in these programmes. The bonuses, which are calculated as a percentage of gross annual remuneration, vary depending on the responsibilities held. Over the past few years, in keeping with company strategies, the MBO programme has been integrated within one single system that is increasingly electronic and less paper-based.

Employee relations management

At Group level, in 2019 Hitachi Rail has reached formal agreements with the trade unions in the various countries concerned and the relationship is generally positive in every site.

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 31.03.2020	ITALY		EMEA		APAC	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
Executives	83	9	12	0	0	0
Middle management	457	73	42	7	0	0
White collar	1,884	491	545	161	0	0
Blue collar	1,344	61	66	20	20	0
TOTAL	3,768	634	665	188	20	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'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 dangers 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 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 tasks)

• implementation of a higher level of welfare in the workplace through targeted initiatives, workshops and training programmes.

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.

INJURY INDEXES	31.03.19	31.03.20
No. injuries sustained (with days of absence, excluding commuting injuries)	70	72
Injury frequency index (no. injuries/h. worked x 200,000)	0.71	0.56
Injury severity index (no. days lost/h. worked x 200,000)	0.21	0.28

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;
- implementation of quarterly EHS reporting to monitor and gather main 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.

Responding to Coronavirus

Across Hitachi Rail 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.
Hear from **Ulderigo Zona** *Executive Officer of Hitachi Rail Safety, Health, Environment, Quality*, about some of the new processes and solutions brought in across the global rail business.

"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 started by stopping intercontinental travel, and then closing the links even more at a local level, even before it was imposed by law. Each country continued to work with respect for 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."
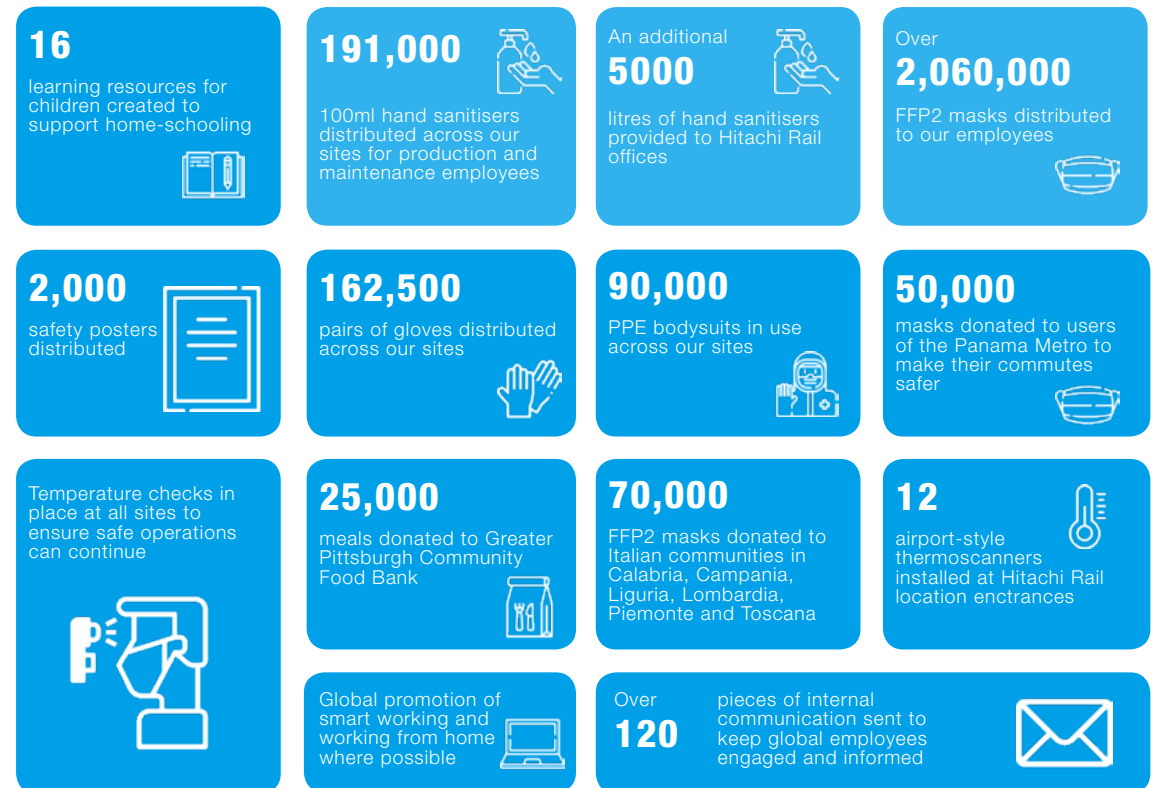
"We spent almost two weeks resetting the company, based on what we believed to be the first barrier to spreading the virus: social distance"

"We have redesigned global production layouts, identified crisis areas, introduced shift patterns and expanded smart working capability - a process that we had already started and set up in the "pre-COVID" era and that has been accelerated from 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."

"The key to our strategy and ability to be flexible is our employees who are at the heart of everything we do. There has been an excellent response to remote working for personal and family situations constrained by mobility restrictions. It is clear that, from this point, our company will be very different from the one before the pandemic."

"Digitisation must be embraced even more so we can offer our teams the right tools to work effectively when they cannot be together and communication is essential at the moment – both internally and externally. We want our teams to collaborate more than ever and we are putting in measures to ensure that everyone is supported and doesn't feel isolated in any way."

"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"

16 learning resources for children created to support home-schooling

191,000 100ml hand sanitisers distributed across our sites for production and maintenance employees

An additional **5000** litres of hand sanitisers provided to Hitachi Rail offices

Over **2,060,000** FFP2 masks distributed to our employees

2,000 safety posters distributed

162,500 pairs of gloves distributed across our sites

90,000 PPE bodysuits in use across our sites

50,000 masks donated to users of the Panama Metro to make their commutes safer

Temperature checks in place at all sites to ensure safe operations can continue

25,000 meals donated to Greater Pittsburgh Community Food Bank

70,000 FFP2 masks donated to Italian communities in Calabria, Campania, Liguria, Lombardia, Piemonte and Toscana

12 airport-style thermoscanners installed at Hitachi Rail location entrances

Global promotion of smart working and working from home where possible

Over **120** pieces of internal communication sent to keep global employees engaged and informed

*All initiatives from March - June 2020

Sustainability and Covid-19

Hitachi Rail's Social Innovation business 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.

The COVID-19 emergency in some ways can be seen as the starting point for a new way of thinking. One of the task forces that we are launching is aimed at developing an increasingly integrated and systemic mobility system for all transport needs. We are talking about a mobility project that includes the use of trains, car sharing, personal cars and which, therefore, will also have the task of proposing the use of hybrid cars and increasingly sustainable solutions across our business to support how our own people move.

A sector closely linked to the COVID-19 emergency is that of the production and disposal of personal protection equipment. We want to have a precise and efficient plan that analyses the correct management of waste because today our Group (between Europe and the Middle East alone) consumes around 230,000 surgical masks and around 110,000 FFP2 masks every month. From the point of view of combining the production with the social aspect, Hitachi Rail is analysing a self-production project of protection templates. We do not know how long this emergency will last.

Furthermore, we do not know if one day we will face a similar situation caused by another virus. We are creating the capability to make masks in-house from a social point of view, because in any moment of need we could decide to produce them for third parties who find themselves in difficulty, helping the communities in which we operate. And the intention is not to stop there - at a group level, Hitachi has launched the 'Make a Difference - Challenge to COVID-19' project which aims to collect ideas from all over the world to develop useful solutions to address the current situation, adoptable by any company or community.

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 unique co-creation business has always set itself the goal of creating develop 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 has always devoted on-going 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 projects by analysing them as plans or proposals able to display solutions that can work. It creates a prototype with the project, and demonstrates how to implement the idea and attain 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 o 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 group explicitly and exclusively dedicated to the theme of innovation, to be developed over the next few years with dedicated budgets and resources.

The first objective was to give a clear definition of the concept of innovation by choosing the one 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, for Hitachi Rail, innovation is a structured process that requires a rigorous approach and a well-defined set of activities. Starting from a customer need, a business opportunity is identified to satisfy it. The best solutions (ideas) are identified, eventually resulting in new technologies and competences, according to the logic of 'open innovation,' and, finally the prototypes of these new solutions are created to demonstrate their effectiveness in satisfying the need. This creates a positive impact on the business and the community.

The second clearly-defined objective was the role and purpose of the new team's work. The following figure summarizes 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 bodies together with the related new skills, can enrich the company's product portfolio of tomorrow.
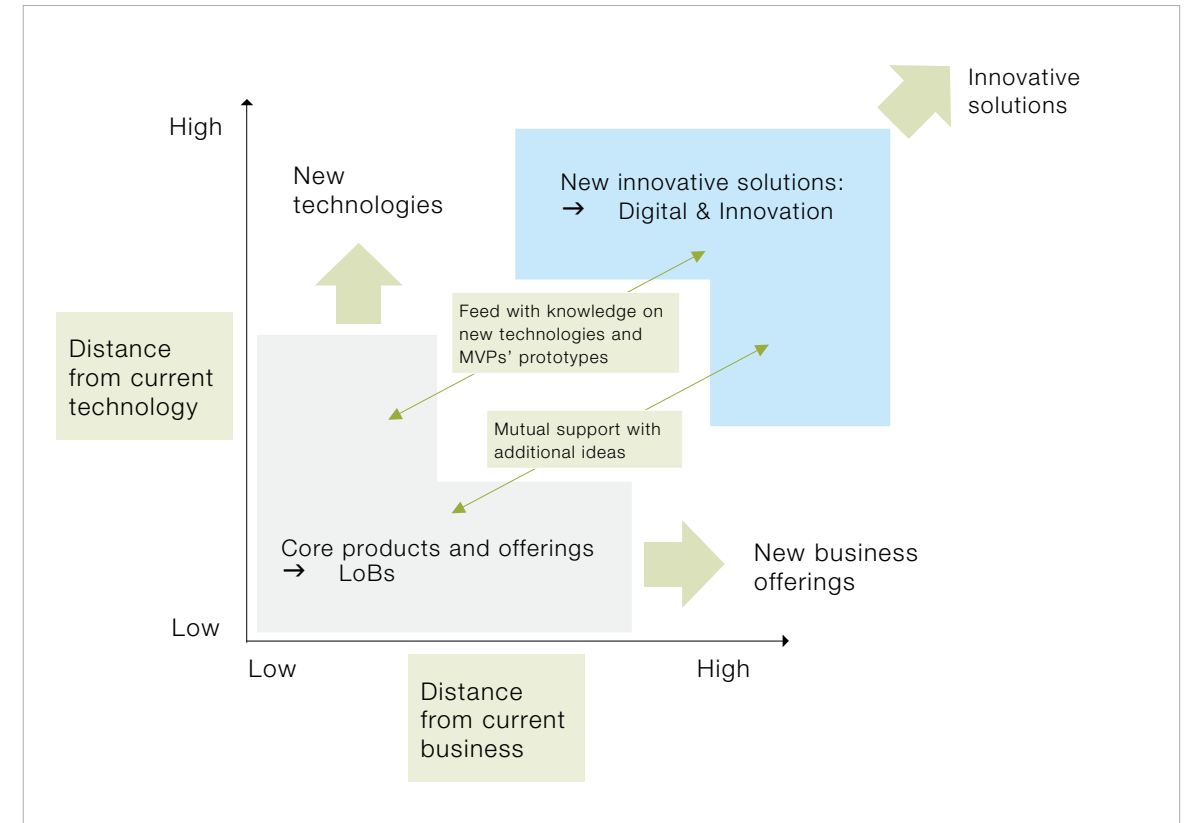
The team has given priority to those projects that best meet the sustainability requirements and the most innovative needs of customers and their customers.

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

In the "Zero Infrastructure" framework there are projects aimed at eliminating 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, or if there is a need for power, green power will be 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 has projects with the objective to develop services in order to improve the management of the public transport traffic, and so, allowing to increase 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 analysing in real time the information coming from technologies that monitor the passenger flow.

- Design of multimodal services door-to-door for passengers, providing in real-time information about the position and occupancy of the public transport vehicles, including the occupancy of the stations. With this information the passengers will be able to plan the trip in a more flexible way, which is a necessary condition to travel safely in the actual pandemic situation. 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.

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 lead 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 we can use digital technologies to predict and prevent unnecessary maintenance on a bogie, we can 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, refurbishes and reuses 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 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 consist of 3 methodological steps and 10 main activities:

Phases	**1** Context analysis and modelling	**2** Assessment and design	**3** Circular Economy on Pilot program implementation
Main activities	1.1 Identification of Hitachi Rail business model value chain	2.1 Assessment in relation to Circular Economy principles	3.1 Enhance sustainability of Pilot over a category of products
	1.2 Rolling stock market analysis and regulatory frame evolution for products and materials	2.2 Identification of products' circularity properties	3.2 Pilot's feasibility analysis
	1.3 Mapping actual engagement process for suppliers and clients with respect to Circular Economy	2.3 Identification of Circular Economy models' potential opportunities	3.3 Dissemination Program and guidelines
			3.4 Full deployment due to road map and Pilot's result

4-6 months — TBD

SCOPE

SOCIO-ECONOMIC IMPACT

VALUE CREATION:
- INCOME INCREASE
- COST SAVING
BUSINESS COMMUNITY GROWING
JOB CREATION
BLACK MARKET JOB REVEALING
SOCIAL WELFARE
URBAN RENEWAL
HUMAN RIGHTS

RE-DESIGN

CASCADE

RECYCLING | REGENERATION | REUSE

MAINTENANCE

DESIGN & DEVELOPMENT → MATERIAL SUPPLY → PRODUCTION / ASSEMBLY → COMMISSIONING / ASSISTANCE → PRODUCT USE → COLLECTION → ENERGY RECOVERY → DISPOSAL

MAINTENANCE

RECYCLING | REGENERATION | REUSE

ECO / RE-DESIGN

CASCADE

NATURAL RESOURCES SAVING
MATERIAL RECOVER
ENERGY EFFICIENCY
HAZARDOUS SUBSTANCES EXCLUSION
WASTE RECYCLING
URBAN POLLUTION DECREASE
SUSTAINABLE LOGISTICS

ENVIRONMENTAL IMPACT

Value chain management

New Circular Economy Business Model Project

Customer satisfaction is central to Hitachi Rail's strategy: the ability to understand customers' needs and expectations and meet them is the most important value upon which it bases its company culture. In general, each customer is assigned a specific contact at Hitachi Rail, generally the Project Manager overseeing its contract.

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.
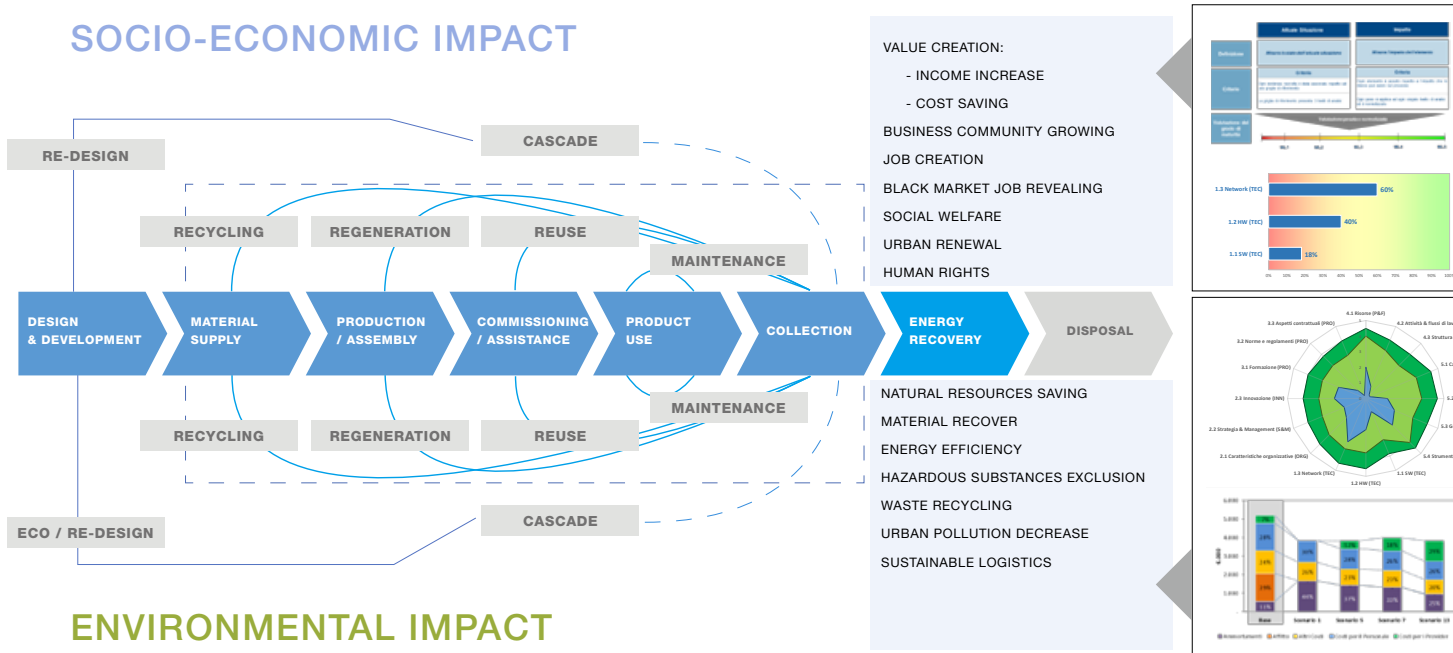
Management of customer satisfaction

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 this complaints and the needed action plan to resolve it. 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 evaluation 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 and the solutions it can provide.

Supply Chain

Hitachi considers the supply chain management process 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.

SUPPLIER DISTRIBUTIONS	31.03.20	
	n.	% on total
Europe	4,417	53%
Asia Pacific	1,842	22%
Americas	1,623	20%
Africa	142	2%
Middle East	36	0%
Other	233	3%
TOTAL	8,293	100%
# Countries suppliers located in	71	

In view of the increasing importance of the supply chain's social and environmental 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.

Supplier vetting and the process for the purchase of assets, goods and services are carried out on the basis of, objective, transparent evaluation criteria in accordance with the principles of the Code of Ethics, The Supplier Code of Conduct, internal compliance and quality procedures, as well as current Health, Safety and Environmental regulations leading best practice. In the management of relationships with suppliers and subcontractors, as for all business and financial dealings of any kind, Hitachi Rail requires its counterparts to conduct themselves in accordance with the principles of loyalty, fairness, transparency, efficiency and legal compliance.

To this end, suppliers and subcontractors are vetted on the basis of objective, transparent and documentable evaluation criteria, in accordance with the principles of the Code of Ethics and all procedures provided for by specific protocols, in writing and in line with the current hierarchical structure.

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 SQA[1] team, in partnership with Procurement, are defining and deploying a harmonized process for supplier qualification and monitoring across all lines of business and geographies.

[1] Supplier Quality Assurance

Digital Supply Chain Management

To support the digitisation strategy, a group-wide cloud-based qualification IT platform will be implemented to globally standardise and centralise management of the qualification process and supplier documentation in a single database.

This is the first step of a broader plan to digitise the global procurement process, of which supplier qualification and monitoring is an integral and essential part of a modern and efficient process.

The digitisation of this process will lead to greater control in addition to allowing the data management methodology to be further developed in an extremely vaster way because of additional improvements to the system for monitoring activities carried out by the qualified suppliers.

Hitachi Rail has defined that the qualification process is inter-functional and based on the input of several units involved. This includes the Technical, Procurement, Quality and HSE departments. Their needs are captured within specific supplier questionnaires.

This supplier questionnaire as part of the cross-functional working 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. conflict minerals , 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 will be sent to all new suppliers during the qualification phase and used in part with the monitoring 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, that underpin the foundations of Hitachi Rail's Global Responsible Sourcing Policy .

Monitoring Activities

To safeguard any new relationship with a supplier, that supplier must align and reinforce Hitachi Rail's sustainability strategy.

To do this, 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 constantly 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 organization, 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 document

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 behaviors.

CSR (Corporate Social Responsibility)

CSR, acronym for Corporate Social Responsability, 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 behaviors that companies should adopt in order to conduct their activities in a responsible manner towards society as a whole, contributing to Sustainable Development.

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.

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*.

FFP2 (A type of approved respiratory protective device)

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 (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). 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 near-term 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 CO_2) 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 – All Direct Emissions from the activities of an organisation or under their control. Including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks. https://ghgprotocol.org/corporate-standard

GHG emissions: Scope 2 – Indirect Emissions from electricity purchased and used by the organisation. Emissions are created during the production of the energy and eventually used by the organisation. https://ghgprotocol.org/scope_2_guidance

GHG emissions: Scope 3 – All Other Indirect Emissions from activities of the organisation, occuring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travel, procurement, waste and water. https://ghgprotocol.org/scope-3-technical-calculation-guidance

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.

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 CO_2, 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 annex-based 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.

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.

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)

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)

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 millimeter).
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.

Stakeholder engagement

Stakeholder 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.
Stakeholder 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 stakeholder engagement is that stakeholders have the chance to influence the decision-making process. A key part of this is multistakeholder governance. This differentiates stakeholder 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 "Stakeholder 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.
- Stakeholder participation includes the promise that stakeholder's contribution will influence the decision.
- Stakeholder participation seeks input from participants in designing how they participate.

The practitioners in stakeholder 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 (Technical Expert Group on Sustainable Finance)

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.

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 stakeholder, 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 stakeholder 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 2020 of Hitachi Rail, in its first 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:

- **Stakeholder Inclusiveness** – The application of this principle has led the company to carry out and report on the involvement activities, mainly described in the "Stakeholder engagement" chapter.

- **Sustainability Context** – In the paragraph "Delivering a sustainable, safe and high quality railway business" and in the chapter "Social Innovation" we 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 topics considered is consistent with the materiality analysis carried out in the last edition of the Sustainability Report of Hitachi Rail STS integrated with the materiality analysis carried out by Hitachi Rail SpA. The company 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.

MATERIAL TOPIC IDENTIFIED BY HITACHI RAIL	GRI STANDARDS DISCLOSURE	REPORTING SCOPE		LIMITATION REGARDING THE REPORTING SCOPE	
		INSIDE	OUTSIDE	INSIDE	OUTSIDE
CUSTOMER SATISFACTION	Stakeholder engagement	Group	-	-	-
ANTICORRUPTION	Anti-corruption	Group	-	-	-
SOCIAL INNOVATION	Customer health and safety	Group	-	-	-
INTEGRATED TRANSPORT SOLUTIONS	-	Group	-	-	-
HEALTH AND SAFETY	Occupational health and safety	Group	Suppliers	-	Reporting scope partially extended to suppliers
PEOPLE CARE	Employment; Non-discrimination	Group	-	-	-
PEOPLE TRAINING AND DEVELOPMENT	Training and education	Group	-	-	-
ETHICAL MANAGEMENT OF THE SUPPLY CHAIN	Procurement practices; Supplier environmental assessment; Supplier social assessment	Group	Suppliers	-	Reporting scope partially extended to suppliers
DIVERSITY AND EQUAL OPPORTUNITY	Diversity and equal opportunities	Group	-	-	-
STAKEHOLDER ENGAGEMENT	Reporting practices; Stakeholder engagement	Group	-	-	-
SUSTAINABILITY GOVERNANCE	Governance	Group	-	-	-
GLOBAL BUSINESS MANAGEMENT SYSTEMS	Environmental compliance; Customer health and safety	Group	-	-	-

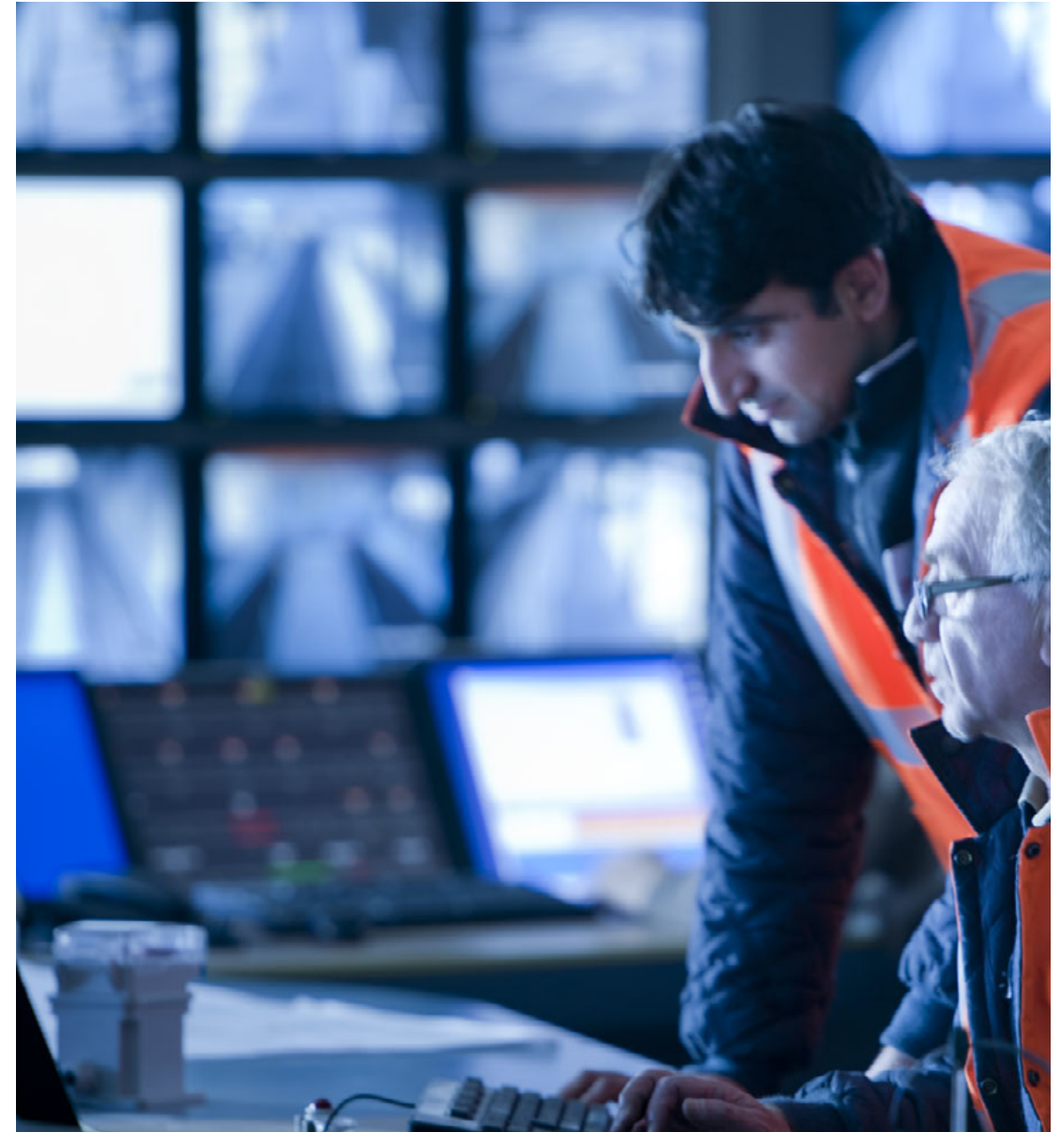| MATERIAL TOPIC IDENTIFIED BY HITACHI RAIL	GRI STANDARDS DISCLOSURE	REPORTING SCOPE		LIMITATION REGARDING THE REPORTING SCOPE	
		INSIDE	OUTSIDE	INSIDE	OUTSIDE
EMPLOYEES RELATIONS MANAGEMENT	Stakeholder engagement; Labor management relations; Freedom of association and collective bargaining	Group	-	-	-
PROTECTION OF HUMAN RIGHTS	Human rights assessment; Child labor; Forced or compulsory labor; Rights of indigenous peoples	Group	Suppliers	-	Reporting scope partially extended to suppliers
ECO-DESIGN	Materials; Emissions; Energy; Effluents and waste	Group	-	-	-
CIRCULAR ECONOMY	Materials; Effluents and waste	Group	-	-	-
ENERGY CONSUMPTION	Energy	Group	Suppliers	-	Reporting scope partially extended to suppliers
LOCAL COMMUNITIES DEVELOPMENT PROGRAMS	Local Communities	Group	-	-	-
RAW MATERIAL CONSUMPTION AND RECYCLING	Materials	Group	-	-	-
MANAGEMENT OF EFFLUENTS AND WASTE	Effluents and waste	Group	Suppliers	-	Reporting scope partially extended to suppliers
GHG EMISSIONS	Emissions	Group	Suppliers	-	Reporting scope partially extended to suppliers
POLLUTING EMISSIONS	Emissions	Group	-	-	-

MATERIAL TOPIC IDENTIFIED BY HITACHI RAIL	GRI STANDARDS DISCLOSURE	REPORTING SCOPE		LIMITATION REGARDING THE REPORTING SCOPE	
		INSIDE	OUTSIDE	INSIDE	OUTSIDE
WATER CONSUMPTION	Water	Group	-	-	-
BIODIVERSITY PROTECTION	Biodiversity	Tito Scalo and North Pole sites	-	-	-

- 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 first edition of report not including yet the Japanese business.

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 2019 – 31 March 2020. 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 50001).

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

- S**cope 1** direct emissions: DEFRA – Department for Environment Food & Rural Affairs (Gov. UK).

- **Scope 2** indirect emissions (location-based): Terna – "Confronti internazionali" 2016.

- **Scope 2** indirect emissions (market-based): AIB - European Residual Mixes 2017 and Green-e Energy Residual Mix Emissions Rates (2018); for Countries where a residual mix factor was not available, the location-based factor was used as a proxy.

- **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 2020 opens with the letter from the CEO, and includes four sections: Hitachi Rail Identity; Sustainability Governance; Environmental; Social. This document ends with the Methodological Note, the Content Index. The document refers to the Hitachi Rail's website for certain matters, indicating the relevant web page address.

- **Reliability** – The Corporate Social Responsibility and Sustainability Report 2020 has been approved by the Steering Sustainability Committee.

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103-2	The management approach and its components	pp.22; 73-74	
103-3	Evaluation of the management approach	p.74	
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	This Report is the first produced by Hitachi Rail. 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.11-12; 85-86	
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103-1	Explanation of the material topic and its Boundary	pp.11-12; 85-86	
103-2	The management approach and its components	pp.17-19	
103-3	Evaluation of the management approach	pp.17-19	
307-1	Non-compliance with environmental laws and regulations	During the FY2018 and FY2019 there were no fines and non-monetary sanctions for non-compliance with environmental laws and regulations	
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103-1	Explanation of the material topic and its Boundary	pp.11-12; 85-86	
103-2	The management approach and its components	pp.73-74	
103-3	Evaluation of the management approach	pp.74	
308-1	New suppliers that were screened using environmental criteria	pp.73-74	This Report is the first produced by Hitachi Rail. The corporate will in the future undertake to collect the data necessary for complete coverage of the indicator.

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103-2	The management approach and its components	pp.64-66	
103-3	Evaluation of the management approach	pp.17-19; 21; 64	
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	p.64	This Report is the first produced by Hitachi Rail. The corporate will in the future undertake to collect the data necessary for complete coverage of the indicator.

SOCIAL

		Cross-reference / Direct answer	Omission/Reason/ Explanation
TRAINING AND EDUCATION			
103-1	Explanation of the material topic and its Boundary	pp.11-12; 85-86	
103-2	The management approach and its components	pp.53-54	
103-3	Evaluation of the management approach	p.54	
404-1	Average hours of training per year per employee	p.53	
404-2	Programs for upgrading employee skills and transition assistance programs	p.54	
404-3	Percentage of employees receiving regular performance and career development reviews	p.54	
DIVERSITY AND EQUAL OPPORTUNITY			
103-1	Explanation of the material topic and its Boundary	pp.11-12; 85-86	
103-2	The management approach and its components	pp.52-53; 63	
103-3	Evaluation of the management approach	p.21; 54	
405-2	Ratio of basic salary and remuneration of women to men	p.63	
FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING – CHILD LABOR– FORCED OR COMPULSORY LABOR – RIGHTS OF INDIGENOUS PEOPLES - HUMAN RIGHTS ASSESSMENT – LOCAL COMMUNITIES			
103-1	Explanation of the material topic and its Boundary	pp.11-12; 85-86	
103-2	The management approach and its components	pp.22-24; 26-33	
103-3	Evaluation of the management approach	p.34 (accession to the Global Compact). Implementation of the Code of Ethics and Sanctions System	
406-1	Incidents of discrimination and corrective actions taken	No discrimination was noted	
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Hitachi does not have suppliers or activities believed to present risk of limitations to freedom of association	
408-1	Operations and suppliers at significant risk for incidents of child labor	Hitachi Rail has not detected any suppliers or businesses believed to present the risk of child labor	
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Hitachi Rail STS does not have suppliers or activities believed to present risk of forced labour	
411-1	Incidents of violations involving rights of indigenous peoples	During FY 2018 and FY2019 there were no violations involving rights of indigenous peoples	

SOCIAL

		Cross-reference / Direct answer	Omission/Reason/ Explanation
412-2	Employee training on human rights policies or procedures	Hitachi Rail carries out training on human rights policies and procedures	This Report is the first produced by Hitachi Rail. The corporate will in the future undertake to collect the data necessary for complete coverage of the indicator.
413-1	Operations with local community engagement, impact assessments, and development programs	p. 26-33	

SUPPLIER SOCIAL ASSESSMENT

103-1	Explanation of the material topic and its Boundary	pp.11-12; 85-86	
103-2	The management approach and its components	pp.73-74	
103-3	Evaluation of the management approach	pp.74	
414-1	New suppliers that were screened using social criteria	pp.73-74	This Report is the first produced by Hitachi Rail. The corporate will in the future undertake to collect the data necessary for complete coverage of the indicator.

CUSTOMER HEALTH AND SAFETY

103-1	Explanation of the material topic and its Boundary	p.14-15	
103-2	The management approach and its components	pp.17; 25;.70-71	
103-3	Evaluation of the management approach	pp.70-71	
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
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