

**ESG Report 2023** - Fiscal 2022 Results -

Environmental, Social and corporate Governance



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## Introduction

# ESG Report Editorial Policy and About Hitachi Astemo

## ■ Editorial Policy

The Hitachi Astemo ESG Report 2023 presents our stance toward environmental (E), social (S), and governance (G) issues and details the activities we undertook in relation to these in fiscal 2022.

### Scope of this report

Period:	The main period covered is fiscal 2022 (April 1, 2022, to March 31, 2023) Some information on activities in April 2023 and after is also included.
Companies:	Hitachi Astemo Corporation and consolidated subsidiaries.
Reporting cycle:	Published yearly as an annual report.

## ■ About Hitachi Astemo

### Company Profile (as of November 30, 2023)

Corporate name	Hitachi Astemo, Ltd.
Founded	January 2021
Head office	2520 Takaba, Hitachinaka-shi, Ibaraki-ken, Japan
Headquarters	Shin-Otemachi Building, 2-1, Otemachi 2-chome, Chiyoda-ku, Tokyo, Japan
Representative	President & CEO Kohei Takeuchi
Capital	121.9 billion yen
No. of employees (Consolidated)	Approx. 90,000

### Consolidated Financial Highlights for Fiscal 2022 Based on International Financial Reporting Standards (IFRS)

Revenue	1,920.0 billion yen
Adjusted operating income ratio	3.6%
Adjusted EBITA* <sup>1</sup>	73.4 billion yen

Note: Hitachi's consolidated financial statement is prepared based on the International Financial Reporting Standards (IFRS).

\*1 Adjusted EBITA: Presented as adjusted operating income plus acquisition-related amortization and equity in earnings (losses) of affiliates.

# Management

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- 1 CEO's Message
- 2 Mission
- 3 Sustainability Management
- 4 Engagement and Participating in Initiatives

# CEO's Message

## We strive to create advanced and sustainable mobility, based on ESG management and the collective efforts of all our employees

My name is Kohei Takeuchi, and I was appointed President and CEO of Hitachi Astemo in July 2023. Our company name "Astemo" is a combination the first letters of the words "Advanced Sustainable Technologies for Mobility," which embodies our mission to contribute to a sustainable society and improved quality of life by providing world-leading advanced mobility solutions that satisfy our customers.

Our mission focuses on three areas. In the environment, or green area, we contribute to carbon neutrality through highly efficient powertrains, including electric drive systems and innovative production methods. In the safety area, we contribute to reducing traffic accidents through advanced chassis and autonomous driving/advanced driver assistance systems.

In the digitalization area, our SDV (Software Defined Vehicle) technologies advance the evolution of vehicles by updating software through our vehicle architecture and IoV (Internet of Vehicles) platform.

Our success in promoting Advanced Sustainable Technologies for Mobility drives us closer to our goal of becoming a Tier 0.5 supplier.



# CEO's Message

In addition, by incorporating the environment, society, and corporate governance in its management, Hitachi Astemo strives to raise its corporate value by practicing ESG management to create sustainable growth.

Regarding environmental preservation, we contribute to the realization of a society that is decarbonized, advanced, recycling-oriented, and can coexist in harmony with nature, through the provision of products, systems, and solutions. We also aim to reduce the environmental impact from our own business activities. These efforts aim to achieve carbon neutrality in our factories and offices by FY2030.

In addition, as a company with approximately 90,000 employees globally, we are creating workplaces where employees can thrive by promoting global diversity, equity and inclusion. This will optimize our ability to rapidly respond to social demands and diverse customer needs. In addition to promoting the delegation of authority aiming to strengthen customer service globally, we are also committed to developing leaders who will drive medium- to long-term reforms. We will also improve the performance of each

employee by developing their skills—including upskilling—to respond to market changes and diversifying customer needs.

In October 2023, we transitioned to a company with an audit committee system to further strengthen corporate governance and raise our corporate value. Under the strengthened compliance promotion system, we are making efforts to enhance our self-corrective functions and prevent inappropriate conduct.

Hitachi Astemo will continue to meet the expectations of our stakeholders, including our customers, by working together under ESG management. Our advanced and sustainable technologies will contribute to the rapid and exciting changes taking place in mobility today.

Representative Director,  
President & CEO



# Mission

## ■ Our company name

In January 2021, Hitachi Automotive Systems, Keihin, Showa and Nissin Kogyo completed a business merger and began their journey as the global mega-supplier "Hitachi Astemo."

Hitachi Astemo provides new mobility solutions that combine the strengths of each company in the fields of electric powertrains for vehicles, advanced chassis, autonomous driving and advanced driver-assistance systems, and motorcycle systems. By addressing issues facing society such as traffic accidents and congestion, and the environmental impact of exhaust emissions through greener solutions and improved efficiency, we will contribute to realizing a safe, comfortable, and sustainable society that is friendly to the planet and people.

To clearly express the company's commitment to "providing a safe, comfortable, and sustainable mobility lifestyle through technologies that contribute to an advanced and sustainable society," the first letters of the words "Advanced Sustainable Technologies for Mobility" were combined to form the name "Astemo."

The Astemo logo is displayed in a bold, red, sans-serif font. The letters 'A', 'S', and 'M' are significantly larger than the 'T', 'E', 'C', 'H', 'N', 'O', 'L', 'O', 'G', 'I', 'E', 'S', 'F', 'O', 'R', 'M', 'O', 'B', 'I', 'L', 'I', 'T', 'Y' which are smaller and positioned below the main letters.

**Advanced Sustainable Technologies for Mobility**

## ■ Our mission

Our mission is unite the thoughts of all our employees, aggregating our wisdom and strength to overcome the once-in-a-century wave of change and become a mega-supplier that can keep securing its global leadership position. To realize this goal, all of our global employees will become as one, and together we will embark on a new future.

### Mission

**We will contribute to a sustainable society and improved quality of life by providing world-leading advanced mobility solutions that satisfy our customers**

# Value

## Toward a better world

Hitachi Astemo is committed to improving peoples' quality of life (QoL) and creating a sustainable society by providing social, environmental, and economic value to realize a better world.

### Our triple bottom line

Hitachi Astemo will continue to develop world-leading technologies focused on achieving our triple bottom line.

#### Social contribution

Improve safety, comfort and QoL through AD\*1/ADAS\*2 and advanced chassis.

#### Environmental contribution

Contribute to improving our environment with highly efficient electrified products and technologies that reduce emissions.

#### Economic contribution

Expand revenue to realize sustainable growth.

### The value we deliver to our stakeholders

#### Contribute to a safe and sustainable society

- Efficient, sustainable technology
- Products with reduced CO<sub>2</sub> emissions
- Improved safety comfort and quality of life for everyone



#### Be a partner that transforms the future of mobility together with our customers

- Co-creation with customers through continuously evolving solutions
- Benefits of increased scale
- Global leadership
- Expansion of global bases

**Astemo**

#### Provide opportunities to create next-generation technologies

- Opportunities for career growth
- Diverse and global work environment
- Working together to create the technologies that are redefining the future



#### Continue to increase value and improve ROIC\*3 for stakeholders

- Social value
- Environmental value
- Economic value

\*1 AD: Autonomous Driving

\*2 ADAS: Advanced Driving Assistant System

\*3 ROIC: Return On Invested Capital

Management **3** Sustainability Management

# Sustainability Management based on Sustainable Development Goals

We contribute to the realization of a sustainable society by providing next-generation mobility solutions to solve global social and environmental challenges outlined in the Sustainable Development Goals (SDGs). As a global technology company, we are committed to creating social, environmental, and economic value while contributing to the realization of a sustainable society and environment.

## Contributing to SDGs through business strategies (targets and solutions)

Our contribution to SDGs	Target	Solutions
	<p><b>3.6</b> By 2020, halve the number of global deaths and injuries from road traffic accidents</p> <p><b>3.9</b> By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination</p>	<p>ADAS → AD</p> <p>Improve ICE → Electrification</p>
	<p><b>7.3</b> By 2030, double the global rate of improvement in energy efficiency</p> <p><b>7.a</b> By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology</p>	<p>Improve ICE → Electrification</p> <p>Improve ICE → Electrification</p>
	<p><b>9.1</b> Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all</p> <p><b>9.4</b> By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities</p>	<p>Connected</p> <p>Electrification</p>
	<p><b>11.2</b> By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons</p> <p><b>11.6</b> By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management</p>	<p>AD Connected</p> <p>Improve ICE → Electrification</p>
	<p><b>13.1</b> Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</p>	<p>Electrification</p>

## Management 4 Engagement and Participating in Initiatives

# Stakeholder Engagement

Hitachi Astemo endeavors to solve social issues in various countries and regions together with a diverse range of stakeholders, including customers, suppliers, central and local governments, academic and research organizations, and others. Moreover, we are promoting initiatives that emphasize direct dialogue between employees and management with the aim of enhancing the value of our human capital.

### ■ Stakeholder engagement and participating in initiatives

Stakeholder	Major challenges	Main contact point	Communication method (results in FY2022)
Customers	Create better products and services, handle complaints, and disclose appropriate product and service information.	QA/Sales	<ul style="list-style-type: none"> <li>● Customer Satisfaction (CS) activities</li> <li>● Sales activities</li> <li>● Website</li> </ul>
Suppliers	Smooth information sharing to create fair business relationships and better partnerships.	Procurement	<ul style="list-style-type: none"> <li>● Procurement activities</li> </ul>
Employees	Promote appropriate compensation and occupational health and safety, and improve employee engagement.	Internal Communications / Human Capital	<ul style="list-style-type: none"> <li>● Dedicated employee website (Astemo Times) / Intranet / company newsletter</li> <li>● Training</li> <li>● Town hall meetings between management and employees</li> <li>● Employee surveys</li> </ul>
Central/local governments & industry bodies	Compliance with Japanese and foreign laws and regulations, strengthen industrial infrastructure, and attract companies.	PR/Human Capital	<ul style="list-style-type: none"> <li>● Liaison with international agencies, national government bodies, and local governments</li> <li>● Manage participation with industry bodies</li> </ul>
Academic/research organizations	Promote technological innovation and participate in projects that collaborate between industry, government, and academia.	R&D	<ul style="list-style-type: none"> <li>● Open innovation (joint research)</li> </ul>
Local community	Fulfill responsibilities as a corporate citizen and participate in the local community.	Business divisions / Human Capital	<ul style="list-style-type: none"> <li>● Contribute to local community through business</li> <li>● Participate in volunteer activities</li> </ul>

## Management 4 Engagement and Participating in Initiatives

# International Standardization Activities

### Approach to international standardization

Hitachi Astemo is working to solve social issues from a global perspective through the creation of new social norms, together with a diverse range of stakeholders, including governments and municipalities throughout the world, academic and research institutions, companies, and users.

Hitachi Astemo's international standardization activities implement our policy of "global initiatives that contribute to the realization of a sustainable society, being based on explicitly stated standards, formulated on the basis of fair discussions involving members representing specialized fields, with international consensus, and an accurate grasp of social issues facing the world".

Accordingly, we consider international standardization activities to be of importance, along with research and development and intellectual property-related activities. To contribute to resolving social issues on a global scale, Hitachi Astemo actively engages in activities with international standardization organizations, including ISO\*1 activities, and in particular, cybersecurity, functional safety, software updates, and automated driving, which are handled by ISO/TC22 (automotive-related) and TC204 (ITS-related) as well as Japanese standardization study groups, such as the Society of Automotive Engineers of Japan (JSAE) and JASPAR.\*2 Regarding the promotion of international standardization, we are working to adopt Hitachi Astemo's leading/proprietary technologies and to capture the market through the formation of rules.

### Structure for promoting international standardization activities

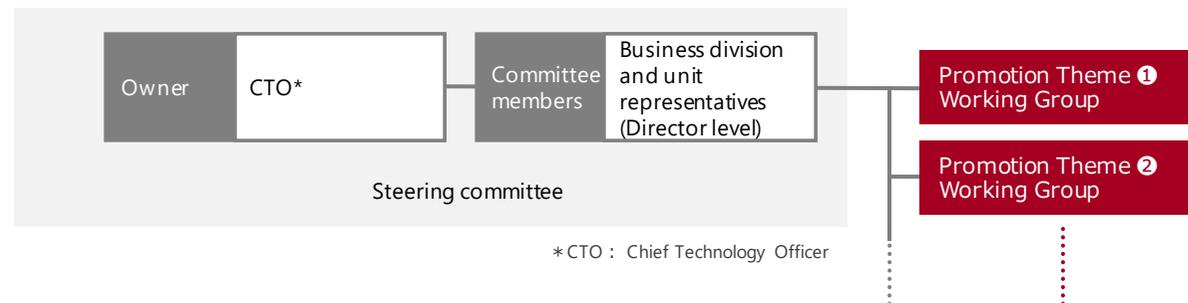
As part of our commitment to international standardization activities, Hitachi Astemo personnel participate as members of standards meetings of mirror groups (Society of Automotive Engineers of Japan) in international standardization organizations, such as ISO, and have been appointed to key positions, such as secretaries.

The Hitachi Astemo International Regulations and Standardization Committee was established to formulate policies for international standardization within Hitachi Astemo, centrally manage and share a variety of standardization information, and promote its deployment to products. The working groups under the committee promote the standardization of activities through detailed discussions of each regulation and standardization information.

\*1 ISO: International Organization for Standardization. An international organization composed of member countries and regions.

\*2 JASPAR: Japan Automotive Software Platform and Architecture. Engineers from car manufacturers, electrical components, semiconductor/electronic components, and software/tools, trading companies, career organizations, universities, and research institutes participate in the project.

### Hitachi Astemo's International Regulatory and Standardization Committee structure



# Environmental

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- 1 Environmental Vision and Long-term Goals
- 2 Environmental Governance
- 3 Realizing a Decarbonized Society
- 4 Realization a Resource Efficient Society
- 5 Achieving a Harmonized Society with Nature
- 6 Environmental Data

## Environmental 1 Environmental Vision and Long-term Goals

# Environmental Policy and Action Plan

## ■ Environmental philosophy & policy

As part of our corporate social responsibility, Hitachi Astemo is working to reduce the environmental impact of our business activities and, through our products and services, promoting environmental management to help reduce society's impact on the environment. In addition, to promote environmental management across the Hitachi Astemo Group, we have established a set of guidelines on environment-related matters in the form of an "Environmental Policy," and ensure that everyone, from top management to employees, complies with it.

### Environmental Policy

**"We help build a sustainable society in harmony with nature by taking action to protect the global environment."**

#### Environmental vision

**Guided by our mission statement "We will contribute to a sustainable society and improved quality of life by providing world-leading advanced mobility solutions that satisfy our customers," we strive to protect the global environment with an awareness of how our business operations, products, and services are deeply related to it.**

#### ● Environmental action guidelines

##### 1. Complying with environmental laws and regulations while preventing pollution

We will:

1. comply with laws and regulations related to the environment and develop voluntary standards needed to ensure compliance;
2. implement measures designed to meet the needs of local communities and minimize the impact our global manufacturing operations may have on their environment whenever possible;
3. fulfill our agreed environmental requirements with customers and other third parties;
4. assess the possibility of environmental problems, work to prevent pollution, and take appropriate measures to minimize the impact of any environmental problem that should arise.

##### 2. Enhancing environmental management functions and making continual improvements

We will:

1. take action aimed at achieving our environmental impact reduction targets utilizing an ISO 14001-compliant environmental management system, environmental regulations, and the capacity to implement environmental initiatives;
2. take action aimed at continually improving environmental performance;
3. help enhance our management system with the above actions.

##### 3. Promoting global manufacturing throughout the product life-cycle

We will promote global manufacturing aimed at minimizing environmental impact at every stage of the product life-cycle from R&D and design to procurement, production, distribution, sales, use, and disposal.

We will:

1. develop and design environmentally friendly products;
2. work to conserve energy to stop global warming;
3. strictly control chemical substances and reduce emissions;
4. promote the conservation and recycling of resources to help build a closed-loop society

##### 4. Protecting the ecosystem

We will promote action for protecting the ecosystem based on both our business activity and social contribution activity relevant to the protection of nature rooted in our local community, aiming to achieve a society coexisting with nature.

##### 5. Education, training and raising awareness

We promote awareness among all Hitachi Astemo employees as well as those who work us. We provide employees with education and training on protecting the environment while ensuring compliance with environmental laws and regulations.

##### 6. Information disclosure

We will share information about our environmental initiatives with stakeholders and maintain communication with them to further mutual understanding and build stronger relationships.

# Environmental 1 Environmental Vision and Long-term Goals

## Environmental Action Results for FY2022 and Environmental Action Targets for FY2023 and Beyond

Category	Item	Goal	FY2022 (Target)	FY2022 (Results)	FY2023 (Target)	FY2024 (Target)		
<b>Environmental management</b>								
Compliance	Regulation compliance	Zero legal violations	0 incidents	1 incidents*1	0 incidents	0 incidents		
	Reduce complaints	Promote zero complaints	0 incidents	0 incidents	0 incidents	0 incidents		
	Develop environmental talent	Promote education of environmental talent	Develop/increase	Develop/increase	Develop/increase	Develop/increase		
<b>Decarbonized society</b>								
<b>Long-term target</b> Business sites (factories and offices) FY2030: Achieve carbon neutrality*2 Via the value chain FY2050: Achieve carbon neutrality FY2030: Reduce CO <sub>2</sub> emissions by 50% (compared to FY2010)	Factories and offices	Cut total CO <sub>2</sub>	Percentage of total CO <sub>2</sub> cuts (compared to FY2010)	10.6%	17.8%	30.1%	50.0%	
		Improve transport consumption rate (Japan)	Percentage improvement of transport energy consumption rate (Japan)	2.5%	31.8%	1.3%	1.0%	
	Products and services	Contribution to cut CO <sub>2</sub>	Revenue from electrification business	We aim to increase revenue from the electrification business to over 400 billion yen in FY2025 and more than double that amount in FY2030 by promoting the uptake of highly efficient and high-performance electrification products, such as motors, inverters, and electric axles (e-Axle) for EVs.				
		Promote ecological design	Ratio (Number of products assessed in the current year/Number of products subject to assessment in the current year)	–	–	–	100%	
<b>Resource efficient society</b>								
<b>Long-term target</b> Efficient use of water/resources FY2050: Improve by 50% (compared to FY2010)	Factories and offices	Landfill waste rate		7.1%	5.2%	4.1%	3.5%	
		Improve resource use efficiency	Improvement rate of waste and valuables generation per basic unit (vs FY2010)		17.4%	27.4%	33.5%	34.1%
			Improvement rate of water use per basic unit (vs FY2010)		21.1%	30.0%	26.6%	37.1%
			Identification and effective utilization rate of plastic waste		73.3%	81.2%	75.5%	79.0%
	Circulation-oriented product and business development	Transition to a circular economy	Analyze risks and opportunities, promote roadmap creation					
<b>A Society Harmonized with Nature</b>								
<b>Long-term target</b> Minimize impact on natural capital	Water risks	Respond to water risks	Promotion of response to water risks depending on results of water stress investigation					
	Chemical substance	Reduction of chemical substance emissions	Improvement rate of atmospheric chemical substance emission per basic unit (vs FY2010)	3.1%	20.0%	19.2%	20.2%	
	Ecosystem conservation	Calculation of impact on natural capital	Consideration of calculation of negative impact (implementation of LCA*3)					
			Consideration of calculation of positive impact (forest preservation activities)					
	Contribution to ecosystem conservation	Promotion of ecosystem preservation activities						

\*1 At our overseas business sites, there were cases of waste and wastewater violations, which were reported to the relevant administrative agencies and countermeasures have been completed.

\*2 Includes carbon offsets (emissions trading).

\*3 LCA: Life Cycle Assessment

Environmental **2** Environmental Governance

# Environmental Governance Promotion

## Environmental management promotion

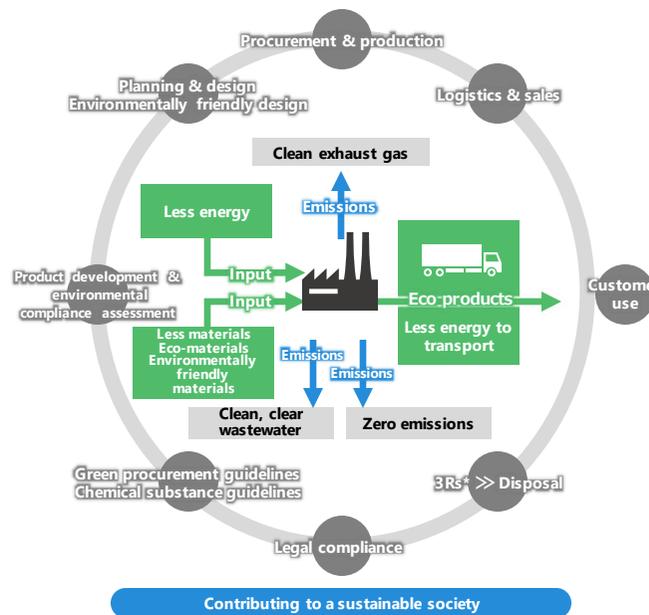
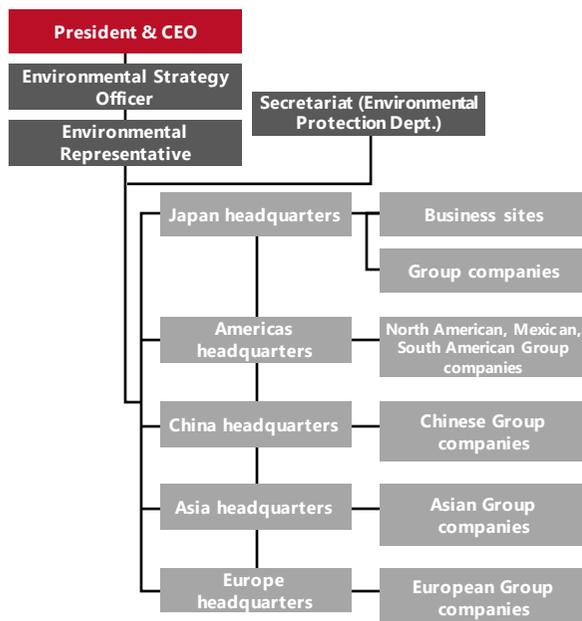
Hitachi Astemo business sites and subsidiaries in Japan and overseas have obtained the international standard ISO 14001 certification, and are promoting environmental activities based on an Hitachi Astemo group-wide environmental management system. Within Japan, we conduct mutual audits through cooperation between our business sites. Audits at our overseas sites are carried out by internal auditors from our domestic sites, focusing on priority management sites, in order to

raise the level of management. We will contribute to the realization of a sustainable society according to our mission and Environmental Policy by continually providing advanced, environmentally friendly products and systems that please our customers, and systematically reduce the environmental impact of all the processes involved in making those products. To this end, Hitachi Astemo is implementing effective environmental management.

## Environmental education for employees

Based on the belief that improving employee awareness and promoting understanding is necessary to invigorate environmental activities, Hitachi Astemo conducts awareness-raising activities for all Hitachi Astemo employees, from junior staff to executives. The goal is to encourage employees to think about what they can commit to and do, at work and at home, by learning about climate change issues, how the Paris Agreement works, and Hitachi Astemo's carbon neutrality goals and initiatives. We also provide environmental and eco-minded education as introductory training for new employees, and specialized training for environmental practitioners and internal environmental auditors.

**FY2022 initiatives**  
 In April 2022, Hitachi Astemo conducted "environmental and eco-minded" education as introductory training for new employees. Additionally, we conducted internal auditor training and education on environmental laws and regulations in November 2022, and a briefing on 3R promotion for waste reduction in February 2023.



\* 3Rs: Reduce, reuse, and recycle

# Realizing a Decarbonized Society

## ■ Hitachi Astemo's targets

As a leading provider of mobility solutions to the automobile and motorcycle industries, we believe our primary mission is to contribute to the realization of a sustainable, decarbonized society. We will increase the provision of products that are helping to reduce our environmental impact, further promote energy conservation, and advance the use of renewable energy.

### Targets by 2030

- Carbon neutrality at production sites
- Reduced CO<sub>2</sub> emissions through advanced technologies



## ■ Hitachi Astemo Group initiatives

Hitachi Astemo incorporates sustainability into the management and business practices of the entire organization and strives to make improvements through its PDCA\* cycle. By building relationships of trust with our stakeholders through effective communication, we aim to achieve both an environmentally friendly and sustainable society and grow as a global company.

\* PDCA: Plan, Do, Check, Action

### Energy conservation efforts

### Continuation of current activities

### Use of renewable energy, such as installation of solar power generation equipment

### Use of green power

### Innovative new technologies

## ■ Obtained SBT certification

In response to the SBT initiative (SBTi), an organization that certifies "Science Based Targets," which are greenhouse gas emission reduction targets that are scientifically consistent with the targets set by the Paris Agreement, Hitachi Astemo submitted its own greenhouse gas emission reduction targets by 2030 in August 2023 in line with the targets, and obtained SBT certification\* in November of the same year.

\* With the SBT certification, targets have been set for an 80% reduction in Scope 1 and Scope 2 emissions and a 25% reduction in Scope 3 emissions by 2030, based on actual greenhouse gas emission values in 2021.

## Environmental 3 Realizing a Decarbonized Society

# CO<sub>2</sub> Emission Reductions at Business Sites (Factories and Offices)

### Actions and achievements

Hitachi Astemo aims to achieve carbon neutrality at our business sites (factories and offices) by 2030 in order to realize a decarbonized society. We are implementing a number of initiatives to reduce CO<sub>2</sub> emissions at all our business sites.

#### Examples of initiatives at business sites

##### Miyagi No. 2 Plant

###### High-efficiency electric motors and inverter control for air conditioners

Reduction of electric power consumption by improving the efficiency of electric motors of air conditioners (two units) and by using inverter-controlled operation



CO<sub>2</sub> emissions reduction

51.6 t-CO<sub>2</sub>/year

##### Saitama Plant

###### Compressor upgrade

Reduction of electric power consumption by upgrading old compressors and power supply transformers



CO<sub>2</sub> emissions reduction

47.0 t-CO<sub>2</sub>/year

## Environmental 3 Realizing a Decarbonized Society

# Introducing Renewable Energy

### Initiatives to utilize renewable energy

As a step to reduce carbon emissions to achieve carbon neutrality, Hitachi Astemo is moving forward with the use of renewable energy. We are striving to reduce CO<sub>2</sub> emissions by purchasing electricity generated from natural energy sources, such as hydroelectric and wind power (also known as green power), by installing solar power generation systems within the company, and using the electricity generated by these systems within the company.

#### Examples of initiatives at business sites

#### Hitachi Astemo Hanshin (Sanda No. 3 Plant)



CO<sub>2</sub> emissions reduction

126 t-CO<sub>2</sub>/year

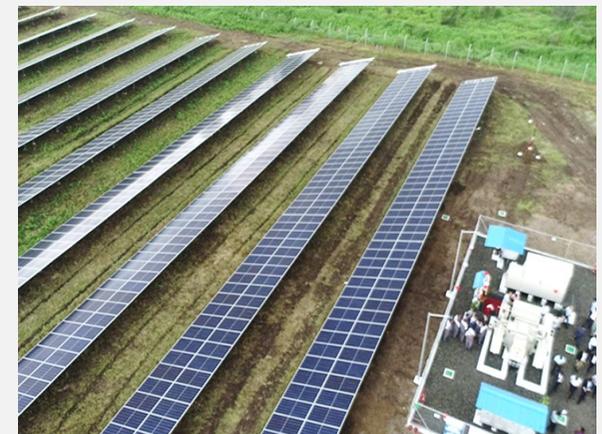
#### Hitachi Astemo Seiko



CO<sub>2</sub> emissions reduction

16 t-CO<sub>2</sub>/year

#### Hitachi Astemo Brake Systems India (Jalgaon Plant)



CO<sub>2</sub> emissions reduction

4,000 t-CO<sub>2</sub>/year

### Promoting the utilization of renewable energy (utilization of in-house solar power generation system)

We are continually trying to expand the use of renewable energy globally. In FY2022, solar panels were installed at Hitachi Astemo Hanshin (Sanda No. 3 Plant) and Hitachi Astemo Seiko in Japan. Overseas, solar panels were also installed at plants in China and Indonesia. As a result of these efforts, the overall CO<sub>2</sub> emissions reduction of Hitachi Astemo was approximately 15,200 t-CO<sub>2</sub>/year.

Environmental **3** Realizing a Decarbonized Society

# Disclosure of Financial Information Related to Climate Change (Disclosure under TCFD)

## Strategy

Through its business activities and by providing products and services, Hitachi Astemo is promoting the reduction of the environmental impact on society as a whole, in order to contribute to realizing a decarbonized society, which is expected of a global company under the RCP 2.6\*1 and RCP 8.5\*2 scenarios of the Fifth Assessment Report Intergovernmental Panel on Climate Change (IPCC). Moreover, to help limit the global temperature rise to 1.5°C as recommended in the IPCC Global Warming of 1.5°C report, we will contribute to the realization of a carbon-free society on a global scale with the goal of achieving carbon neutrality at Hitachi Astemo's business sites (factories and offices) and reducing CO<sub>2</sub> emissions by promoting the spread of high-efficiency, high-performance electrified products.

\*1 RCP2.6 scenario: A Representative Concentration Pathway (RCP) scenario under which, at the end of the 21st century, the increase in global temperatures from preindustrial levels is kept below 2°C.

\*2 RCP8.5 scenario: An RCP scenario that assumes that emissions will continue to rise resulting in an approximately 4°C rise in global temperatures compared to preindustrial levels.

### Addressing risks and opportunities based on climate change-related scenarios

We considered the environment under the 1.5°C and 4°C scenarios for our businesses, and how we would respond.

- 1.5°C scenario: As projected by the IPCC's RCP 2.6 climate model, the IEA 450 scenario, and for other scenarios, we are anticipating a world where stringent measures and regulations will be implemented to help realize a decarbonized society. Therefore, we investigated risks and opportunities on the premise of carbon neutrality by fiscal 2050.
- 4°C scenario: Considered under the assumption of there being increased climate-induced natural disasters as a result of lax regulations as projected by the IPCC's RCP8.5 scenario and other scenarios.

### Our business environment, major risks and opportunities under the 1.5°C and 4°C scenarios, and our response to them

Business environment and main risks and opportunities under the 1.5°C scenario

► **Business environment:** Electric vehicles will rapidly become widespread due to stricter laws and regulations, such as fuel efficiency and environmental performance regulations, as well as rising prices of fossil fuels. The market for alternative technologies to non-fossil fuels such as hydrogen and biofuel vehicles will also expand. There will be an increase in the number of countries/regions with almost zero internal combustion engine vehicles based on sales.

► **Risk:** There will be delays in business transitions in response to the rapid progress toward the shift away from internal combustion engine vehicles.

► **Opportunity:** The market for electric vehicles (including motorcycles), hydrogen, and biofuel vehicles to replace internal combustion engine vehicles will expand.

Business environment and major risks and opportunities under the 4°C scenario

► **Business environment:** Fuel efficiency laws and regulations will remain lax globally, and internal combustion engine vehicles will remain a major mode of transport. The modal shift will be slow, as conventional automobiles and motorcycles will remain predominant. Typhoons, floods, and other natural disasters caused by climate change will rise sharply.

► **Risks:** Natural disasters will exacerbate damage to production facilities and disrupt supply chains leading to delays in deliveries and the procurement of parts. A breakdown in one link of the supply chain will have an increasing impact on overall production.

► **Opportunities:** Demand will grow for technologies to enhance the efficiency of internal combustion engines.

Non-environmental market factors (neither the 1.5°C nor 4°C scenario)

- Economic growth, urbanization, population growth, and infrastructure development like road construction will expand the global market for automobiles and motorcycles as a flexible and personal means of transport.
- Global pandemics may temporarily dampen passenger vehicle sales due to restrictions on people's movements, but commercial vehicle sales will tend to rise as the need for the delivery of goods increases.
- Businesses that offer greater safety, security, and comfort, such as those developing autonomous driving and advanced safety devices, will become increasingly important.
- Technological innovations in the connected industries will create new mobility service markets.

Response to future business risks (business opportunities)

#### Response to business risks under the 1.5°C scenario

Promote R&D of electrification technology and other alternative technologies to enhance the response to new markets such as electric vehicles.

#### Response to business risks under the 4°C scenario

- Promote R&D and product development in existing technologies, including internal combustion engines, to not only improve energy efficiency but also non-environmental issues like safety, security, and comfort.
- Given the increasing frequency of natural disasters, take risk aversion into account when deciding the location and equipment layout of a new plant. Keep an eye on the supply chain in strengthening our ability to respond to business disruption risks in accordance with our BCP\*s.

Financial information (sales volume of each target sector)

Partial impact on revenue at 1,920 billion yen in FY2022

\*BCP : Business Continuity Planning

Note: The above scenario analyses are not future projections but attempts to review our resilience to climate change. How the future unfolds may be quite different from any of these scenarios.

## Environmental 4 Realization a Resource Efficient Society

# Building a Society That Uses Resources Efficiently

### Resource recycling

#### For a resource efficient society

Together with our customers **build a society that uses water and other resources efficiently**



**Efficiency in use of water/resources FY2050** **50% improvement**  
(compared to FY2010)

Raw materials used in Hitachi Astemo's manufacturing processes are repeatedly recycled again as raw materials for the same product while maintaining their original properties. We are actively working to reduce consumption of new natural resources, reduce emissions of environmentally hazardous substances, and reduce waste.

#### Effective use of resources

Regarding the reuse of parts, some alternators and starters recovered by automobile dealers are dismantled, inspected, cleaned, recycled, reassembled, and inspected at the production plant (Sawa Works) before being shipped again as rebuilt products. As for raw materials, scrap metal that had been discarded at our factories are reused as recycled materials (Miyagi region).

#### Recycled materials collected at a factory in the Miyagi area



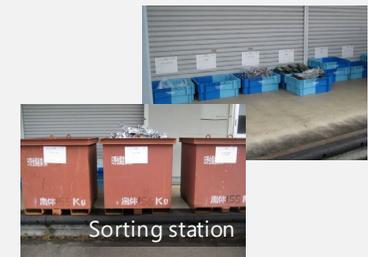
#### Examples of initiatives at business sites

##### Miyagi No. 4 Plant

Detailed sorting and recycling of waste (scrap metal, foundation scrap, etc.) generated in the production of inverters



Foundation scrap



Sorting station

**Waste reduction amount** **28.0 t/year**

##### Hitachi Astemo Uki

Dedicated tanks are installed at each workplace to separate recyclable waste oil (waste oil from carburizing equipment, rust preventive oil, etc.) from the waste oil generated at the plant.



Dedicated tank for recycled waste oil

**Waste reduction amount** **28.0 t/year**

##### Hitachi Astemo Mexico (multiple sites)

Sorting stations were installed to promote recycling of non-hazardous waste, and sorted into aluminum, plastic, paper, organic waste, and inorganic waste.



Sorting station

**Waste reduction amount** **0.3 t/year**

Environmental **4** Realization a Resource Efficient Society

# Building a Water Efficient Society

## ■ Building a water efficient society

### Reduced and effective use of water resources

By measuring the volumes of water used and discharged at our plants and offices, we manage the results of our environmental impact, including water usage, and progress toward our reduction targets. We also manage risk in the event of flooding or other incidents that could affect our business.

### Examples of initiatives at business sites

#### Miyagi No. 3 Plant

##### Review of supply frequency of aluminum anti-corrosion treated water

Reduced water consumption by reviewing the supply frequency from the water storage tanks to the rinsing and hot water rinsing tanks



Water storage tank

**Water resource usage reduction 500 m<sup>3</sup>/year**

#### Hitachi Astemo Seiko

##### Optimization of deionized water supply in the cleaning process

A liquid level gauge was installed in the deionized water tank in the cleaning process to optimize the supply volume and save water



Water deionizer system

**Water resource usage reduction 700 m<sup>3</sup>/year**

#### Hitachi Astemo FIE (Doddaballapura Plant)

##### Reduction of water supply to cooling towers of multiple effect evaporators (MEE\*)

Reduction of water consumption by reusing wastewater from the concentration process of the MEEs to the cooling tower



Multiple effect evaporator

**Water resource usage reduction 1,500 m<sup>3</sup>/year**

\*MEE: Multiple Effect Evaporator

Environmental **5** Achieving a Harmonized Society with Nature

# Preserving Ecosystems

## Preserving Ecosystems

Committed to preserving ecosystems and biodiversity, Hitachi Astemo is implementing a variety of environmentally friendly initiatives, as well as community and social contribution activities.

A society harmonized with nature

Minimize impact on natural capital



### Examples of initiatives at business sites

#### Gunma No. 1 & No. 2 Plants

**Tone River cleanup mission**  
Cleanup activities along the banks of the Tone River





**No. of participants** 150 (once/year May)

#### Kyushu Plant

**Autumn walking competition and Environment Day**  
Neighborhood walking and trash collection activities during lunch break






**No. of participants** 82 (once/year Oct.)

#### Hitachi Astemo Mexico (multiple sites)

**Plastic cap collection activities**  
Supporting children in need of cancer treatment through the recycling of discarded plastics such as bottle caps




**Amount collected** 425.3 kg

Environmental **6** Environmental Data

# Environmental Data (Results for 141 sites included in the FY2022 tally)

## Ratio of plastic waste generated

### Japan

CO <sub>2</sub> emissions	<b>275.8</b> 1,000 t-CO <sub>2</sub>
Waste disposed	<b>59.4</b> 1,000 t
Water resource usage	<b>3,650.5</b> 1,000 m <sup>3</sup>
Plastic waste volume meter	<b>2.3</b> 1,000 t

### Americas

CO <sub>2</sub> emissions	<b>184.8</b> 1,000 t-CO <sub>2</sub>
Waste disposed	<b>46.1</b> 1,000 t
Water resource usage	<b>1,021.5</b> 1,000 m <sup>3</sup>
Plastic waste volume meter	<b>1.6</b> 1,000 t

### Asia

CO <sub>2</sub> emissions	<b>382.1</b> 1,000 t-CO <sub>2</sub>
Waste disposed	<b>48.6</b> 1,000 t
Water resource usage	<b>2,705.0</b> 1,000 m <sup>3</sup>
Plastic waste volume meter	<b>1.7</b> 1,000 t

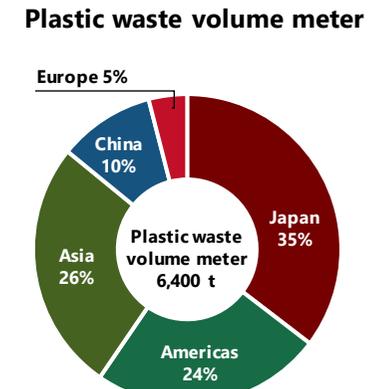
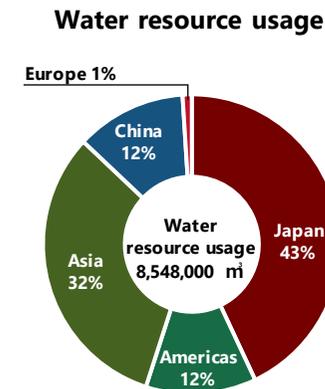
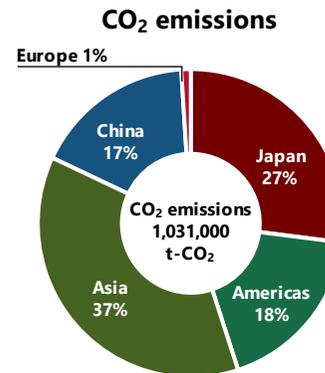
### China

CO <sub>2</sub> emissions	<b>175.2</b> 1,000 t-CO <sub>2</sub>
Waste disposed	<b>19.1</b> 1,000 t
Water resource usage	<b>1,053.6</b> 1,000 m <sup>3</sup>
Plastic waste volume meter	<b>0.6</b> 1,000 t

### Europe

CO <sub>2</sub> emissions	<b>13.1</b> 1,000 t-CO <sub>2</sub>
Waste disposed	<b>19.9</b> 1,000 t
Water resource usage	<b>117.2</b> 1,000 m <sup>3</sup>
Plastic waste volume meter	<b>0.3</b> 1,000 t

## Environmental impact ratio by region



# Social

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**1** Innovation Management

**2** Human Capital

**3** Human Rights

**4** Value Chain Management

**5** Community

Social 1 Innovation Management

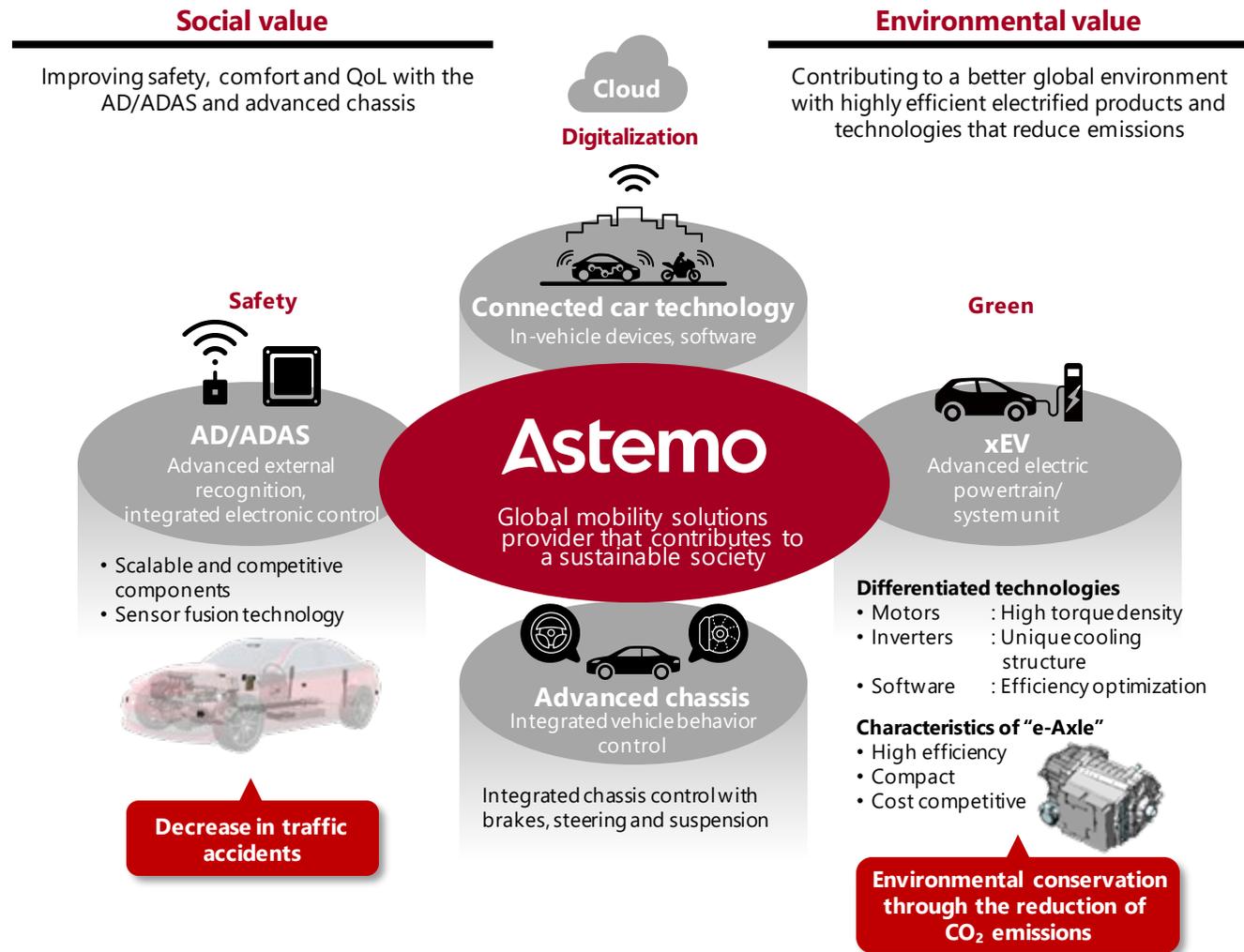
# Research & Development

## Hitachi Astemo's R&D policies and initiatives

Against the backdrop of the momentum to address global climate change and achieve the SDGs, there is a search for a vision of mobility that will play a role in a sustainable society; and to solve this challenge, technological innovations in the area of CASE (Connected, Autonomous, Service & Shared, Electric) are being promoted. Hitachi Astemo is also working on solutions to realize a safe, secure, comfortable, environmentally friendly, and sustainable mobility society, and is promoting technological innovation in the area of CASE. We will continue to provide social and environmental value through these mobility solutions.

As for social value, we are working to improve safety, comfort, and QoL through AD/ADAS, advanced chassis, and connected car technologies, and as for environmental value, we are working to solve problems with highly efficient electrified products and technologies that reduce emissions.

Through these initiatives, we will contribute to improving people's quality of life and our customers' corporate value as a "global mobility solution provider that contributes to a sustainable society."



# Research & Development

## ■ Hitachi Astemo's R&D system and value provided

The Technology Development Functional Division is responsible for creating new products and technologies, developing products and systems across business divisions, and developing fundamental technologies (analysis, material technologies, etc.) that are shared throughout the entire company.

In addition to collaborating with the company's global technical centers (in the Americas, Europe, China, etc.), the Technology Development Functional Division aims to collaborate with the Center for Digital Services, Center for Technology Innovation, and overseas laboratories of Hitachi's R&D group in the development of advanced technologies. This way we will efficiently and quickly create advanced technologies that meet global needs.

### **Social value: AD/ADAS and advanced chassis technology to improve safety, comfort, and QoL**

Hitachi Astemo has been developing products for AD/ADAS and related vehicle control, providing products such as stereo cameras, ADAS Electronic Control Units (ADAS ECU), Autonomous Driving Electronic Control Units (AD ECU) and OTA (Over the Air). The evolution and expansion of automated driving technology requires three technologies: "technology to accurately recognize" areas visible from the vehicle, "technology to anticipate" areas invisible from the vehicle, and "technology to accurately judge and control" from the information obtained.

We are promoting the evolution of stereo cameras, 360-degree 3D sensing, fusion functions using multiple sensors, and AI implementation technology as external sensing technologies for recognizing the driving environment.

As for technology to anticipate ahead, we are developing technology that reads high-precision maps with an MPU (Map Position Unit) to estimate the vehicle's location, technology to predict risks ahead, and technology to obtain map updates and road conditions from the cloud through secure communication via OTA and central ECU. We are also working on developing advanced chassis technologies, such as track planning algorithms that minimize rolling motion, vehicle control technologies that enable high-precision tracking of the target track, and related by-wire technologies for chassis-based products. Furthermore, we are working on developing mobility solutions—including the evolution of single components and cross-domain (AD/chassis/powertrain) system development, SDVs (Software Defined Vehicles), and connected services—which will contribute to improved safety, comfort, and QoL.

### **Environmental value: Contributing to a better global environment through highly efficient electrified product technology**

We are developing environmentally friendly technologies to achieve carbon neutrality. In powertrain

electrification, we are accelerating the development of high-efficiency and high-power technologies for motors, which are key components, high-power density technologies for inverters in vehicles, and high-efficiency and compact e-Axle technologies that apply these technologies, and are applying them to various products. We are also accelerating our electric and electrification efforts for motorcycles.

From 2022, we have been participating in the "Development of Highly Efficient Electrification Systems" under the Green Innovation (GI) Fund, and are accelerating the development of motor and inverter technologies that achieve high efficiency, compactness, reduced weight, resource conservation, etc.

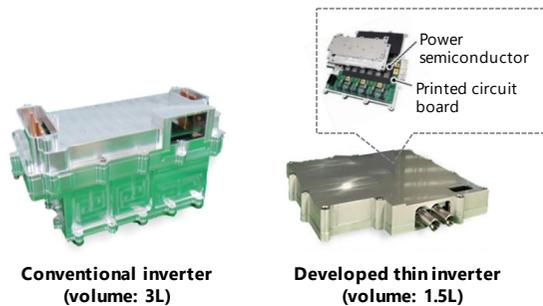
We will also develop technologies for energy ecosystems such as electric power energy management and bidirectional on-board chargers (OBC).

## Social 1 Innovation Management

# Research & Development

### Examples of development in FY2022

#### Development of thin-type inverter technology for EVs that is more compact and energy efficient



We have developed basic technology for a thin-type inverter that achieves both energy conservation and miniaturization as a power converter (henceforth, "inverter") for electric vehicles (henceforth, "EVs"). This technology simplifies power wiring by integrating power semiconductors\*<sup>1</sup> that control power supply with printed circuit boards. Compared to conventional products, the thin-type inverter reduces energy loss when power semiconductors are switched by 30 percent and is approximately 50 percent\*<sup>2</sup> smaller. The new design eliminates the need for welding of power semiconductors and power wiring, and the number of components and assembly processes required are also reduced. As a result, throughout the lifecycle of the inverter, including the production process, CO<sub>2</sub> emissions are reduced.

With the conventional structure, it was necessary to assemble power semiconductors and inverter circuit components separately and connect them with wiring. By

integrating and accumulating power semiconductors on a printed circuit board with embedded inverter circuit components, we were able to develop a basic technology that makes it possible to avoid the problem of heat generation. With this technology, we have succeeded in reducing the energy loss generated when power semiconductors switch on and off by 30 percent compared to conventional systems and thereby minimizing heat generation, as well as reducing the size of inverters by approximately 50 percent compared to conventional systems.

In addition, conventional inverters use many copper plate components called busbars\*<sup>3</sup> to supply large currents to power semiconductors, which must be connected by welding or other means. This required many parts and assembly processes, making it difficult to improve production efficiency. With the mounting technology, power semiconductors and circuit components are mounted on a compact, lightweight, thin printed wiring board, successfully eliminating the need for busbars. This has greatly simplified the production process, reducing the number of components and assembly steps.

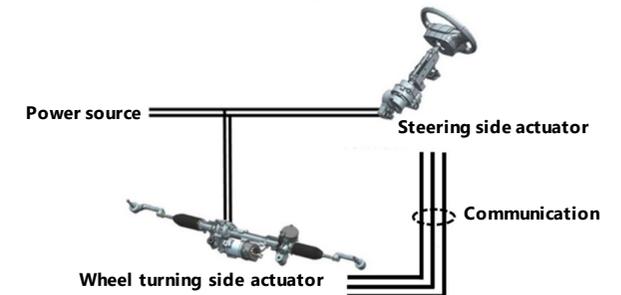
\*<sup>1</sup> Semiconductors that can pass or stop a larger amount of power than ordinary semiconductors. Si (silicon) has been mainly used as a material, but the practical application of SiC (silicon carbide), which is high-performance and energy-saving, has been progressing. The structure of the newly developed product is based on Si power semiconductors, but it can also be applied to SiC.

\*<sup>2</sup> Compared to our conventional product (100kW class).

\*<sup>3</sup> A conductor to carry a large current.

 **Hitachi and Hitachi Astemo Developed Thin-type Inverter Technology for EVs That is More Compact and Energy Efficient**

#### Development of Steer-by-Wire prototype that combines advanced steering and a fail-safe function



We have developed a steer-by-wire prototype, which operates tires not through a mechanical mechanism but through electrical control during a vehicle's steering wheel operation. Simultaneously achieving a smooth and comfortable steering feel\*<sup>1</sup> with minimal burden on the steering operation, it features a fail-safe function that continues operation and enhances safety in the event of a malfunction thanks to its redundant design.

Looking ahead to advancements in autonomous driving, Hitachi Astemo is promoting efforts toward the practical application of a steer-by-wire system that links the actuators\*<sup>2</sup> of the steering and tuning systems with electrical signals to improve safety and comfort, and increases layout flexibility.

\*<sup>1</sup> The reaction of the vehicle's movement to the operation that is felt by the driver through the steering wheel. Steering feel.

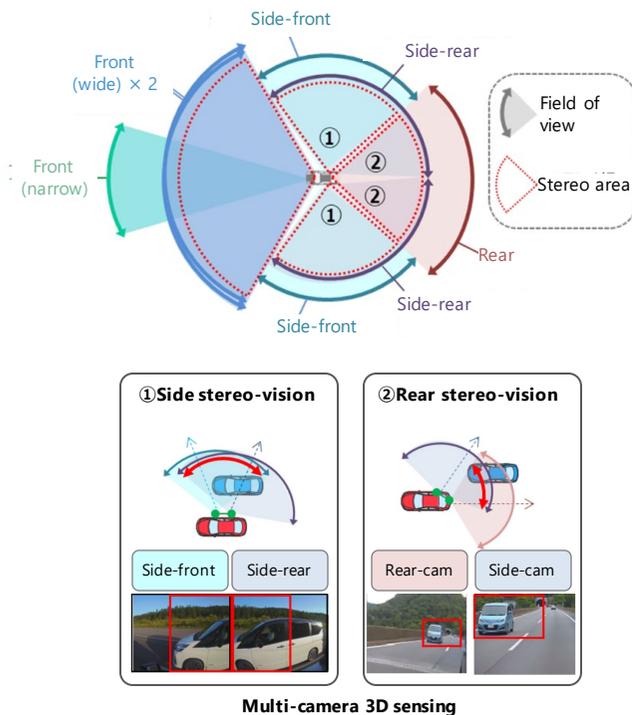
\*<sup>2</sup> A device that converts the power from motive power or the driver's operation into some kind of action.

 **Hitachi Astemo develops Steer-by-Wire prototype with advanced steering and failsafe function**

# Research & Development

## Examples of development in FY2022

### Development of prototype 360-degree stereo vision with multi-camera 3D sensing



Hitachi Astemo has developed a prototype 360-degree stereo vision system for autonomous vehicles traveling on regular streets, which is a highly accurate and high-

resolution all-surrounding sensing system based on multi-camera 3D sensing.

The newly developed 360-degree stereo vision uses around ten cameras that can provide three-dimensional stereoscopic vision by combining non-parallel cameras with different viewing angles, instead of as a module integrating two nearly parallel cameras with the same viewing angle—the conventional form of stereo vision. By integrating multi-camera 3D sensing into a single in-vehicle camera system, the all-surrounding sensing system realizes 360-degree stereo vision, with a cost advantage, high accuracy and resolution.

By generating highly accurate distance information in stereo and all around the vehicle, the system can detect such elements as the distance of a vehicle traveling in the adjacent lane, or a two-wheeled vehicle in congested traffic slipping through a line of cars from behind. It can estimate the relative speed and direction of movement, and apply this information for vehicle control to avoid collisions and entanglements at intersections. In addition to basic object recognition of objects such as cars, motorcycles, pedestrians, and traffic lanes, the recognition function also includes turn signals, red lights, and brake lights to predict the behavior of other vehicles; as well as traffic signals, road signs, road edges, and free space areas available

for driving—all of which are necessary to identify for while driving on ordinary roads.

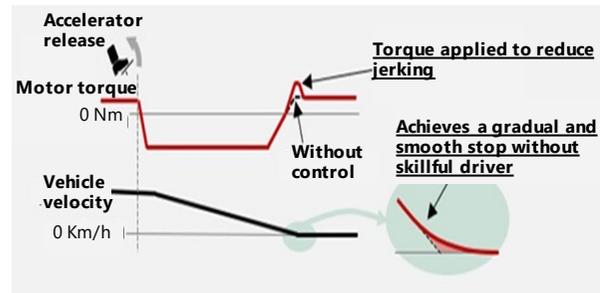
Furthermore, Hitachi Astemo has improved reliability and environmental resistance in camera sensing, such as features to resist water droplets and dirt adhering to the lens surface, or shielding the entire lens in the snow. The AI has learned malfunction patterns caused by these factors and can identify malfunction factors that occur in each camera, thereby preventing malfunctions. Going forward and with the aim to expand the scope of automated driving systems for use on general roads, Hitachi Astemo will continue to strengthen its 360-degree stereo vision systems that combine cost advantages with high accuracy and resolution, as well as improved reliability and environmental resistance.

[!\[\]\(279e5ca9ff6db14b931212f0d02466c7\_img.jpg\) Hitachi Astemo Develops Prototype 360-Degree Stereo Vision with Multi-Camera 3D Sensing](#)

# Research & Development

## Examples of development in FY2022

### Development of Anti-Jerk Control to improve ride comfort of electrified vehicles and prototype of motor torque control to improve power consumption and stability of electrified vehicles



Change of motor torque and vehicle velocity with anti-jerk during accelerator release

Hitachi Astemo has developed a prototype of anti-jerk control that improves ride comfort by reducing the back-and-forth jerking\* that occurs when the vehicle stops, and a motor torque control [motor ABS (anti-lock braking system)] that improves electricity consumption, driving stability and a sense of security by maintaining appropriate wheel slippage during regenerative braking on slippery surfaces.

During deceleration when operating and bringing a vehicle to a stop, braking force must be controlled by reducing or increasing the braking appropriately according to the speed, or else jerking will occur,

resulting in shaking that impairs ride comfort. To solve this issue, Hitachi Astemo developed a prototype that leverages the features of electrified vehicles.

Unlike the torque of an internal combustion engine, which is powered by fuel combustion, the torque of an electric motor is highly responsive to the driver's operation and can be increased quickly when accelerating or decelerating. Electric vehicles are also equipped with a regenerative braking mechanism, which converts the torque into electric energy when the accelerator pedal is released. It quickly reduces the motor's rotation with torque and generates electricity while using torque for the braking force.

Hitachi Astemo has developed an anti-jerk control system that takes advantage of the motor's torque characteristics and the braking power of regenerative braking. The system suppresses jerking motions by appropriately controlling the amount of torque to optimize the motor's braking power when the accelerator pedal is released. With this control, even ordinary drivers can easily achieve smooth stops with little jolting, achieving the same results as those of a skilled driver.

In addition, when driving on icy and slippery roads, the regenerative braking alone could cause the tires to slip, which in turn reduces steering and driving stability. One way to avoid this issue is to stop the regenerative brake

operation, which can suppress tire slippage, but this will reduce the amount of regenerated electric energy, which will worsen electricity consumption.

In response to this issue, Hitachi Astemo has developed a motor torque control technology that does not stop the regenerative brake itself, but controls the torque of the drive motor according to the driving conditions of the vehicle. The technology enables the vehicle to continue regenerating electricity even during deceleration when the accelerator pedal is not applied, while controlling tire slip and stabilizing the driving condition. This enables both regeneration of electricity and a sense of security due to improved driving stability during deceleration.

The two newly developed technologies will contribute to OEMs' electric vehicle development combining high driving performance with environmental performance, and thereby contribute to the popularization of electrified vehicles.

\* Rate of change of acceleration. When a vehicle is brought to a stop, a vigorous acceleration with vibration and shaking tends to occur, which is called jerk

 **Development of Anti-Jerk Control to Improve Ride Comfort of Electrified Vehicles and Prototype of motor torque control to improve power consumption and stability of electrified vehicles**

Social **1** Innovation Management

# Intellectual Property

## Hitachi Astemo's intellectual property policy

The Intellectual Property Department has established two codes of conduct: "Protect our IP and respect other companies' IP" and "enhance our brand value." Aligned with our mission, the Intellectual Property Division has established the following three missions, each of which is based on the policies of the Technology Development Functional Division.

1. Ensure freedom of business and design
2. Create new value that contributes to society with intellectual property
3. Utilize intellectual property for business/development

In FY2022, we began discussions within the department on developing a mechanism to index the quality of patents. This enables comparisons to be made among business units and on an annual basis, as well as the wider use of intellectual property rights that can contribute to the global environment as part of our environmental intellectual property activities.

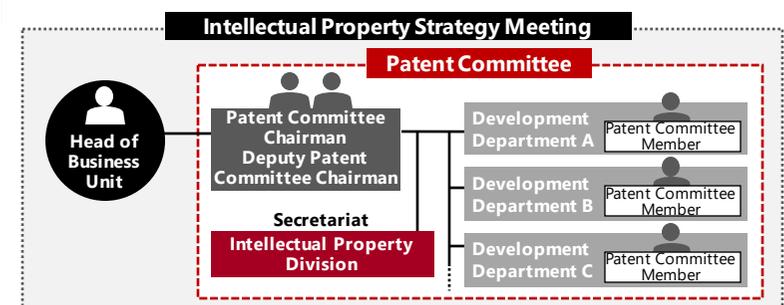
We are benchmarking patent portfolios against other mega-suppliers. Using external patent value evaluation tools, etc., we are working on intellectual property activities with a focus on improving quality while regularly understanding the positions of each company. In addition, we publish "Intellectual Property White Papers," which summarize the status of Hitachi Astemo's patent portfolio as a whole and by business unit, for use in the consideration of intellectual property strategies for each business unit.

## Promotion system for IP activities

At Hitachi Astemo, the Intellectual Property Division supports the intellectual property activities of all business units, and in FY2022, the division comprised the Planning Division, which is in charge of IP strategy and trademark and anti-counterfeiting activities as well as management systems and budget management; the No. 1 Patent Section, which is mainly responsible for patent prosecution in the powertrain and safety business; and the No. 2 Patent Section, which is mainly responsible for patent prosecution in the chassis business; plus specially appointed staff. Specially-appointed positions include an MC specially-appointed position in charge of patent prosecution in the motorcycle (MC) business, a TDD specially-appointed position in charge of patent prosecution in the Technology Development Functional Division (TDD), a contract specially-appointed position in charge of company-wide development contracts and license negotiations, and a global specially-appointed position in charge of IP in cooperation with the IP divisions of overseas subsidiaries, in addition to strategic specially-appointed positions in charge of IP strategy and IP information dissemination throughout Hitachi Astemo. These positions are in eight locations in Sawa, Atsugi, Gunma, Tochigi, Miyagi, Haga, Saitama and Tomi, where the main design and development departments are located to support the design and development departments in the respective business units.

As a framework for promoting intellectual property activities in each business unit, a Patent Committee member and a Patent Committee chairman are selected from the design department, and Patent Committee meetings are held regularly for each business unit, during which targets for intellectual property activities are set and progress is checked. Furthermore, once a year the Intellectual Property Strategy Meeting is held with the participation of business unit heads, where the Intellectual Property Division and the Patent Committee of each business unit share IP strategies for their respective business units to invigorate IP activities.

### Technology Development Functional Division



# Intellectual Property

## ■ Brand protection

The protection of each brand owned by Hitachi Astemo is critical to promoting social innovation businesses and expanding global business. Therefore, we are taking firm measures against the manufacture and sale of counterfeit products pretending to be the Hitachi Astemo brand and against unauthorized trademark application registration.

In recent years, manufacturing methods and sales routes for counterfeit products have become more sophisticated and diversified, and we are strengthening our response, including efforts to clarify the networks of counterfeiters. We are also cooperating with website operators to take measures against counterfeit products on e-commerce sites. The Hitachi Astemo brand consists not only of new business brands, but also of a wide range of product brands, primarily automotive and motorcycle products. Each of our brands is a testament to the technical capabilities and trust we have cultivated over many years, and because they are highly valued by our customers, we will continue to promote intellectual property activities that contribute to the improvement of the value of each brand.

Business brand

**Astemo**

Product brands

HITACHI | KEIHIN | SHOWA | NISSIN

TOKICO | HÜCO | KT<sup>PLUS</sup>

## ■ Award achievements

Hitachi Astemo is continuously promoting application activities for the National Invention Award and the Regional Invention Award sponsored by the Japan Institute of Invention and Innovation.

We were awarded the Prime Minister Award at the 2022 National Invention Award for the "invention of an insulation structure for 800V on-board inverters that enables rapid recharging," and the Tochigi Prefecture Invention Association Chairman Award at the 2022 Kanto Area Invention Award for the "invention of a voltage detection circuit for inverter devices." We will continue to contribute to society by actively acquiring intellectual property rights for superior technology.

### Examples of awards received in FY2022

#### The Prime Minister Award at the "National Invention Award"

Invention of insulating resin structure for 800V on-board inverter that enables rapid charging (patent no. 6200871)

#### The Tochigi Prefecture Invention Association Chairman Award at the "Kanto Area Invention Award"

Voltage detection circuit for inverter equipment (patent no. 6515425)

#### The Invention Encouragement Award at the "Kanto Area Invention Award"

Disc brakes for hydraulic vehicles (patent no. 4318618)

Low-loss double-sided cooled power module with branch terminals (patent no. 5879233)

High-pressure fuel supply pump (patent no. 6470267)

Invention of an on-vehicle inverter with FM band radiation noise suppression (patent no. 6858926)

# Global Human Capital Management

## Approach to global human capital management

Through mergers and acquisitions, and inclusive hiring policies, Hitachi Astemo has been attracting a diverse workforce making it more essential than ever to promote the creation of an inclusive, diverse organization in which talented people can thrive. In order to propose innovative solutions to society and customers for a better mobility society, to achieve global leadership positions, and to grow into a mega-supplier, it is important for each and every employee to view social issues as his or her own personal matter and to be a driving force in the midst of change. Hitachi Astemo is committed to developing human capital who can embody these qualities.

## Global human capital management strategy

Based on the "2024 Mid-Term Management Plan," Hitachi Astemo's vision is "to become an 'Employer of Choice' in the global marketplace by attracting human capital who are committed to contributing to society," and to be an organization where they can thrive. To achieve this goal, we are promoting various measures under the four pillars of "People," "Mindset," "Organization," and "Foundation".

### Key measures



# Global Human Capital Management

## ■ Initiatives to put the right person in the right place

Hitachi Astemo is building a global common human capital management infrastructure in order to secure, deploy, and develop globally thinking human capital.

### **Integrated platform for human resource management**

Through this platform, the Hitachi Astemo Group leverages its human capital database for information such as employee skills and career aspirations through a cloud system.

We began implementation in 2019, and completed the introduction of the system to all employees in 2022. As a result, it is now possible to centrally manage various processes such as global human capital search, information collection, application for team management, performance management, training plans, and career development. Going forward, we aim to improve the utilization rate of manager self-service (MSS) and employee self-service (ESS). In addition, we will utilize people analytics through data integration and utilize human capital data that is effective for company management.

### **Global Grade**

In order for diverse human capital to advance business, it is necessary to carry out human capital management based on role and job standards. One way to achieve this is the "Global Grade." We have introduced a seven-level grading system for all positions in all organizations based on job evaluations in accordance with standards common to the Hitachi Astemo Group.

### **Visualization of human capital and shift to job-based human resource management**

Hitachi Astemo is promoting the recruitment of global human capital in order to strengthen a human capital strategy that secures top class talent and capabilities. To realize this goal, Hitachi Astemo introduced a global Talent Review in FY2020 to consider placement and training based on each employee's aptitude and career aspirations, and launched the system in FY2021. Discussions with labor unions that aim to advance the shift to job-based human capital management in Japan are ongoing.

## ■ Ensuring fair evaluations and compensation

Hitachi Astemo believes that in order for diverse human capital of any nationality to play an active role, it is necessary to establish a global system to evaluate and treat them fairly, and we have established a management system based on the Global Compensation Philosophy, a core philosophy common to the Hitachi Astemo Group that is based on the principles of "ensuring market competitiveness," "pay for performance," and "maintaining transparency."

In determining compensation, we comply with the laws in each country and region, and we have developed an appropriate and competitive compensation system in light of the labor market of each business in each country and region. Additionally, we evaluate the performance of all employees each year before determining the amount of compensation. Evaluation results are fed back to each employee and used as a source of personal growth.

Social **2** Human Capital

# Global Human Capital Management

## Fostering the Hitachi Astemo culture

Hitachi Astemo believes that improving employee engagement is an investment in business operations, and therefore requires all managers to take the following initiatives:

Helping employees balance work and personal life.

Add value to business and cost efficiency by improving rewards and rewards and providing benefits based on understanding employee needs.

Managers play an important role in promoting diversity, equity and inclusion, respect for employees, fostering relationships among employees, equal opportunity to speak up, listening kindly, and breaking down barriers when necessary.

Provide employees with a sense of accomplishment, build trust in leadership, and increase engagement through coaching and other manager support, 1-on-1 meetings, performance management, etc.

Empowerment: Delegating authority to get work done

Positive work environment: Flexible work environment, respect, rewards, fairness, inclusion.

Learning and capacity building: Assigning new projects to develop individual training roadmaps that foster independence.

Team support to practice Hitachi Astemo's health and safety principle of "safety and health protection take precedence over everything else." Team members dearly understand the importance of the operating model (OPM) and confirm that OPM is actually taking place.

## Strengthening employee engagement

Hitachi Astemo has established the employee engagement score as one of the KPIs for human capital management in order to promote employee engagement for creating a sustainable and strong organization. Compared to the previous fiscal year, the FY2022 scores showed an increase in the percentage of positive responses in both the overall average and the focus areas (management of supervisors, employee engagement, as well as diversity, equity and inclusion). To further improve employee engagement scores, we're focusing on the following three areas:

1. Clarification of instructions
2. Improvement of employee engagement
3. Growth mindset for company development and sustainable growth

### Cycle of engagement surveys



Corresponding items	FY2022			FY2023								
	4th Quarter			1st Quarter			2nd Quarter			3rd Quarter		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1 Action plan formulation by top management	▶											
2 Implementation of action plans	▶											
3 Monitoring and follow-up (Check progress with each top management)				▶		▶		▶	▶			
4 Pulse survey implementation				▶			▶					
5 Conduct survey in FY2023												▶
6 Analysis of survey results												▶

# Human Resource Development

## ■ Approach to human resource development

Hitachi Astemo emphasizes the development of human capital, and in addition to on-the-job training in the workplace, we are developing training programs globally to improve individual abilities, skills, and expertise. Going forward, we will continue to support the growth of each and every employee with the aim of developing human capital that contribute to solving social issues.

## ■ Development of management leadership

Hitachi Astemo is working to develop medium- to long-term management leaders who will lead change and transformation.

To develop candidates for CEO, CxO, business unit heads, and other senior management positions in the next and subsequent terms, we select several hundred candidates from Hitachi Astemo human capital around the world and conduct OJT (on-the-job training) and Off-JT (off-the-job training and coaching) that incorporate tough assignments.\* In addition, for the talent pool of management leadership candidates, we select outstanding young people for intensive education by granting tough assignments and providing opportunities for direct discussions with outside directors.

\*Tough assignment: Assigning highly difficult tasks.

Name of training	Training content
Global Advanced Program for Leadership Development	Training held twice a year for local leaders who are expected to play an active role in overseas subsidiaries, with the aim of developing high-level leadership, mindset, and skills to achieve global growth
Hitachi Astemo Selected Global Leadership Program	Selective training over a five-month period for the early development of future Hitachi Astemo management leadership candidates.
Global Leadership Acceleration Program for Managers Ready to Lead	Leadership training for general managers and new managers with the same content globally.

# Human Resource Development

## ■ Fostering a coaching and feedback culture

The Hitachi Astemo Group is implementing initiatives to take root in a culture of coaching and feedback with the aim of managers leading teams more effectively and achieving organizational goals. In FY2022, we rolled out the coaching and feedback introduction e-learning program globally for managers with subordinates, and conducted training on coaching and feedback by in-house instructors, which was attended by approximately 400 people. We will continue to provide training for in-house instructors and training for managers to foster and establish a coaching and feedback culture.

## ■ Development of digital human capital

The Hitachi Astemo Group began its own DX human capital development efforts in FY2021 to promote its business plan, and is developing an e-learning program that includes DX basics to improve the DX mindset of employees and educational materials to promote the use of business tools. So far, more than 17,000 employees globally have participated in the program. Hitachi Astemo will continue to further promote DX projects by training ambassadors who will promote DX as part of its measures to develop the DX human capital needed by the global group.

## ■ Utilization of the learning platform

At the Hitachi Astemo Group, each employee can use the learning platform to check his or her past learning progress and consult with his or her manager about the training necessary to achieve goals and future career advancement, and to take the necessary training when necessary. In addition, due to the COVID-19 pandemic, some of the technical training programs that were previously conducted through group training were implemented through e-learning to promote the expansion of educational opportunities through e-learning. More than 20,000 employees globally are learning through the company-wide common programs.

The Hitachi Astemo Group will continue to utilize the learning platform to promote global education development and promote autonomous human capital development starting from the workplace.

## ■ Conducting skills assessments for engineers in Japan

We are implementing a skills assessment program in Japan to periodically evaluate the skills of our engineers. This is a system where managers can objectively grasp the skill levels that individual engineers have self-diagnosed, formulate effective education plans for each person, and share and review them with the person during feedback interviews, etc. The strengths and weaknesses of the organization (the company as a whole, each department, etc.) can also be identified and linked to a sustainable human capital development plan for the organization.

This diagnosis, which started in the software field, has been expanded and implemented in the hardware field (machinery, electrical and electronic, electric motors) in FY2018 and to the manufacturing (production technology) and quality assurance fields in FY2022.

## ■ Career development support

As part of the promotion of career development, we regularly hold career interviews for indirect employees with the aim of fostering a sense of autonomous career development and sustainable career development for each and every employee. These interviews allow each individual to think about his or her own mid- to long-term career goals, share them with the manager, and proceed with mutual understanding and agreement on how to work toward those goals.

Social **2** Human Capital

# Diversity, Equity & Inclusion (DEI)

## DEI initiatives

Hitachi Astemo is actively improving the environment and making efforts to not only enhance diversity, but also to increase the vitality of the organization by making use of their differences and demonstrating their strengths.

### DEI Vision

Hitachi Astemo creates and leverages an inclusive work environment, one that embraces diversity and encourages employees to respect and inspire each other.

### Expanding DEI projects globally

- We will break out of the shell of our daily decision-making and working style to understand unconscious biases and habits we may have had.
- We will value communication and collaborate with colleagues around the world.
- We will create an open environment where self-worth is respected, change is encouraged, and an open environment of mutual recognition and acceptance is maintained.

## Status of DEI achievement in 2022

Since the establishment of Hitachi Astemo, we have begun to share our DEI vision and expand globally, and in FY2022, we have taken the following measures:

Reorganization of the DEI promotion structure (global, regional)

Sharing of DEI strategies and policies (including equity)

LGBTQ+ awareness (awareness and acceptance of colleagues) through Pride Month (June 2022)

Continued promotion of a healthy meeting culture and encouragement of creativity in weekly activities through meeting-free Friday afternoons (an initiative to not set meetings every Friday afternoon)

Introduction of e-learning training on unconscious bias for 700 managers globally as a pilot group to promote DEI, cross-cultural leadership, etc. in the workplace

Hosting of webinars related to gender equality and inclusion (inclusive leadership, understanding gender conditioning, etc.)

Deployment of the "Our Diversity, Our Strength" campaign on "Zero Discrimination Day" (March 2023)

### DEI-related awards



DEI Awards from Hitachi India (India)



Women Achievers Awards "Women Empowerment" (India)



Excellence Award "Outstanding Employer for People with Disabilities" (Thailand)



# Occupational Health and Safety

## ■ Basic principles of occupational health and safety

The Hitachi Astemo Group shares the "Hitachi Astemo Group Health and Safety Policy" with all group companies around the world, whose basic philosophy is that "we will never compromise on health and safety." The entire Group works together to create a safe, secure, and healthy workplace free from accidents. In addition, based on the belief that "all work-related accidents can be prevented" and "we are responsible for our own health," we are striving to build a culture where all employees of the Hitachi Astemo Group share this mindset, act to ensure their own health and safety, and foster mutual awareness.

## ■ Establishment of a health and safety management system

We are establishing a global health and safety management system, working towards "zero" business accidents, and strengthening employee health management. In addition, we aim to ensure "occupational safety" and "occupational health and health," and by building an organization that supports employees' autonomous safety activities, we are improving the healthcare support system for employees—both physically and mentally—to promote health management. The "General Safety Manager's Meeting" is held every month, attended by the safety and health managers of each department and each company, where members share a clear commitment to "place the highest priority on protecting the safety and health of employees," formulate plans and targets for company-wide safety and health activities, review the status of continuous improvement, check the progress of safety and health activities, education, and training in each department, and set and follow up on group-wide unified KPIs. In the course of these activities, important issues, especially those related to health and safety, were reported monthly to the auditors in FY2022.

In Japan, the Central Safety and Health Committee, in which the labor union participates, meets twice a year to discuss and share information on health and safety activities, including analysis of occupational accidents causes, countermeasures, and status of employees on sick leave.

## ■ Hitachi Astemo health and safety policy

We will never compromise on health and safety.

### [Basic policy]

Based on the enduring philosophy that "safety and health take precedence over everything else," the Hitachi Astemo Group is united in its global efforts to create a safe, comfortable, and healthy workplace where all employees can work with confidence and vigor, with the belief that "safety is uncompromising."

### [Basic initiatives]

1. Compliance with applicable laws, regulations, and self-imposed management standards.
2. Prevention of "occupational accidents," "fire accidents," and "traffic accidents" by raising awareness of health and safety (building rule-abiding human capital and workplaces) and taking proactive measures against various risks.
3. Maintain and improve health and safety activities through occupational health and safety management systems.
4. Maintenance and promotion of "mental and physical" health through organized health management and meticulous attention to detail.
5. Minimize damage by developing both normal and contingency response methods for various risks.

Social **2** Human Capital

# Occupational Health and Safety

## Contributing to the SDGs through health and safety

Hitachi Astemo's corporate activities realize a vibrant society and enrich people's lives. In particular, to contribute to achieving SDG 8 (decent work and economic growth), we are promoting the active participation of diverse human capital and the creation of healthy and safe workplaces within the company.

### Hitachi Astemo's goal of a sustainable safety system

To protect the safety of our employees, we aim to build a management system than spans from risk identification to investing in safety. In the unlikely event of an accident, we not only ascertain the actual number of lost time injuries, but also the accident ratios (TRIFR\*1 and LTIFR\*2) per total number of actual working hours to ascertain the true situation, which is not dependent on the site size.

We aim for sustainable management by adapting to global standards for health and safety through the sharing of risk information among these sites, standardization of processes for greater efficiency, accurate accident counts, and safety investments.



\*1 TRIFR (Total Recordable Injury Frequency Rate)      \*2 LTIFR (Lost Time Injury Frequency Rate)

Number of casualties over and above lost time injuries x 200,000 / Total actual working hours

Number of casualties resulting in lost time injury or more x 200,000 / Total actual working hours

## Establishment of a health and safety management system

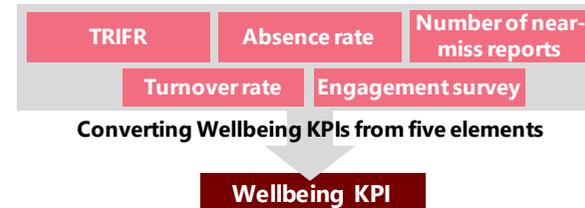
### Approach from health and safety to improve workplace satisfaction, i.e., happiness, and wellbeing

Health and safety share a common foundation, which is workplace satisfaction, or happiness and wellbeing. Hitachi Astemo globally manages the health and safety conditions of each workplace by using TRIFR, or the number of near-miss reports, and the turnover rate as global KPIs related to health and safety. It is currently developing a Wellbeing KPI consisting of elements including these, with the aim of monitoring workplaces and linking it to measures to improve wellbeing.

### Relationship between wellbeing and health and safety awareness/behavior



### Five elements of Wellbeing KPI



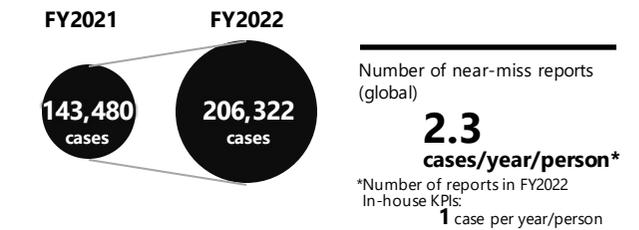
## Examples of measures to improve wellbeing related to health and safety



### ● LTIFR (global)



### ● Number of near-miss reports (global)



# Occupational Health and Safety

## Measures to foster a health and safety mindset

We established workplace inspections and horizontal deployment of countermeasures in all forms, continued to thoroughly implement basic infection control under COVID-19, improved communication methods for telecommuting, conducted risk assessment and global general inspections of facilities and the environment, and promoted an ongoing response to high-risk work. In addition, we established Health and Safety Week in the beginning of the fiscal year to promote health and safety, held presentations for horizontal deployment of measures and hosted theme-based team discussions across all sites, with awards given for outstanding efforts at a global safety forum held in December.

### Global health and safety forum agenda (Held in December 2022)

- Introduction
- Report from the region
  - Summary; China, Asia, Europe, Japan
  - Health measures; Japan
  - Keynote speech; Americas (North America, Mexico)
- Q&A live session
- CEO comment / Award Ceremony
- Closing



## Initiatives to improve employee health

Based on the enduring philosophy that "safety and health take precedence over everything else," Hitachi Astemo believes in "never compromising on safety and health" and is united globally in its commitment to "creating a safe, comfortable, and healthy workplace" where all employees can work with confidence and vigor. The Health and Safety Committee, the Health and Safety Department, and the Occupational Health Department at each site in Japan take the lead in implementing employee health promotion measures, in cooperation with health insurance associations with which the company is a member of and various internal departments.

### FY2022 initiatives

1. Occupational health services were provided in healthcare rooms where occupational health staff such as occupational physicians, public health nurses, and nurses are stationed.
2. Implemented various health-assurance measures to prevent severe ailments following the results of regular health checkups, etc.
3. Prevented mental and physical illness through medical interviews and interviews with workers who work long hours.
4. Provided health counseling and guidance by occupational health staff to allay employee concerns about their health and encourage exercise habits.
5. Implemented a statutory stress check system, and actively promoted mental health problem prevention and revitalization.
6. Provided opportunities for improving the quality of occupational health activities and human capital development for occupational health staff through regularly holding meetings, research sessions, and workshops by both occupational health staff and health and safety personnel.

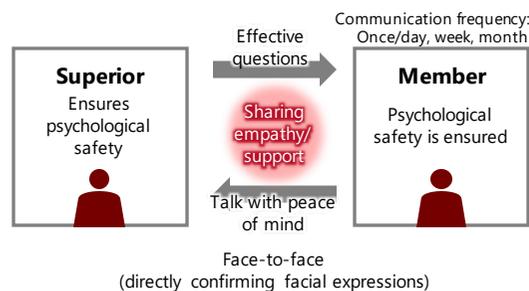
## Social 2 Human Capital

# Occupational Health and Safety

## ■ Mental health support

Hitachi Astemo has established mental health support measures for employees, workplace managers, industrial health staff, and human capital departments, and is working to disseminate basic knowledge about mental health and stress management, while strengthening the employees' ability to deal with stress in each position. We are developing a proactive prevention approach to address the increasing mental burden of diversifying work styles and inhibiting behavior due to the COVID-19 pandemic.

In addition, based on the results of stress check group analysis and the opinions of industrial physicians, we are further promoting proactive measures for those requiring caution (promotion of interviews for those who have undergone stress checks and high stress, alerting them to the importance of taking attendance information into consideration, opening a consultation service for managers, conducting resilience education, and interviewing younger employees individually, etc.). Furthermore, we are promoting symptom (predictive) management and one-on-one communication globally as measures to enhance support for employees with mental health problems.



We will continue to develop measures to improve wellbeing on a global basis to ensure that employees are satisfied with their health and safety, both physically and mentally.

### Mental health support measures

- Regular one-on-one interviews
- Expansion of remote consultation service for industrial physicians
- Introduction of the EAP\* consultation desk
- Posting of "self-care in telecommuting" and "workplace development in telecommuting" on the intranet
- Stress check group analysis health issue identification

\*EAP: Employee Assistance Program

## ■ Promotion of medical checkups

Hitachi Astemo has established a system to subsidize the cost of medical checkups by health insurance societies in Japan, especially for employees aged 35 or older. It is working to promote early detection and early treatment of lifestyle-related diseases and cancer by encouraging employees to undergo examinations, which also serve as statutory medical checkups, and to undergo examinations for certain parts of the body according to age. In addition, as a response to metabolic syndrome we are actively promoting measures to prevent serious illnesses to prevent the onset of diabetes, stroke, and myocardial infarction, on top of the specific health guidance mandated for health insurance societies.

## ■ Initiatives to promote the health of employees and their families

Hitachi Astemo uses a personal health portal site operated by health insurance associations with which it is a member of, to encourage healthy behavior among employees and their families.

The site provides information such as incentive points and health checkup results to raise health awareness, and offers a variety of support services to monitor one's own health status and engage in healthy behaviors.

## ■ Promotion of collaborative health\*

The Hitachi Astemo Group implements its own health promotion measures tailored to the characteristics of each company, and is also working to maintain and promote the health of its employees by making maximum use of the services provided by health insurance associations with which it is a member of, while working to enable all our companies to continuously obtain certification as a corporation with excellent health management from the Ministry of Economy, Trade and Industry.



\*Collaborative health:

Effective and efficient implementation of prevention and health promotion for enrollees (employees and their families) through active cooperation between insurers, such as health insurance societies and employers, with a clear division of roles and a favorable work environment.

# Freedom of Association and Collective Bargaining

## ■ Respect for basic employee rights

Hitachi Astemo complies with respect for the basic rights of employees.

In Japan, where the formation of labor unions is permitted, Hitachi Astemo has a collective bargaining agreement between the CEO, who represents the company, and representatives of the labor union, which recognizes that the union has the three labor rights (right to organize, collective bargaining, and collective action).

The Hitachi Astemo labor union membership rate\* is approximately 99.1% (as of March 31, 2023).

\*All employees except union members/management staff (management staff are not eligible for union membership).

## ■ Dialogue between labor and management

Labor-management relations at Hitachi Astemo and group companies in Japan are stable, and various discussions are held smoothly.

Hitachi Astemo has established the Central Management Council and Division Management Council, which meet regularly to ensure mutual communication between labor and management, smooth management, business development, and improvement of working conditions for union members. Overseas group companies also engage in active dialogue based on laws and regulations in each country and region to deepen understanding between labor and management.

## ■ Notification of business transfers and secondments

The collective labor agreement that Hitachi Astemo has concluded with the Hitachi Astemo labor union stipulates that when transferring or seconding an employee for business reasons, the union must be notified immediately after the decision is made, after due consideration of the employee's own circumstances. In particular, it is stipulated that basic matters will be discussed with the union for mass relocation and transfers, etc.

## ■ Labor-management cooperation to improve health and safety standards

The collective labor agreement signed by Hitachi Astemo and the Hitachi Astemo labor union establishes health and safety measures, the establishment of a health and safety committee, education, training, and medical examinations. Labor and management cooperate to improve workplace health and safety standards.

The Health and Safety Committee formulates annual plans for health and safety activities to create a safe and healthy work environment, confirming its progress; examines measures to prevent occupational accidents and their recurrence; and shares the status of health checkups.

## Social 3 Human Rights

# Respect for Human Rights throughout the Value Chain

## ■ Respect for human rights of all people

Hitachi Astemo believes respecting human rights is our responsibility as a global company and is essential to our business activities. We strive in our corporate activities to not to discriminate on the basis of gender, sexual orientation, age, nationality, race, ethnicity, ideology, creed, religion, social status, family origin, disease, disability, or any other factor, or to engage in any conduct that offends individual dignity. We also value engagement with relevant stakeholders to properly understand and respond to human rights impacts.

## ■ Human rights policy

Hitachi Astemo established the "Human Rights Policy" as one of the highest standards of internal regulations. This policy expresses respect for human rights as stated in the ILO Declaration on Fundamental Principles and Rights at Work of the International Labour Organization (ILO\*<sup>1</sup>), which sets forth fundamental rights at work, including the International Bill of Human Rights\*<sup>2</sup>, the effective recognition of freedom of association and the right to collective bargaining, the prohibition of all forms of forced labor, the effective abolition of child labor, and the elimination of discrimination in employment and occupation. In addition, it clearly stipulates the implementation of

human rights due diligence (HRDD)\*<sup>3</sup> based on the United Nations Guiding Principles on Business and Human Rights\*<sup>4</sup> and appropriate training for employees, compliance with the laws and regulations of the countries and regions in which the Hitachi Astemo Group operates, and the pursuit of methods to respect international human rights principles when there is a conflict between internationally recognized human rights and the laws of the countries and regions in which the Hitachi Astemo Group operates.

Regarding children's rights, we strive to eliminate child labor and forced labor in our own operations and in our supply chain, and stipulate that we give due consideration to human rights, including the rights of children.

\*1 ILO: International Labour Organization

\*2 International Bill of Human Rights  
Collective name for the Universal Declaration of Human Rights and International Covenants on Human Rights adopted by the United Nations General Assembly.

\*3 Human rights due diligence (HRDD)  
Identifying and assessing negative business-related human rights impacts, implementing prevention and mitigation measures, and continuously verifying and disclosing the effectiveness of such measures.

\*4 "Guiding Principles on Business and Human Rights"  
The principles are contained in the "Report of the Special Representative of the Secretary-General on the Issue of Human Rights and Transnational Corporations and other Business Enterprises" published by John Ruggies in March 2011 (A/HRC/17/31).

## ■ Human rights due diligence (HRDD) initiatives

### Development of HRDD promotion system

Hitachi Astemo has established a system for promoting HRDD internally, is examining HRDD promotion measures for the Hitachi Astemo companies and suppliers, conducting educational activities, and responding to inquiries.

In addition, in order to implement HRDD rooted in each business of Hitachi Astemo, we have appointed a person responsible for implementing HRDD at each major group company and are developing a system for strengthening human rights risk management that takes into account the business characteristics and respective value chains of each company.

**Social** 3 Human Rights

# Respect for Human Rights throughout the Value Chain

## ■ Outreach to procurement partners

Hitachi Astemo makes it clear that it does not tolerate child labor nor forced labor in its own operations or in its supply chain, in accordance with the Human Rights Policy. As the globalization of business increases, the likelihood of the risk of forced labor, as well as the importance of preventing forced labor and human trafficking as a company is also explained in an e-learning course on human rights for employees.

To share these basic stances with our procurement partners, we have distributed the "Supply Chain CSR Procurement Guidelines" to ensure that they are well understood throughout the supply chain.

In FY2022, we moved forward with an assessment of the status of human rights responses to forced labor and migrant labor within the Hitachi Astemo Group, and developed a plan to survey our procurement partners. In FY2023, we plan to introduce a sustainability supply chain assessment tool and carry out a survey of our procurement partners.

## ■ Raising awareness and education of human rights of executives and employees

Hitachi Astemo conducts educational activities to raise awareness of human rights through the use of videos, and promotes the goal of having employees take one course each year. Through recruitment activities for human rights slogans for employees, we provide an opportunity for each employee to think seriously about human rights, and we are working to raise awareness of human rights by presenting awards for outstanding works. In addition, through various training and awareness-raising activities, such as onboarding education for new employees and position-specific training, we communicate the importance of respecting human rights to each employee in his or her work.

The consultation and reporting contact points for harassment and human rights issues in general are, in principle, integrated into the compliance reporting system. The Hitachi Astemo Group has established a global mechanism for handling complaints and is promoting efforts to address these issues.

## Social 4 Value Chain Management

# Quality

### ■ Approach to quality assurance activities

At Hitachi Astemo, all employees share the philosophy of "quality and reliability first." In addition, when providing products and services, we are committed to ensuring quality and safety by meeting customers' needs and specifications, fulfilling relevant laws and standards, and setting voluntary standards as necessary. The basic philosophy of quality assurance is also stated in the Quality Assurance Regulations in our company regulations, and we promote activities to strengthen quality assurance from the perspectives of "organization and management," "technology," and "human capital" in all processes—from product planning and development to design, manufacturing, testing, delivery, and maintenance services. Furthermore, based on the idea that "prevention is the essence of quality assurance," we are strengthening "defect prevention" activities that go beyond "preventing defects from recurring."

When a serious defect occurs, we thoroughly discuss not only the technical causes of the product, but also the process, organization, and motivating factors that led to the defect, as well as the prevention of recurrence, in order to improve product reliability and customer satisfaction.

### ■ Framework for quality assurance and quality assurance activities

To ensure thorough quality governance, Hitachi Astemo has separated the company-wide Quality Assurance Department from the Manufacturing Department to create a system that allows us to act with the safety and security of our customers as our first priority.

#### Compliance with technical laws and regulations

- We are promoting compliance activities and continuous improvement of processes through the Cyber Security and Software Update Regulations Compliance Management System, established by the World Forum for Harmonization of Vehicle Regulations (WP29) in June 2020.

#### Thorough safety design of products and services

- We strive to ensure safety by "reducing risk through design (intrinsic safety design)," "reducing risk through protective measures (safety protection)," and "reducing risk through information in use."
- We conduct risk assessments from a broad perspective in cooperation with group companies, etc.
- During product development, the safety of human life, body, and property is our top priority in design, and safety is verified in all processes—from development to production, sales, and maintenance.

#### Strengthening the global quality assurance system

- We are strengthening our global quality assurance system by globally developing the basic philosophy of quality assurance activities, establishing global quality assurance regulations, reporting defects from overseas group companies, and, as in Japan, establishing a quality assurance reporting line independent of business divisions.

Social 4 Value Chain Management

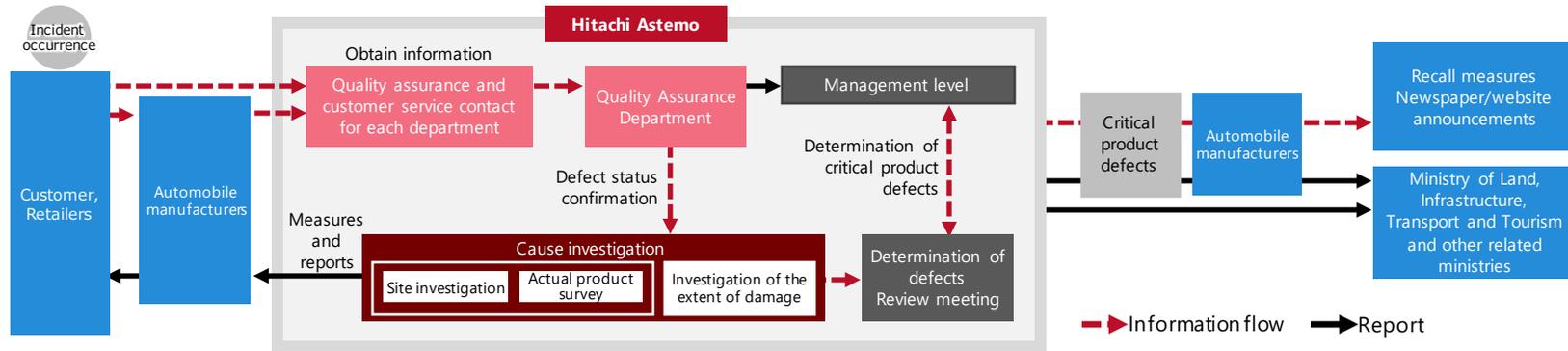
# Quality

## Response to product defects

In the event of a product defect, the department in charge of the product will take the lead in promptly responding to the problem. In the event of a serious problem, we report it to the automakers, who are Hitachi Astemo's direct customers, and promptly report the situation to management, so that Hitachi Astemo can work as one to take prompt and appropriate measures.

When we determine that a product requires retroactive countermeasures, Hitachi Astemo consults with the automakers that are its direct customers, as it does when a product defect occurs, and implements measures—such as repair or replacement—and reports the matter to the competent authorities as necessary.

### Response flow when a serious problem occurs



## Implementation of quality and reliability training

Focusing on engineers involved in manufacturing, we offer technical courses by field to improve technologies related to manufacturing, quality assurance, and maintenance, as well as technical courses by level, such as "application" and "basics."

## Inappropriate conduct at Hitachi Astemo

Regarding the inappropriate conduct in periodic testing, including of brake components manufactured at our Yamanashi Plant (Minami-Alps City Yamanashi Prefecture) and suspension components manufactured at our Fukushima Plant (Kuwari-machi, Date-gun, Fukushima Prefecture) (announced on December 22, 2021); In addition to fact-finding and investigation by the Special Investigation Committee to determine the cause, we have also proceeded with our own investigation, which was announced on May 19, 2023.

As a result of the investigation, we have become deeply aware that our culture of compliance and management and supervisory systems had been inadequate over a significant period of time. Therefore, to prevent reoccurrence of such inappropriate conduct, we have decided to establish an organization-wide improvement plan, review related training and processes, and invest in human resources and equipment while improving these measures on a constant basis. We sincerely accept the results of this investigation and deeply apologize to our customers and other stakeholders in society for failing to uphold the highest standards of trust and compliance at all times. We deeply regret the inappropriate conduct and unsatisfactory supervision revealed in these cases, and we are committed to developing and establishing a strong compliance culture to prevent any recurrence of such conduct.

### Outcome of Investigation into Inappropriate Conduct Relating to Certain Products and Measures to Prevent Recurrence

## Social 4 Value Chain Management

# Customer Satisfaction

### ■ Framework to apply customer feedback to Our business

Hitachi Astemo's Sales Department assigns a global account manager to each major customer to utilize the opinions of customers—such as automobile manufacturers—in business management, products, and solutions, and to link this to the improvement of the customer's corporate value. The person serves as the liaison between Hitachi Astemo and its customers around the world, and works with the global account teams in each region of the world and the product sales teams in divisions and business units to strengthen relationships with customers.

In addition, to support the product sales activities of global account managers, divisions and business units, the Sales Department includes a headquarters that plans and drafts global sales policies, guidelines, priorities, etc.; a headquarters that conducts marketing and promotional activities from a technological perspective, based on the global customer strategy of global account managers; and a global program management for the launch of customers' programs, which is organized as a support structure for global sales activities.

To quickly and reliably identify customer needs in our global sales activities, Hitachi Astemo proposes advanced technologies and verifies the technological direction through technological meetings and actual vehicle demonstrations, which will enhance the value of our customers' products and be reflected in our business operations.

#### Examples of activities to address customer needs

Initiatives	Objective
Technical meeting	After reliably grasping trends in the technology industry, we propose advanced technology development through discussions to meet the technology roadmap and needs of our customers.
Actual vehicle demonstration	We candidly listen to our customers' feedback about the direction of our advanced technologies through test drives of actual vehicles, and proactively respond to their requests through joint development proposals, etc.

#### Customer satisfaction results

Each customer's rating for our quality is viewed as a customer evaluation, and our KPI is "80% or more achieved" in terms of overall achievement.

Target year	Actual results
FY2021	80% or more achieved
FY2022	80% or more achieved

# Social Contribution Activities

## About social contribution activities

Hitachi Astemo aims for sustainable development with all stakeholders, including customers, partners, employees, and local communities. To that end, we will have awareness and take responsibility as a member of society, proceed with actions aimed at achieving harmonious growth, share joy with everyone, and build on this.

### Examples of social contribution activities

#### ● Regional greening activities

In each region where we have business bases, we are actively deepening exchanges with local communities, and are making initiatives to create abundant greenery in the future—such as ecosystem conservation, greening activities, and forest maintenance.

#### ● Connections with local communities

We are conducting fund-raising activities to support cancer treatment centers, support disaster-stricken areas including with donations (from providing land for building temporary housing, to collecting food and clothing and distributing to local governments), and providing sales support for products created at facilities for people with disabilities.

#### ● Support for the development of next-generation engineers

We conduct activities to support the learning of the next generation of engineers by drawing on the expertise and experience of Hitachi Astemo employees. We are striving to nurture the engineers who will lead the future by developing the Kids Engineer Development Project for elementary school students, supplying products and technical training to teams of high school students participating in the Honda Eco Mileage Challenge\*<sup>1</sup>, supplying products to university

student teams participating in student formulary activities, and dispatching instructors to One School One Skill\*<sup>2</sup>.

#### JSAE\*<sup>3</sup> Kids Engineer 2022

A program titled, "Let's make a car that moves automatically along a line!"



#### Honda Eco Mileage Challenge

Course on basic fuel supply systems for high school engineers who plan to participate in the event



#### Support for JSAE Student Formula activities

Providing in-person support as a consultative judge, brake products and company booth exhibitions



\*<sup>1</sup> Using a Honda 4-stroke engine, this challenge calls on participants to explore the limitless possibilities of how many kilometers can be traveled with one liter of gasoline, and to compete with original ideas and technology. The cars in the competition drive a specified number of laps (distance) in a specified time, and fuel efficiency is calculated based on fuel consumption.

The event is organized by Honda Motor Company, and in addition to high school vocational school, and university student classes, a junior high school class has been newly established since 2005.

\*<sup>2</sup> This is an educational program organized by the Ministry of Health, Labor and Welfare, in which athletes who have participated in various skills competitions visit schools across Japan as instructors. There they demonstrate their real skills, and by experiencing the technical skills together, the participants see the future possibilities while learning that everyone is a future leader.

\*<sup>3</sup> JSAE : Society of Automotive Engineers of Japan, Inc.

#### Social contribution-related expenses

In the promotion of social contribution activities in FY2022, a total of 9,087 people\* were involved in social contribution activities. Related expenditures were approximately 97.7 million yen\*, about the same level as in FY2021, in part due to the continued spread of COVID-19 affecting many activities.

\*Figures are results for the Japan region.

# Governance

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**1** Corporate Governance

**2** Compliance

**3** Risk Management

**4** Information Management

# Corporate Governance (as of March 31, 2023)

In FY2022, Hitachi Astemo was a company with a Board of Directors, corporate auditors, and accounting auditors. The two shareholders were Hitachi, Ltd. (hereinafter referred to as “Hitachi”) and Honda Motor Co., Ltd. (hereinafter referred to as “Honda Motor”), and Hitachi and Honda Motor held 66.6% and 33.4% of the voting rights, respectively. Basic matters concerning corporate governance and operation, including the Board of Directors, were stipulated in the shareholders’ agreement, the Articles of Incorporation, and the rules of the Board of Directors of Hitachi and Honda Motor.

## ■ Board of Directors composition

The shareholders’ agreement stipulated that the total number of directors would be six, of which Hitachi could nominate four and Honda Motor could nominate two. One of the directors nominated by Hitachi was to be the Chairman of the Board (part-time); one of the directors nominated by Honda Motor was to be an executive director, and the remaining one was to be a non-executive director. For executive director candidates nominated by Hitachi or Honda Motor, prior to nomination as candidate for directors the representative director was to have prior confidence in the candidates, provided that they satisfied the necessary qualifications to fulfill their duties as executive directors.

Two persons from Hitachi and one person from Honda Motor were elected as Hitachi Astemo directors. In addition, there were to be two representative directors, and Hitachi could nominate any of them after prior consultation with Honda Motor.

The Board of Directors had established a Nomination and Remuneration Committee as a voluntary advisory body to enhance management oversight functions. The

committee deliberates on the selection of directors and executive officers, remuneration, etc. based on the predetermined operating guidelines, and recommends them to the Board of Directors, based on the Board of Directors’ decisions.

The shareholder agreement stipulated that Hitachi Astemo has three auditors, two of whom can be nominated by Hitachi and one by Honda Motor.

One person from Hitachi was nominated as an auditor of Hitachi Astemo. The two auditors had many years of experience and considerable knowledge of accounting and finance operations.

Hitachi Astemo has established the Executive Committee (EC), which consists of executive officers, as a body to deliberate and decide important management matters.

The Board of Directors of Hitachi Astemo is the body that decides the most important matters in the management of the company and has the role of supervising their execution.

Hitachi Astemo has retained Ernst & Young ShinNihon LLC as its accounting auditor.

## Changes in directors and corporate auditors due to the transition to a company with an Audit Committee, etc.

The information contained in this report regarding corporate governance is current as of the end of FY2022 (as of March 31, 2023). To strengthen the supervisory function of the Board of Directors and further enhance corporate governance, Hitachi Astemo has announced that it will transition to a company with an audit committee system as of October 16, 2023, by resolutions of the General Meeting of Shareholders and the Board of Directors, and that it will make changes to its directors and corporate auditors. Hitachi Astemo will aim to further enhance its corporate value by strengthening its corporate governance structure.

 [Change in board directors and corporate auditors for transition to a company with an audit committee system](#)

# Corporate Governance (as of March 31, 2023)

## Operational status of the Board of Directors

The Board of Directors determines the basic management policy of Hitachi Astemo. It supervises the execution of duties by executive officers and directors to continuously improve the corporate value of Hitachi Astemo and the interests of shareholders. Basic management policies include the medium-term management plan and annual budget, and the Board of Directors focuses on strategic discussions regarding basic management policies, in addition to resolutions stipulated in laws and regulations, the Articles of Incorporation, or the rules of the Board of Directors.

In FY2022, the Board of Directors met for seven regular meetings and three extraordinary meetings. There were also two written resolutions. To assist the Board of Directors in its duties, a Board of Directors Office has been established and staff members assigned.

## Strategic discussion

Hitachi Astemo has introduced an executive officer system, in which directors supervise execution. While it is important to communicate the status of execution to the Board of Directors and convey discussions held at the Board of Directors meetings, the prerequisite for this is the need to stimulate discussion at Board of Directors meetings. For this reason, Hitachi Astemo sets strategically important agenda items for discussion at each Board of Directors meeting, with the aim of enhancing the value of Hitachi Astemo. The agenda of this strategic discussion is determined from the following perspectives: 1) How Hitachi Astemo can create and grow corporate value as an independent company, 2) How it can advance technology leadership and innovation as a technology company, and 3) How it can strengthen its global risk management system and practices. In addition to reporting and discussing the business strategies of each business division and business unit, the strategic agenda includes issues and strategies that are important to Hitachi Astemo, such as environmental strategy, risk management, finance, quality, and human resources strategies, and are actively discussed. In FY2022, 15 strategic discussions were held by the Board of Directors, and key points were communicated to management.

# Governance 1 Corporate Governance

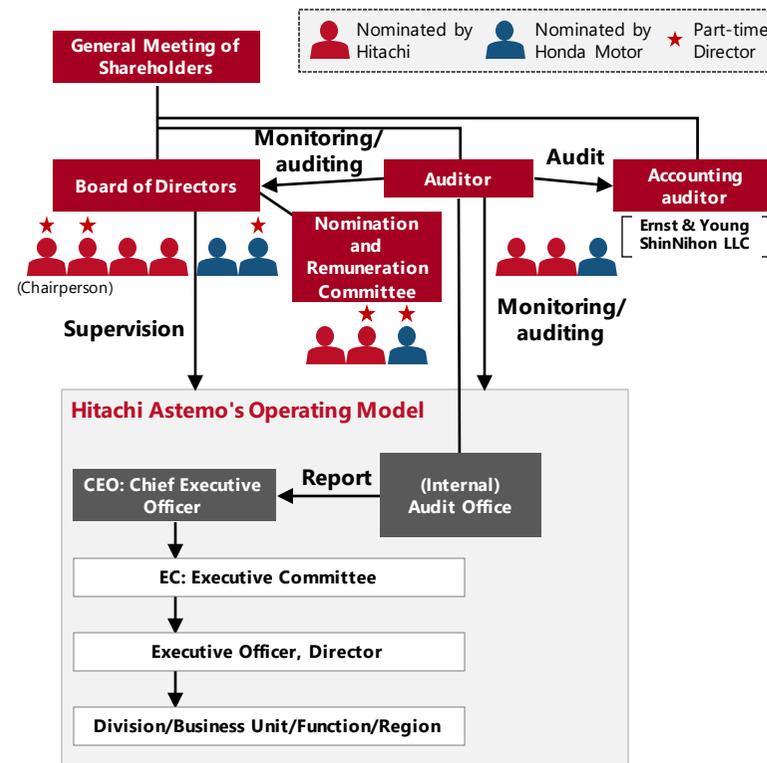
## Corporate Governance (as of March 31, 2023)

### Framework to ensure the efficient execution of duties by directors

Hitachi Astemo's Board of Directors decides on the development of frameworks to ensure the appropriateness of operations. Among these resolutions, the following resolution was adopted as a "framework to ensure the efficient execution of duties by directors."

- To ensure the efficient execution of duties, directors clearly separate management supervision functions from business execution functions and promote the efficiency of the execution of duties.
- The Executive Committee shall be organized and deliberate on important matters affecting Hitachi Astemo and its group companies as a whole, in order to make careful decisions based on multifaceted considerations.
- To operate our business systematically and efficiently based on our management policy, we have formulated a medium-term management plan and annual budget, and manage business performance based on these plans.
- We have established an Investment and Financing Strategy Committee to improve asset efficiency by allocating investments appropriately and ensuring the profitability of individual projects.
- Directors receive reports on the results of internal audits conducted by the parent company.

### Governance at the Board of Directors Level



#### Board of Directors

##### Roles and responsibilities:

- Lawful management and operation of the entire company, in accordance with the Companies Act.
- Hitachi Astemo's Board of Directors delegates business operations to executive officers, including the CEO. The main role of the Board of Directors is to supervise the management of the company and the work of the executive officers.
- Examination of major decisions based on the Companies Act, etc. The conditions for approval under the shareholder agreement must be considered.

##### Composition agreed in the agreement between the two companies (shareholders' agreement):

- Comprised of a total of six directors. Four are nominated by Hitachi, and the remaining two are appointed by Honda Motor.

#### Nomination and Remuneration Committee

##### Roles and responsibilities:

- A committee attached to the Board of Directors determines the nomination and compensation of Hitachi Astemo's executive officers.

##### Composition agreed in the agreement between the two companies (shareholders' agreement):

- Comprised of a total of three directors. Two are appointed by Hitachi (one part-time director and one full-time director) and one is appointed by Honda Motor (part-time director).

#### Auditor

##### Roles and responsibilities:

- Elect by resolution of the General Meeting of Shareholders.
- Monitor and audit the activities of the Board of Directors and management under the Companies Act.

##### Structure agreed in the agreement between the two companies (shareholders' agreement):

- Comprised of a total of three auditors. Two are appointed by Hitachi and one by Honda Motor.

# Business Practices in Accordance with International Norms

## ■ Compliance promotion framework

To promote compliance, Hitachi Astemo has established the "Compliance Committee"—chaired by the President & CEO and vice-chaired by the CCO (Chief Compliance Officer)—and promotes comprehensive compliance activities of the Hitachi Astemo Group led by this committee.

Each regional headquarters has a regional compliance officer who is responsible for overseeing compliance activities in the region, and through communication with the person in charge, we share basic policies and information on compliance with each region.

In addition, each group company in the region has a compliance manager who is responsible for overseeing compliance activities at each company and promoting compliance activities through education and information sharing at each company.

Regarding the status of compliance measures, we not only clarify issues in promoting compliance measures through individual dialogue with regional compliance officers and group companies, but also conduct regular audits in the compliance field for all group companies to confirm their appropriateness. If, as a result of the audit, any items that require improvement are found, corrective measures are taken promptly.

## ■ Compliance reporting framework

To prevent and promptly correct illegal or inappropriate acts and improve self-governing capabilities, Hitachi Astemo in FY2022 again utilized the "Hitachi Global Compliance Hotline," a Hitachi Group-wide compliance reporting system that enables users to directly report compliance violations or suspected violations, including the provision of illicit benefits to public officials in Japan and overseas. The hotline also serves as a point of contact for consultations and reporting of harassment and human rights issues in general. It allows for anonymous reporting, and is available not only to Hitachi Astemo employees, but also to temporary employees, suppliers, distributors, and other business partners. We investigate all reports, confirm the facts, respond to the results of the investigation, and take corrective measures as necessary. In FY2022, the Hitachi Astemo Group as a whole received approximately 300 reports.

### ■ Initiatives in FY2022

As one of the Group's important compliance programs, we actively conducted promotional activities for this hotline in FY2022.

For reports received through this hotline, we strive to promptly investigate, respond, and implement corrective measures in cooperation with relevant departments at each business site, plant, and group company.

## ■ Compliance education

Every year, Hitachi Astemo conducts compliance education on corporate ethics to all officers and employees around the world. This ensures that the officers and employees with diverse cultural and educational backgrounds are more thorough in their conduct and compliance, based on corporate ethics.

### ■ Initiatives in FY2022

All employees of the Hitachi Astemo Group have been informed about the new Corporate Ethics and Code of Conduct, which was enacted as of March 1, 2022.

# Business Practices in Accordance with International Norms

## ■ Prevention of antisocial transactions and money laundering

To cut off any relationship with antisocial forces, Hitachi Astemo rejects all unreasonable demands and unfair transactions, and stipulates in the Code of Conduct that it will never engage in antisocial transactions. In addition to regular screening of new as well as existing business partners for eligibility, Japan has taken measures such as including clauses in transaction agreements to exclude organized crime groups, in case the other party is found to be an antisocial force after the transaction has commenced. Moreover, we are working with external specialized organizations (such as the National Center for Removal of Criminal Organizations and the police) to eliminate access by antisocial forces.

The Hitachi Astemo Group as a whole clarified its stance of not tolerating money laundering. It added money laundering prevention provisions to this end to strengthen specific initiatives, in addition to preventing antisocial transactions.

## ■ Anti-bribery policy

Preventing business-related corruption is a major challenge for companies. Hitachi Astemo has established related regulation. They stipulate that directors and employees must comply with internal rules when providing or accepting entertainment or gifts, and when making donations or providing political funds (political contributions), which must not exceed the scope permitted under anti-bribery-related laws and regulations.

In addition, the rules also provide specific limits on the amount and frequency of entertainment and gifts to public officials, as well as prohibit facilitation payments and establish procedures for screening business partners. In addition, we thoroughly comply with the Foreign Corrupt Practices Act (FCPA) in the United States and other anti-bribery laws in each country and region, which have become stricter in recent years.

### Anti-bribery awareness campaigns

Hitachi Astemo has created and deployed teaching materials in multiple languages, which are used by all employees to ensure that everyone is aware of the anti-bribery policy and rules for prevention stipulated in the Code of Conduct, etc.

## ■ Competition law compliance policy

Hitachi Astemo upholds “acting based on laws and correct corporate ethics” and “fair and free competition” as the basis of its business activities. In addition, we strive to comply with other related rules and regulations.

### Initiatives to prevent competition law violations

Similar to its anti-bribery initiatives, Hitachi Astemo conducts global activities to raise awareness of competition law compliance through education. It strives to thoroughly comply with relevant rules, business standards, and guidelines, and creates standards for overseas audiences related to contact with competitors globally to disseminate practical precautions.

# Business Practices in Accordance with International Norms

## ■ Export control

Hitachi Astemo's basic policy for export control is to comply with laws and regulations related to imports and exports globally and to conduct appropriate management in accordance with internal regulations to maintain international peace and security. In accordance with this basic policy, Hitachi Astemo has established the "Security Export Control Regulations." It strictly controls all export goods and technologies based on laws and regulations, and after examining the destination countries and regions, customers and uses. In addition, group companies also support their activities through education and other means to provide guidance on the establishment of rules and systems, ensuring that export control is carried out in accordance with the laws and regulations of the relevant country or region.

As a result, we are continuing our efforts to ensure that export control is thoroughly enforced throughout Hitachi Astemo.

## ■ Violations of laws and regulations

In FY2022, there were no cases of prosecution or sanctions from authorities related to bribery, competition law or export controls. Regarding tax compliance, we comply with the laws and regulations of our bases in each country and region, and have not received any fines or other sanctions for violations of laws and regulations that have a significant impact.

# Addressing Risks and Opportunities, Business Continuity Initiatives

## ■ Enterprise risk management

Based on the recognition that it is essential to anticipate future risks and respond quickly in order to survive as a business entity in times of volatility, uncertainty, complexity, and ambiguity (VUCA), Hitachi Astemo is working to strengthen company-wide risk management and strives to increase corporate value.

As part of these efforts, we are introducing integrated and comprehensive enterprise risk management (ERM). The heads of business divisions, business units, functions, and regions are positioned as RMOs (Risk Management Officers) in their respective organizations, and together with their supporting RMs (Risk Managers), they promote risk management processes at all levels of the organization.

Since FY2022, we have also introduced the risk roundtable, a workshop for senior management, improved our methods for risk identification, and reviewed our risk analysis and prioritization methods to make continuous improvements while strengthening risk countermeasures from a company-wide perspective.

## ■ Approach on business continuity (BCP/BCM\*)

The basic policy of Hitachi Astemo is to take measures to prevent risks that can be assumed in business activities, minimize damage to employees and the company in the event of risks, and to continue business. In preparation for the occurrence of risks, dedicated persons in charge are working to improve the crisis response capabilities and readiness of the entire organization through practical rules, a global human network, and education and training.

In addition, in the event of a crisis that has a significant impact and cannot be resolved without company-wide efforts, a global crisis response headquarters will be established with the participation of all functions and related business divisions, business units, and regions. It will strive to minimize damage and achieve a quick recovery through flexible response.

Utilizing its experience in responding to past crises, including major earthquakes in Japan and global pandemics, Hitachi Astemo is further improving its crisis management and crisis response capabilities.

\*BCM : Business Continuity Management

# Information Security

## Information security policy

To minimize the risk of information leakage and suspension of operations due to cyberattacks, etc., which may hinder the continuation of the business itself, Hitachi Astemo has positioned information security governance as one of the important management issues. In addition, as a global company, we recognize cybersecurity risks as one of the management risks. We have established an information security policy that is consistent with the company's management policy, taking cybersecurity risk management into account, so that we can declare the response policy of the entire organization both inside and outside the company.

### Information Security Policy

1. Formulation and Continuous Improvement of Information Security Management Rules
2. Protection and Continuous Management of Information Assets
3. Compliance with Laws and Regulations
4. Education and Training
5. Accident Prevention and Response
6. Ensuring the Optimization of Operations in the Corporate Group

## Framework for promoting information security

At Hitachi Astemo, the Chief Information Security Officer (CISO), who is responsible and authorized to implement and operate information security and personal information protection, is responsible for promoting information security for all Hitachi Astemo products, services, and internal facilities. Policies and various measures for information security and personal information protection are decided by the "Information Security Committee," chaired by the CISO. In principle, the head of the site serves as the information security manager at business units and offices, and an information security promotion department is established to manage security at each workplace and educate employees. Group companies have established similar organizations to promote cross-sectional information security in cooperation with each other.

## Information security management

Hitachi Astemo has established the "Global Information Security Management Regulations" based on ISO/IEC 27001, an international standard. In addition, we are working to comply with the U.S. government standard SP800-171 and strengthen information security management. These regulations are globally deployed from the headquarters of Hitachi Astemo and each group company. Hitachi Astemo communicates its

policy and various measures regarding information security and personal information protection decided by the "Product and Information Security Committee" to each business site and group company through the Information "Security Promotion Committee," etc., and the information security manager thoroughly implements them in the workplace.

### Security monitoring

Hitachi Astemo provides 24-hour, 365-day-a-year security monitoring by SOC\*<sup>1</sup>, and collects and deploys threat intelligence\*<sup>2</sup> and incident response by CSIRT\*<sup>3</sup> for early detection and rapid response to global-scale cyberattacks. As cyberattack methods become more sophisticated year by year—evading conventional detections and having a tendency to delay detection and causing damage—Hitachi Astemo has been working to build a cyber surveillance environment that constantly incorporates the latest technologies to respond to this threat. In addition, we conduct penetration tests\*<sup>4</sup> to identify vulnerabilities in the system and take countermeasures.

\*1 SOC: Security Operation Center

\*2 Threat intelligence: An initiative to derive knowledge on new threats from multiple pieces of information related to cybersecurity and utilize it for security measures.

\*3 CSIRT: Computer Security Incident Response Team

\*4 Penetration test: A method of testing whether a system has security vulnerabilities by attempting to penetrate a system connected to a network such as the Internet using various technologies.

# Information Security

## ■ Preventing of information leaks

Hitachi Astemo is implementing common IT measures such as device encryption, access control/revocation processing software for electronic documents, identity management and access control by building an authentication infrastructure, and e-mail and website filtering systems as specific measures to prevent information leakage. In response to cyberattacks such as targeted e-mails, we are strengthening various measures such as multi-layered IT defense, along with information sharing efforts through public-private partnerships.

In addition, to prevent information leakage from suppliers when outsourcing operations that handle confidential information, we confirm and examine the status of information security measures of suppliers in advance, based on the information security requirement standards established by Hitachi Astemo. Moreover, we provide suppliers with business information inspection tools and security teaching materials in information equipment, and request that personally owned information devices inspect and delete business information.

## ■ Education on information security

Hitachi Astemo conducts e-learning education on information security and personal information protection for all officers and employees every year. In addition, we provide information security education by preparing a variety of educational programs for each target and purpose, such as classroom training for new employees and newly appointed managers.

In addition, as an education for cyberattacks such as targeted attack e-mails, we send simulated e-mails disguised as actual attack e-mails to employees and conduct "Targeted Attack E-mail Simulated Training" to increase security sensitivity through the experience. Information system administrators are trained to respond to cyberattacks.

Hitachi Astemo's educational content is shared with all group companies, and Hitachi Astemo as a whole is actively engaged in information security and personal information protection education.

## ■ Thorough information security audits and inspections

All group companies and departments of Hitachi Astemo conduct audits of information security and personal information protection once a year.

Audits at Hitachi Astemo are conducted independently by the Chief Audit Officer appointed by the President & CEO. The impartiality and independence of audits are ensured by stipulating that auditors may not audit their own departments.

For group companies outside Japan, we conduct global self-checks, and Hitachi Astemo as a whole is engaged in audits and inspections.

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