Murata value report 2023

ENG

muRata
INNOVATOR IN ELECTRONICS

Introduction

The purpose of publishing Murata value report

Murata value report is published with the purpose of sharing Murata's value creation story with shareholders, investors and other stakeholders, thereby co-creating value through constructive dialogues with stakeholders and creating value through resonance with employees.
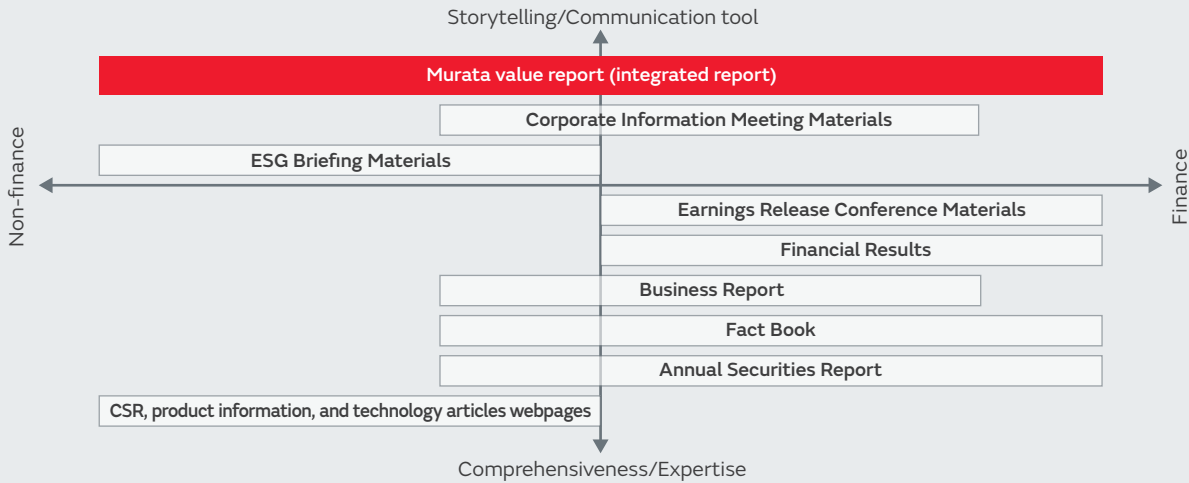
The creation framework and us of this report within the company

Top management, including the President and Representative Director, actively participated in the creation of this report under the supervision of the director in charge of IR, Masanori Minamide.

This report is available in Japanese, English and Chinese and is shared with all employees. Many of our departments use the report as a tool to help the employees grasp the overall picture of the company and contribute to Murata's goal of decentralized autonomous organizational management.

Top management

Core members of report creation team
IR, Corporate Strategy, Sustainability, General Affairs, and Corporate Communications departments

Related departments
Function responsible departments, business divisions, Research and Development Department, domestic and overseas subsidiaries, etc.

Chart of information disclosure documents (mapping by medium)

Storytelling/Communication tool

Murata value report (integrated report)

Corporate Information Meeting Materials

ESG Briefing Materials

Non-finance — Finance

Earnings Release Conference Materials

Financial Results

Business Report

Fact Book

Annual Securities Report

CSR, product information, and technology articles webpages

Comprehensiveness/Expertise

Key points on Murata value report 2023

To help our readers better understand Murata's sustainable value creation, we have focused on the following three points.
- To revamp the overall structure and enhance readability with the aim of promoting a better understanding of Murata's value creation story.
- To communicate information focusing on Murata's future value offerings and growth potential, and to highlight Murata's strength of implementing the strategies that substantiates them.
- To achieve a better understanding of our efforts in value co-creation with stakeholders.

Editorial policy

Murata published its Environmental Report in 2002, and has been disseminating the company's information since 2010 in the Murata Report, a brochure that combines its Company Guide, CSR Report (Corporate Social Responsibility Report) and Annual Report (Financial Data). With stakeholder dialogue being an important consideration, Murata decided to publish the "Murata value report" from 2018 to better convey Murata's activities to improve corporate value over the medium to long term. In addition to the growth strategies to realize the future envisioned by Murata, CSR (Corporate Social Responsibilities) activities that the company has been continuously implementing are described in this report. We created and edited this report by summarizing the main points with the aim of communicating Murata's activities in a concise manner. Detailed financial data and information on CSR activities that cannot be included in this report, as well as environmental data from each business site, are posted on the Murata website. Please refer to the tool map to obtain the required information

Website:

Corporate website
  Top page   https://corporate.murata.com/en-global
Financial information
            https://corporate.murata.com/en-global/ir
  CSR   https://corporate.murata.com/en-global/csr
Product information
            https://www.murata.com/en-global
Technology articles
            https://article.murata.com/en-global

Contents

Term of this report   Between April 1, 2022 and March 31, 2023
                          * Some activities taking place on or before March 31, 2022, or on or after April 1, 2023, are covered in the report as well.
Organizations reported on   Murata Manufacturing Group
                          (Murata Manufacturing Co., Ltd. and 88 subsidiaries inside and outside of Japan)
Reference guidelines   ISO26000, The International Integrated Reporting Council (IIRC) "The International Integrated Reporting Framework," Ministry of Economy, Trade and Industry "Guidance for Collaborative Value Creation"

Future forecasts, projections and plans
In addition to past and current performance, this report contains future forecasts, predictions, plans, and other information. Such forecasts, predictions, and plans are assumptions or judgments based on information available at the time of publication, and hence include uncertainties. Accordingly, the results of future operating activities and future phenomena may differ from forecasts, predictions, and plans in this report.
* In this report, "Murata" refers to the Murata Manufacturing Group as a whole, and "Murata Manufacturing Co., Ltd." to Murata Manufacturing as a standalone company.

What Murata values

▌ Murata's DNA —gratitude and pioneering spirit

Our founder Akira Murata was born in 1921 at Sennyu-ji, a Buddhist temple in Kyoto. He was repeatedly ill from early childhood and was unable to attend school regularly. Reading books was his only pleasure, and he came across a Zen Buddhism philosophy "form is emptiness." This phrase embodies the following lesson: "What we see, and the events we experience every day, are only temporary and like a dream. People are born naked and die naked, so we should not care about money or material things, nor blame others for our failures. Instead, we should always be grateful in our interactions with others."

Moved by these words, Akira let go of his preoccupation with his illness and began to emphasize his gratitude to those around him. After that, his physical condition gradually recovered.

Akira eventually began helping his father Kichiro run the family business, Murata Seito-jo. His father urged him not to compete for profits with other companies in the same industry, but instead to pursue an independent path. In 1944, with the aim of developing innovative products, Akira established his own company, Murata Manufacturing Co., Ltd., in a house in Nakagyo-ku, Kyoto. The company started life with only a few employees.

After the war, Akira met Professor Tetsuro Tanaka in the electric laboratories of Kyoto University, an encounter that would transform Murata's destiny. Akira learned from the Professor about barium titanate, which at the time was regarded as the great discovery of the century. Gripped by a strong pioneering spirit, Akira immersed himself in research related to this substance. He was in and out of the laboratory on a daily basis, and up-and-coming researchers began to join Murata , which was then just a backstreet workshop. Close cooperation with these colleagues soon resulted in one success after another, and the team eventually succeeded in developing a barium titanate ceramic capacitor, which would pave the way for the ceramic capacitor, Murata's mainstay product today. This breakthrough laid the foundation of Murata's huge success in its early years..

As a result of cherishing his encounters with people and interacting with those around him from a place of thankfulness, he was able to expand the circle of gratitude and gain access to the vast knowledge possessed by high-caliber individuals.

It is no exaggeration to say that Murata's growth to date has been underpinned by our founder's encounter with barium titanate and the first-rate engineers and colleagues he met through this research.

These various experiences of our founder led to the formulation of Murata Philosophy ("Shaze"), which defined the direction the company should take. It includes the line, "together with all our stakeholders, thankful for the increase in prosperity," and reflects a desire to work and prosper together with employees and other stakeholders with a sense of appreciation..

Murata has got where it is today because our executives and employees in each era having been driven by gratitude and a pioneering spirit, and put the Murata Philosophy into practice on a daily basis.

Murata Philosophy — Shaze —

We contribute to the advancement of society by enhancing technologies and skills applying scientific approach creating innovative products and solutions being trustworthy and, together with all our stakeholders, thankful for the increase in prosperity.

Inside Professor Tanaka's laboratory

Founder Akira Murata

Living up to the Murata Philosophy represents our raison d'être as a company. Our rapid development has been based on our feelings of gratitude and our pioneering spirit, as these have enabled us to surmount numerous difficulties.

(Source: in-house magazinecompany newsletter Akaruinakama Akarui Nakama (Cheerful Colleagues) , published in 1961)

Murata's key values—CS and ES —and an organization strengthened through dialogue

In addition to practicing the Murata Philosophy, we declared becoming a customer-oriented company as the primary aim for our corporate culture, but after the bursting of the IT bubble in the 2000s, Murata's performance remained sluggish for a long period, even as other companies in our industry achieved V-shaped recoveries. Murata's management believed that the cause was our organizational culture at the time, which was characterized by the imposition of Murata's way of doing things on customers rather than giving them what they want, and employees who were working hard but were exhausted. The management team realized that unless employees feel fulfilled and proud of their work, they would be unable to make great products and satisfy customers.

A drive to transform our corporate culture began in earnest in 2004, with all the executives holding repeated discussions on what to do. An employee surveys revealed that only 30% of employees felt that the organization was "open," which highlighted the grim reality that Murata has fallen prey to "big company disease."

A major problem that this big company disease brought to the fore was a complete absence of dialogue across all levels of the organization, i.e., among executives, between superiors and subordinates, and among colleagues. As a result, the decision was made to revisit the Murata Philosophy and replace our old top-down management with one that emphasized "acknowledgement, delegation, and gratitude," and worked to create a corporate culture in which customer satisfaction (CS) and employee satisfaction (ES) are positioned as key values. At Murata, CS means "continuing to create and provide value that is recognized by the customer," and ES means "every employee achieves satisfaction and continuing growth through the performance of their work duties."

By having all employees place importance on dialogue, express their appreciation for each other, and understand each other, numerous opinions began to emerge within the company, and our corporate culture underwent a gradual revitalization..

As a result of business expansion, the hiring of experienced personnel, M&A, and other factors, Murata now has far more employees than it did back then, and they embody various different values, but the Murata Philosophy and the notions of CS and ES continue to resonate with them, and they engage in dialogue and friendly competition with each other on a daily basis.

And the feeling of joy and gratitude of customers who recognize the value provided by Murata remains unchanged even today. It continues to motivate them and enable them to grow. In this way, we believe that enhancing CS leads to satisfaction and growth among our employees and that enhancing ES leads to the provision of more value to customers, and this belief informs the actions that we take each day.

Overnight workshop for executives on the theme of CS and ES

Mutual prosperity with stakeholders —Value provided to customers that has expanded through joint efforts

Since 2000, the IT sector has grown rapidly and the world economy and the electronics industry have undergone major structural changes. The communications market, in particular, has been the main growth driver for the industry. Murata has inherited the pioneering spirit of its founder, and in cooperation with stakeholders, we have proactively taken on the challenge of overcoming technological issues and developing new markets in response to the rapid evolution of cellular phones with advanced functions and faster, larger capacity communications methods.

One example is our collaboration with Peregrine Semiconductor Corp.*, a U.S. company with which we have had ties since 2006.

At that time, cellular phone communications were shifting from 2G to 3G, and the business outlook for the Switchplexer, a 2G technology that had been a huge hit, became uncertain, causing our engineers to wrack their brains. So together with Peregrine Semiconductor Corp., a semiconductor manufacturer with which we had a partnership, we worked to jointly develop a switch using a new semiconductor technology that would

be compatible with 3G. In those days, the prevailing view was that this semiconductor switch would not be suitable for high frequencies, and many people within the company raised objections or doubts. Initially, we had a hard time achieving the required technical characteristics, and the engineers involved of the project struggled day after day. Nevertheless, they refused to give up, and with a strong desire to contribute to the advancement of society by creating innovative products and solutions, they were able to come up with new ideas and eventually develop a product that we could feel proud to unveil.

The source of Murata's success has been the implementation of the Murata Philosophy by our employees. The founder's attitude toward business, attitude of prospering together with all our stakeholders, and attitude of working sincerely to solve problems have been passed down to the employees of today. Murata has refined its technology, and through dialogue between Murata and partners who share the same passion, we have expanded the value that Murata provides to customers.

* The company became part of the Murata Group in December 2014.

And now, into the future —Aiming to co-create value with stakeholders

In the years since our foundation, the environment and technologies surrounding Murata have changed dramatically, but at all times, each and every employee, in his or her respective role, has continued to put the Murata Philosophy into practice and contribute to the development of cultureadvancement of society, while valuing the pioneering spirit and commitment to gratitude of our founder.

To continuously increase our corporate value while retaining the mindset of our founder, in 2021 we formulated Vision 2030 which sets out our long-term direction and the preparations that we need to make. Vision 2030 defines "co-creation with stakeholders" as being central to achieving what Murata wants to be.

Murata has lived up to its slogan, "Innovator in Electronics,"

which embodies our desire to be "a leader in innovation for the electronics industry." By putting this idea into practice and by building solid, trusting relationships with our customers, Murata has established a global brand of capacitors and communications components. , On the other hand, to respond to the intensifying changes in our environment and proactively create value as a true Innovator in Electronics, we believe it is important that we expand the scope of the value we provide from just "innovation for customers" to also include "innovation for solving social issues."

Murata will be aiming for sustainable value creation through dialogue and co-creation with stakeholders

We want to continue to be trusted and be the best choice for customers and society. Murata will keep taking on challenges.

Message from the President

Becoming the Global No. 1 Component & Module Supplier while continuing to cement our Innovator in Electronics position within the industry

President

Norio Nakajima

Preparing for the next growth stage despite the challenging business environment

We will start by reviewing the results for fiscal 2022. Compared to the previous = year, which saw record-high financial results, sales and profit decreased, and pre-tax Return on Invested Capital (ROIC) - a key indicator for the company, also declined. For Murata, which has a high ratio of overseas net sales and considerable foreign currency-denominated transactions, the yen's depreciation of over 20 when compared to the previous fiscal year, was a positive factor for profit growth. However, the main factors causing a decline in profits were a downturn in the company's sales volume against a backdrop of weak demand for consumer product market components, such as smartphones and PCs, as well as the resulting decrease in the operating rate.

The environment is expected to remain challenging in fiscal 2023 for the second consecutive year due to weak recovery in the consumer product market and mounting downward pressure on product prices stemming from sluggish demand. In the smartphone market, we expect demand to expand in India, Southeast Asia, and Africa, where further population growth is anticipated. However, there is a risk of commoditization as the communications technology matures. Murata holds a large market share in a wide range of products, which is primarily centered on our mainstay multilayer ceramic capacitors. However, we believe it is imperative that we remain competitive in the cutting-edge technology areas where we are currently ahead and respond to environmental changes in terms of our business strategy.

In the mobility market, automobile electrification continues to progress, and we believe that demand for electronic components will maintain its steady growth. Since the mobility market requires a greater amount of high-quality, highly reliable products than the consumer product market and because the size of the products places a heavy burden on the company's production processes, we need to increase our production capacity to meet anticipated growth.

The electronics industry is said to experience cyclical economic fluctuations such as recovery, expansion, downturn, and deterioration. In applying this to Murata's history, it is my opinion that we are on a "wave of being an Innovator in Electronics" since earnings peak approximately every fifteen years. Considering this trend, our view is that demand will bottom out in fiscal 2022 and 2023, then the market will once again expand considerably from fiscal 2030 and beyond.

Based on these points, what we need to do now is remain steadfast in our short term strategy, while simultaneously use hypothetical thinking to prepare for the next technological innovation. To achieve continued business growth in the future, we will strive to manage our business in a way that coexists with deductive and inductive thinking that considers both year over year growth and 15 years from now.

Growing business opportunities for Murata through the expanding use of electronics

In 2021, we announced Vision 2030, Murata's long-term direction that addresses changes in the business environment and outlines our roadmap to achieve sustainable enhancement of corporate value. In the market supply and demand cycle, while there are times when demand temporarily decreases, we believe that increased and ongoing digitalization and the expanding use of electronics and technological innovation in communication will not waiver. In the world of communication networks, new value will be created by "converting everything into data and connecting them together." With the introduction of 5G in the 2020s, a world where various devices are connected to the Internet has been realized. Going forward, increases

in speed, capacity, and low-delay features will continue to advance towards 6G which is expected to be introduced in the 2030s.

Beyond 2030, the importance of communication as an infrastructure will rise and lend to a world where AI connects both physical and cyber worlds. Amidst this, people's lifestyles will change significantly as they can make and execute various decisions in cyberspace. For example, suppose it becomes possible to upload a person's health status to cyberspace and for AI to process vital data and provide instantaneous feedback to optimize someone's well-being. In that case, receiving more appropriate medical care from a medical network will be possible, leading to the

advancement of home medical treatment. In such a society, large volumes of information need to be processed by AI without delay. We, therefore, believe that value creation will progress through new technologies, such as systems that closely connect two spaces and digital twins, and that Murata's business opportunities will further expand considering the company's deep understanding of hardware and extensive knowledge of wireless communications technologies. Murata will keep preparing for the future so that we can continue to demonstrate our footprint as an "Innovator in Electronics" in the electronics industry.

Achieving a sustainable society and enhanced corporate value through a continuous cycle of social value and economic value

The company formulated its Medium-term Direction 2024 as the first phase in actualizing Murata's Vision 2030 and is actively working on these initiatives. One of our mid-term management transformations is to engage in management that creates a continuous cycle of social and economic value, and we will promote initiatives to solve social issues by setting social value goals as company-wide objectives.

The mission of companies engaged in the capital market, including Murata, is to earn profits and reinvest them to create even greater value in the future. This way of thinking has not changed, but the global shift towards a more sustainable society has accelerated in the past several years. In addition to these increasing social demands, customers in Europe and the United States are one step ahead of the public perception in Japan. Given this, corporate value is determined by economic value and the extent to which a company can contribute to solving these social issues.

Vision 2030 (long-term direction) Murata wants to be

Innovator in Electronics

Murata will innovate to create a continuous cycle of social and economic value and contribute to the enrichment of society.

Murata in everyday life

Murata's electronic components are used as an essential part of the social infrastructure for enriching people's basic needs.
Murata will continue to respond to society's needs with constant innovation and promote the evolution of components.
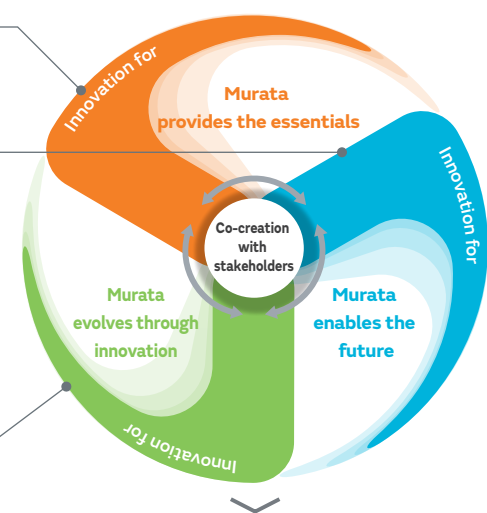Murata's components are broadly and deeply rooted in society and support people's everyday lives.

Solving social issues

Electronics are also widely used as tools for solving social issues.
Murata will not just provide components but will utilize electronics as a breakthrough to pursue sustainability of the Earth and society. Murata's innovations will accelerate the realization of an unrestricted, more convenient future.

Practicing sustainable operations

Murata will innovate to reduce the impact of our business operations on society and the environment. We are committed to realizing our business processes that are in harmony with society.

Innovation for
Murata provides the essentials

Innovation for
Murata enables the future

Innovation for
Murata evolves through innovation

Co-creation with stakeholders

Global No. 1 Component & Module Supplier
Murata will be the best choice for customers and society

Further, for companies to respond effectively to social issues requires them to take certain risks, including upfront investments and short-term cost increases. To make this level of response sustainable, we must view social value as "yet-to-be-realized financial value" that will transform into "financial value" in the future. With that, we will link these efforts to medium- to long-term profit generation by strengthening business competitiveness and creating business opportunities.

It has been three years since I became President, and the level of understanding within the company regarding the continuous cycle of social and economic value has increased. Concerning Murata's response to climate change, we clarified our long-term direction by becoming one of the first in the industry to become a RE100 member. We are focusing on promoting renewable energy and energy conservation at our factories and business sites. To promote renewable energy, we are deploying the renewable energy system combining solar panels and storage batteries that we introduced at Kanazu Murata Manufacturing Co., Ltd. (Fukui Prefecture) in 2021 to our other factories worldwide. As of the end of March 2023, we are operating energy-saving systems at five total factories.

Going forward, we will expand these initiatives to each site in the Murata Group with an aim to showcase these efforts and products to customers. We have already accumulated a large volume of data by implementing these initiatives. We would then like to link this information to increased business and customer opportunities.

It is essential that these initiatives to realize a sustainable society involve the entire supply chain. The company will actualize a continuous cycle of social and economic value by being the best choice for our customers, suppliers, and stakeholders and by creating this value together.

Achieving value creation by taking 3-layer portfolio management to a higher level

Next, I want to reiterate our approach to 3-layer portfolio management, the core of our growth strategy, and explain the background of our related initiatives. Although the company deals primarily with electronic components, our approach to work and the required skills differ depending on the business.

In the 1980s, the company contributed to the miniaturization of televisions and transistor radios by making components lighter, thinner, shorter, and smaller. From that came the standard-products business called the first layer (components). In the 1990s, the development of mobile phones resulted in differing customer requirements. As a result, the second layer (devices and modules), the application-specific components business in which we coordinate technical aspects with each customer and develop new products, was established. In the 2020s, 5G was introduced and is used not only in smartphones, but in areas such as medical networks, preventative maintenance of factory equipment, and autonomous vehicles. For Murata to continue to demonstrate its presence as the use of electronics expands, it will be necessary to supply conventional hardware and provide solutions that incorporate software. In other words, we believe that the definition of components will change, and we are positioning this as the third-layer of business.

These 3-layer portfolios are closely related, influencing one another in terms of technology and sales as we aim to expand our business. As the value sought by customers changes, we will create synergies among each and aim for the further growth of Murata. The initiatives for each layer are as follows,

The first layer of capacitors and inductors/EMI filters is the company's core business. Future technological trends are clear. Products for the consumer product market, such as smartphones, must be lighter, thinner, shorter, and smaller. Those for the mobility market need to be high-quality, highly reliable products that can withstand high-voltage, high-temperature environments. We believe that the market growth rate over the medium to long term will be approximately 10 percent, so it is necessary to increase production capacity in response to the anticipated growth. Annual production of the company's multilayer ceramic capacitors is over 1 trillion units and expanding that capacity will require significant human resources and capital investment. Since it will be difficult to rapidly increase capacity because of significant demand, we are proceeding with capacity expansion from a medium- to long-term perspective. To accelerate initiatives that strengthen these technological and supply capabilities, we will promote our vertically integrated production system and ensure our positioning as a leading company in the industry by improving our business efficiency.

In the second layer, we decide on our target customers for each application. The success or failure of that business depends on whether we can establish technology that differentiates us from competitors. Similarly to the first layer, we will utilize Murata's unique technologies and manufacturing expertise in the high frequency devices and communications modules category, such as RF modules and SAW filters. Looking ahead to 2030, we must also adopt measures such as acquiring technologies that the company lacks through M&A activity and undertake initiatives to

demonstrate the superiority of our products in terms of characteristics and structure. Specific to customers in the smartphone market, we are gradually starting to see the fruits of our efforts to strengthen our support system at overseas sites. Although we are still increasing our market share, we would like to enhance our presence by promoting initiatives that customers will select for QCDS.*

With battery and power supply, we are reviewing our business portfolio of lithium-ion secondary batteries and have been focusing on high-capacity cylindrical batteries for power tools, gardening tools, vacuum cleaners, etc. Although demand in our focus markets is stagnant and an improvement in earnings is delayed, we aim to establish an environmental business foundation that includes storage batteries.

Our sensors' focus is on the mobility market. We are starting to see products with outstanding features, including MEMS inertial sensors that can measure vehicle position, attitude, and direction with higher precision and ultrasonic sensors for peripheral detection necessary for automatic braking and parking. We hope to capture business opportunities in the growing market by supplying products that our competitors cannot imitate.

The third layer targets new business areas, including solutions. As is the case now, not all customers will be familiar with electronic devices and design. Given that, we cannot respond with the technologies and experience we cultivated through conventional business models. What we need to do now is to create a business model from a long-term perspective. During the Medium-term Direction 2024 period, we would like to build small successes and determine what kind of value Murata can provide to our customers. As we move ahead with the third-layer business, we will implement these products within the company to allow customers to see and experience them, which will become a new way of selling. Having customers come to us also creates a synergistic effect of increasing the motivation of employees working on-site.

Currently, the first and second layers are the pillars of our business, but we are highly dependent on the first layer for profits. This is one of our central management issues, and we need to develop multiple revenue sources. Firstly, we must improve earnings in the second layer. However, we will also take on various challenges in the third layer with a view to 2030 and beyond. By continuing to work to solve the issues faced at each layer and demonstrate synergies, we will strive to achieve higher level 3-layer portfolio management aimed at further value creation.

*Product assessment indicators referring to Quality, Cost, Delivery, and Service

Creating innovation by leveraging diversity

The source of our value creation today is our strength in human and organizational capital. The passion of our founder has permeated throughout the company in the form of the Murata Philosophy, which is our management vision and code of conduct for every employee. A sense of belonging and contributing to the organization is essential to Murata's unique vertically integrated business model. Further, the ability to cooperate with one another to solve issues quickly is what sets Murata apart today.

Additionally, high homogeneity is also an issue facing organizations. To foster innovation, we need to leverage diversity to create different mechanisms and ways of working together. When working with people with different backgrounds, including gender, generation, and culture, it may not be possible to move forward effectively and efficiently using conventional ways of doing things. Accepting and attempting to overcome this opportunity will enable more in-depth discussions. Creating an environment where employees with diverse values and ways of thinking can respect each other's differences and engage in animated discussions will lead to the creation of innovation.

Murata established autonomous and decentralized organizational management as one of the growth strategies in Vision 2030. We expect each employee to act with autonomy, collectiveness, and evolution. Until now, the company has been able to respond to issues with a sense of speed by each organization in each department. However, there are times when I still feel that what is done at one site may not be deployed at another or that people need to learn what other departments are doing. We aim to be a strong organization capable of making decisions based on overall optimization and tackling initiatives flexibly while being mindful of the outside world and taking a global perspective. I provide opportunities for discussions across sites and departments, highlight good examples through internal communication tools, and introduce them to employees worldwide. In this way, we increase each employee's understanding and ensure that autonomous decentralized behavioral practices are part of our culture.

An example of what we introduced throughout the company is collaboration in monozukuri (manufacturing). Our manufacturing factories have different peak seasons depending on the products they produce. There is an overlap between a factory with greater human resources needs during peak periods and a factory that wants to create employee opportunities during slower times. Human resources are shared and dispatched to meet the ebb and flow of worker need. This initiative began with feedback from factory members and has become an excellent source of motivation for employees on both sides. We believe that each factory had a clear sense of the issues, that there was a system in place to communicate these concerns, and there was a mindset to accept the outlined issues that led to "voluntary support that transcends business operations." A significant factor behind this was the interaction and personal connections we had on a routine basis. This is an example that embodies autonomy, collectiveness, and evolution.

Promoting DX and maximizing its value

The company promotes Digital Transformation (DX) as one of the growth strategies of Vision 2030. In recent years, in-house DX initiatives have become more active. At manufacturing sites, we made progress in data visualization that contributes to improvements in production efficiency, including production lot management, the development of a process flow, and equipment maintenance. In addition, digitalization improvements are becoming more evident at factories and business sites worldwide. However, although the KGIs and KPIs markers we set improved, they remain at the level of digitalizing how work is done and have yet to reach the point of changing the work itself. By changing how we work, the organization will eventually evolve, and the KGIs and KPIs we aim for will follow suit.

Excessive standardization of production processes and systems may lead to production inefficiency. Given that, we must first identify areas that should be standardized and then leverage digital technology to enable smart factories. At the same time, we would like to foster an environment where employees at manufacturing sites can spend their time engaging in work that allows them to demonstrate a higher level of creativity.

Promoting DX is also essential in strengthening the "power to sell," such as the planning and execution of customer strategies. The company has the opportunity to do business with customers in a wide range of industries globally and has access to customer information that could be considered big data. We want to maximize our customer offerings by converting this data into value and changing how we engage in sales activities, including the way we approach and communicate with customers.

Investing in the future and realizing Vision 2030 and Medium-term Direction 2024

As I mentioned at the onset, fiscal 2023 is expected to be a severe business environment for the company. Under these circumstances, we will complete cost reduction themes, including quality improvements, and optimize fixed costs to improve short-term earnings. In fiscal 2024, the final year of Medium-term Direction 2024, we would like to demonstrate the results of our portfolio management.

Looking ahead to 2030, the electronics industry in which we operate will achieve even greater growth due to the development of 5G and 6G communication networks and the adoption of autonomous driving. Because of this, we will continue to invest in the future and work to realize Vision 2030 and Medium-term Direction 2024, ensuring that Murata's leadership position is well established in the years to come.

As the Global No. 1 Component & Module Supplier, the company will continue to develop exciting technologies, innovations, and products that meet stakeholder expectations. We are focused on business opportunities in the core fields of communications and mobility and the challenge fields of environment and wellness. We want to ask for your continued support.

Murata's growth trajectory and expansion in field of electronics

As the functionality of cellular phones has improved and the speed/capacity of communications systems has risen, we have achieved tremendous growth by pursuing business globally and expanding product development and production capacity with a focus on growing markets. With 5G proliferating since we entered the 2020s, industries and companies have undergone immense changes. In around 2030, 6G will arrive, and communications as social infrastructure is projected to see further advances. We will expectedly enter a world where everything is connected via communications systems.

In response to such technological innovations, the electronics field will continue to expand, and business opportunities for Murata will also multiply.

1990s

2G

Voice-to-digital cellular phone systems emerge. In addition to talking, users can now also exchange email messages via their phones.

2000s

3G

Users are now able to take pictures with cameras built into their cellular phones, and send and receive images through high-speed data communications. In the late-2000s, cellular phones also get equipped with GPS functionality.

2010s

4G

With the diffusion of smartphones, devices become even more multifunctional. Apps and social media proliferate, transforming the ways that people communicate.

2020s

5G

Internet of Things (IoT)—All devices are connected to the internet. As local 5G sees increasing adoption, the smartification of factories and offices is progressing. And in the mobility space, the number of electric vehicles (xEVs) on the roads is rising, autonomous driving technology is evolving, and innovation in the CASE (connected, autonomous, shared, and electric) vehicles is progressing. Business opportunities are therefore expected to expand. Greater control over information and things will result in a redefinition of "communications" as industrial and social infrastructure.

2030s

6G

Communications coverage will expand into the oceans, the air, and space, creating a world in which even more people and things are connected. Cyber-Physical Systems (CPS) are expected to see broad adoption as tools for leveraging the power of artificial intelligence (AI) to process and deploy digitized big data. Communications will not only make people's lives more comfortable, but also contribute to the resolution of social issues.

New technologies/keywords

- Generative AI
- Digital twins
- Metaverse
- Holograms
- Automatic charging
- Communication robots
- Biometric data-driven healthcare
- Fully autonomous driving
- Flying cars (eVTOL vehicles)

Murata's operating performance

(Billion yen)

■ Net sales　—●— Ratio of operating income to net sales

- 1997 Asian financial crisis
- Bursting of IT bubble
- Collapse of Lehman Brothers
- Great East Japan Earthquake
- Spread of COVID-19
- 1,686.8
- 17.7

1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 (FY)

CPS/IoT market* demand forecasts (global)

(Billion dollars)

Source: JEITA Trends Survey of Focused Areas 2022

Annual average growth of 6.7%

2021	2025	2030
2,688.0	3,166.8	4,809.5

* Covers network-connected IoT equipment and solution services
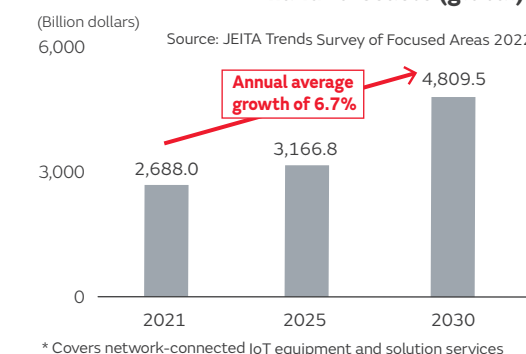
Market expansion in infrastructure business domain

Future of communications

Network side

Market trends
- Emergence of large-capacity optical communications to support ultra-high-speed communications and large-scale computation
- Transmission ranges are limited, so high efficiency relay devices and base stations will increase
- The processing and communications capability of devices and other hardware will also support high speed communications

Business opportunities
- Rise in demand for high levels of performance and reliability to support network connectivity functions
- Increase in demand for components due to more connected devices and processing capability improvements

Device side

Market trends
- Increasing shift toward wearable and implantable devices
- Acquire and digitalize all types of information
- Develop advanced modules and sensors
- Need for miniaturization, enhanced energy saving, and improved reliability in order to make devices more portable and wearable

Business opportunities
- Increase in demand for small and high performance components and modules
- Increasing technical requirements to reduce electricity consumed and improve efficiency
- Added value will shift to hardware + software/solutions

Edge devices

Virtual-space
Cloud system
AI

Functions will be distributed between peripheral devices

Future of mobility

In-vehicle domain

Market trends
- Evolution of autonomous driving technology alongside xEV shift
- More importance for ECUs due to more data processing and increasing complexity of controls

Higher demand for electronic components

Electrification	Autonomous systems	Connected vehicles

Multilayer ceramic capacitors　High temperature film capacitors for automotive　MEMS inertial sensors　V2X modules

Out-vehicle domain

Market trends
- Expansion of vehicle-based services such as MaaS (Mobility as a Service) due to the connection of vehicles to social platforms via communications technology
- Robot taxis, micro mobility and flying cars (eVTOLs) are emerging as new modes of transportation

Growth of mobility business through technological innovation for CASE (connected, autonomous, shared, and electric) vehicles

Murata's initiatives
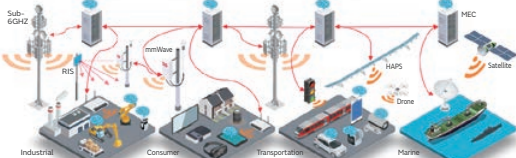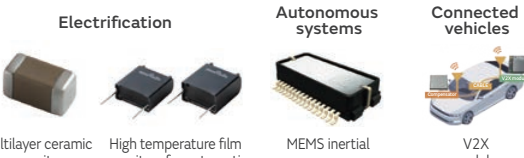- We will use our knowledge gained from the communication field to provide new value, including software and solutions.
- Exploration of business opportunities in the out-vehicle domain

（単位：個）

Message　Strengthening of "Power to Sell" as the market expands

Murata has always had a strong sales structure built on a well-established Account Management foundation. Accounts are supported globally, regionally, or locally depending on the scale of the business. Information sharing across our entities, a strong business development team, and our network of rep and distribution partners make sales one of our strengths.

Many things changed during the global pandemic. Access to the customer, specifically engineers, has become increasingly difficult. Therefore, we need to reimagine our efforts to engage them and advance our "Power to Sell."

Our goal in the Americas is to create an exceptional customer Digital Experience. To do so, we built an enhanced website with a focus on increased technical content, developed a studio to create video content, launched a 24/7 Community forum for engineers to chat with our team and share knowledge within the community. These efforts work seamlessly with our evolving distribution partners and the rapidly growing web distributors network.

This improved customer experience generates a wealth of data from markets, applications, products, and specific customer needs and contacts. We can link various parts of this data to our Customer Relationship Management (CRM) system that helps us focus and prioritize our sales and engineering resources.

This Customer Digital Experience is leading to an elevated Sales Experience for our team and an even better Employee Experience. We plan to continue these efforts and improve our "Power to Sell."

Vice President
President and CEO, Murata
Electronics North America, Inc.

David Kirk

Murata's business

Murata creates unique products and provides cutting-edge electronic components for all sorts of electronic devices in everyday life, including smartphones and PCs. Murata holds a large market share in a wide range of products, from our mainstay capacitors to inductors (coils), filters, lithium-ion batteries, sensors, and other components, and modules comprised of these components.

As an innovator in the electronics industry, we will continue to provide new value in the expanding business opportunities such as communications, mobility, environment and wellness, and contribute to the enrichment of society.

Murata products

Multilayer ceramic capacitors

Indispensable to electronic circuits, these components serve to store and adjust flows of electricity.

Murata's global share
40%

Noise suppression products EMI suppression filters

These components eliminate electromagnetic noise and protect delicate electronic circuits.

Murata's global share
40%

Radio frequency (RF) inductors

Electronic components that are used in exchanging high-frequency signals, such as wireless signals in smartphones.

Murata's global share
60%

SAW filters

The filters that extract only the required portion of a radio signal are key devices in high-frequency circuits.

Murata's global share
50%

* The global market share of our main products is just our estimate. It may vary depending on the market and usage.

The number of products required

（単位：個）

Product name	Smartphone	Laptop PC	Tablet PC	Automobile	Digital television	Smartwatch
Multilayer ceramic capacitors (MLCCs)	1,000	800	600	5,000-8,000	600	350
EMI suppression filters (EMIFIL®)	60	60	90	270-400	50	30
Inductors (coils)	300	30-50	200	400-500	30	30-50
SAW filters	4-70	—	4-70	0-30	—	0-30
Multilayer LC filters (filters, couplers, baluns, etc.)	2-20	2-4	2-20	2-8	2	3-6

* Our estimate. The above figures are the number required per unit and not the number of our products used.

Sales by product for fiscal 2022

Devices/modules
761.0 billion yen

Functional devices ▶P.54
Sensors, timing devices (resonators), etc.
92.8 billion yen

Battery and power supply ▶P.53
Lithium-ion secondary batteries, power supply modules
214.6 billion yen

High frequency devices and communications modules ▶P.49
Connectivity modules, RF modules, SAW filters, multilayer resin substrates (multilayer LCP product), etc.
453.6 billion yen
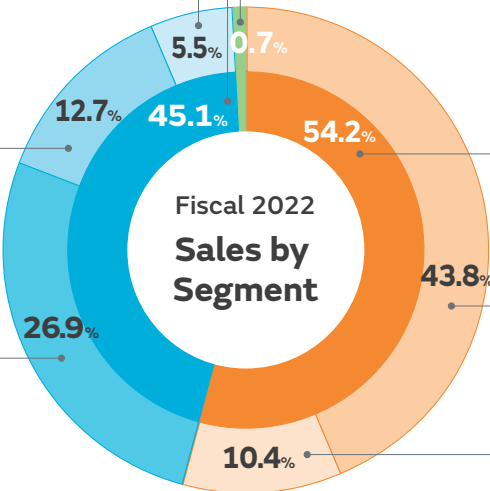
Others
Solution business, medical products, machinery manufacturing, etc.
▶P.55
11.7 billion yen

Components
914.2 billion yen

Capacitors ▶P.47
Multilayer ceramic capacitors, etc.
738.8 billion yen

Inductors/EMI filters ▶P.48
Inductors and EMI suppression filters
175.3 billion yen

Fiscal 2022
Sales by Segment

5.5% 0.7% 12.7% 45.1% 54.2% 26.9% 43.8% 10.4%

Segment performance for fiscal 2022 (US-GAAP)

	Net sales*	Operating income	Operating income / net sales	ROIC (pre-tax basis)*
Components	**924.4** billion yen	**280.1** billion yen	**30.3%**	**24.0%**
Devices/modules	**761.0** billion yen	**20.6** billion yen	**2.7%**	**2.5%**
Others	**74.6** billion yen	**−2.8** billion yen	**−3.8%**	—
Elimination	**−73.1** billion yen	—	—	—
Consolidated total	**1,686.8** billion yen	**297.9** billion yen	**17.7%**	**14.6%**

* Net sales include inter-segment sales.
* ROIC (pre-tax basis) = Operating income / Invested capital (Property, plant and equipment + Inventories + Trade accounts receivable – Trade accounts payable)

Global network (as of March 31, 2023)

Number of companies
88

Number of employees
73,164

Ratio of sales outside of Japan to net sales
90% or higher

Domestic production ratio Approx.
65%

Europe
Number of employees Approx.
2,000
Number of companies
9

Greater China
Number of employees Approx.
18,500
Number of companies
20

The Americas
Number of employees Approx.
1,500
Number of companies
13

Japan
Number of employees Approx.
33,000
Number of companies
31

Asia and others
Number of employees Approx.
18,000
Number of companies
15

Sales Application Category

Communications
Smartphones, wearable devices, and base stations
659.2 billion yen

Industry and others
Industrial equipment, medical products, and distributors
214.8 billion yen

Home appliances
Power tools (gardening tools, etc.) and audiovisuals
197.8 billion yen

Computers
PCs, servers, and HDDs
224.7 billion yen

Mobility
Automobiles
390.2 billion yen

Fiscal 2022
Sales Application Category

12.8% 39.1% 11.7% 13.3% 23.1%

Sales by Area

Greater China
842.6 billion yen

Asia and others
265.3 billion yen

Japan
152.2 billion yen

Europe
173.9 billion yen

The Americas
252.8 billion yen

Fiscal 2022
Sales by Area

15.7% 50.0% 9.0% 10.3% 15.0%

One year at Murata

In fiscal 2022, demand for components in the electronics market declined due to the sluggish smartphone and PC market and persistent inventory adjustments, creating a difficult business environment for the company. Amid this, to expand future business opportunities, Murata accelerated the development of new products and technologies such as component products for the in-vehicle system market and vehicle-to-everything (V2X) modules. Furthermore, we invested in production capacity

expansion including the completion of new production buildings.
 Murata has also strengthened its initiatives to create a continuous cycle of social value and economic value through value co-creation with stakeholders and link it to boosting business competitiveness in the future. As part of this effort, we started working on procurement of electricity from renewable energy sources using a virtual PPA.

Product-related news

April 2022

Commercialized metal power inductors for in-vehicle applications that can work at high temperatures up to 150°C
—The world's best* DC superimposed characteristics for a 1210 inch size product

May 2022

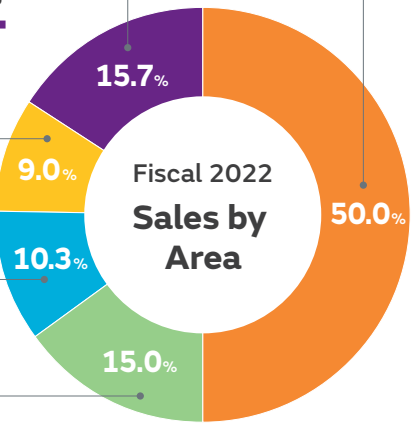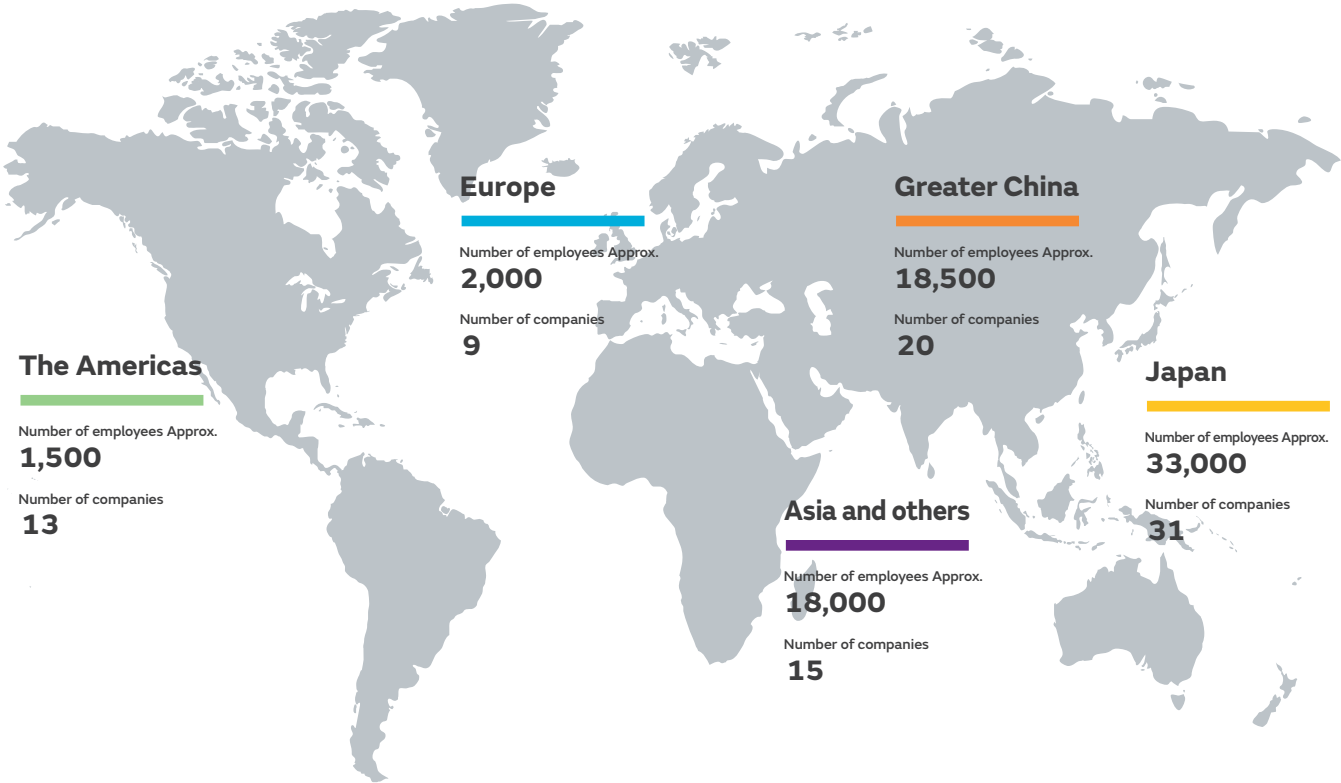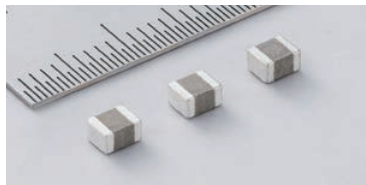**Started mass production of the soil sensor monitoring the farmland conditions**
—IoT-driven smart agricultural work and salt damage prevention

November 2022

Conducted experiments to prevent accidental leaving-behind of infants on school buses in Fukuoka City and Yasu City
—Verification test of Wi-Fi system's detection and alert to kindergartens

December 2022

Began smart shopping arcade initiative utilizing crowd sensors at "Kyoto's Kitchen," Nishiki Market
—Improving convenience for visitors through the visualization of crowd levels and air quality
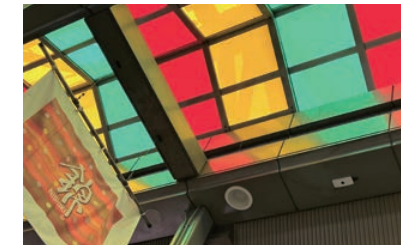
December 2022

Developed Murata's first V2X modules powered by Autotalks' chipsets

December 2022

Commercialized the world's smallest* 0402 inch size noise suppression chip ferrite beads for automotive power supplies
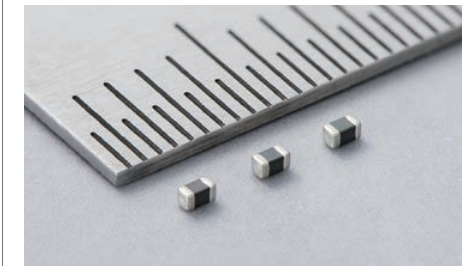
March 2023

Developed compact connectivity modules supporting Matter, a standard for smart home applications
—Supporting three wireless standards, Wi-Fi 6, Bluetooth® 5.2, and 802.15.4
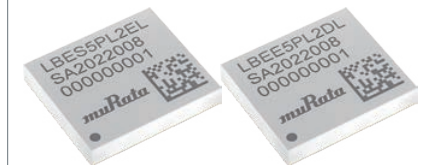
2022

2023

At the time of the announcement, based on the Company's research.

June 2022

Agreed on a cooperative framework for working toward a carbon-neutral society
—Japan's largest renewable energy procurement trial using a virtual PPA

Sale of electricity to the market

Wholesale electricity market

Retail electricity providers

三菱商事 Mitsubishi Corporation

Non-FIT non-fossil fuel energy certificates

Supply of power

muRata

Mitsubishi will:
■ Construct and operate a new solar power generation facility
■ Trade non-FIT non-fossil fuel energy certificates with Murata and sell electricity to the wholesale market

Murata will:
■ Purchase non-FIT non-fossil fuel energy certificates over the long term, using them to meet RE100 goals
■ Contribute to the increase of renewable energy facilities

June 2022

Joined the Responsible Business Alliance (RBA), an industry coalition promoting CSR in global supply chains

June 2022

Began closed-loop recycling of PET film from multilayer ceramic capacitors

October 2022

Collaborated with Internet Initiative Japan on IoT data business in Southeast Asia
—A data service platform to support everything from data collection, analysis and processing to sales

ZTNA : Zero Trust Network Access
SWG : Secure Web Gateway
CASB : Cloud Access Security Broker
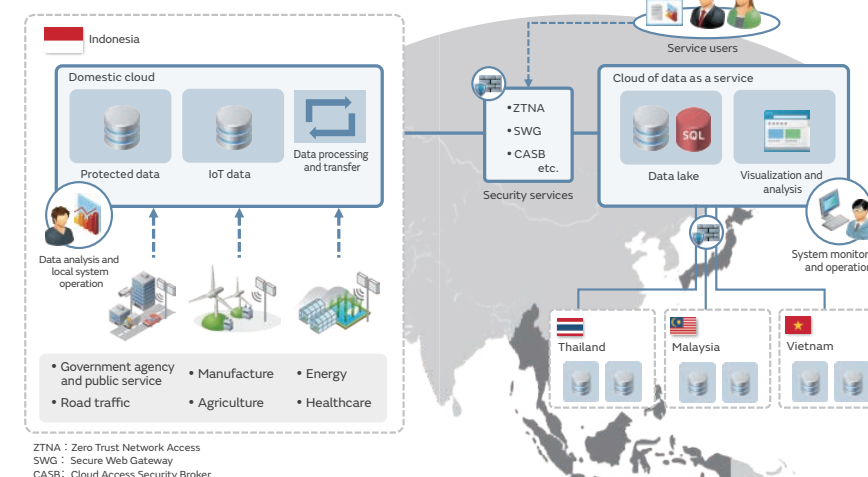
January 2023

Completed new production building at Komoro Murata Manufacturing Co., Ltd.
—Meeting a medium- to long-term growing demand for RF modules

February 2023

Awarded Clarivate Top 100 Global Innovator 2023
—Selected as one of the world's 100 most innovative companies for second year in a row

Top 100 Global Innovator 2023
Clarivate™

February 2023

Installed on-site power generation facilities using solar panels, in-house developed storage batteries, and energy control to four plants in the Tohoku, Hokuriku, and Tokai regions
—Promoting the use of renewable energy and the reduction of environmental impact on local communities

Sendai Murata Manufacturing (Miyagi Prefecture) Co., Ltd.

Wakura Murata Manufacturing (Ishikawa Prefecture) Co., Ltd.

Ise Murata Manufacturing (Mie Prefecture) Co., Ltd.

Hakui Murata Manufacturing (Ishikawa Prefecture) Co., Ltd.

March 2023

Completed a new production building in Murata Electronics (Thailand), Ltd.
—Responding to a medium- to long-term growing demand for multilayer ceramic capacitors

Corporate news
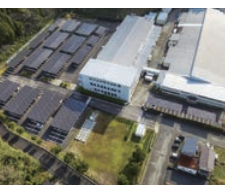
Financial and ESG data highlights

Financial (US-GAAP)

Net sales and ratio of operating income to net sales (Billion yen or %)

■ Net sales — Ratio of operating income to net sales

(FY)	2018	2019	2020	2021	2022
Net sales	1,575.0	1,534.0	1,630.2	1,812.5	1,686.8
Ratio of operating income to net sales	16.9	16.5	19.2	23.4	17.7

ROIC (pre-tax basis)* (%)

(FY)	2018	2019	2020	2021	2022
	18.9	16.1	18.5	22.6	14.6

* ROIC (pre-tax basis): Operating income / Invested capital (Property, plant and equipment + Inventories + Trade accounts receivable - Trade accounts payable)

Invested capital*1 and asset turnover ratio*2 (Billion yen or times)

■ Invested capital (property, plant and equipment)
■ Invested capital (other) — Asset turnover ratio

(FY)	2018	2019	2020	2021	2022
Invested capital	1,408.3	1,571.8	1,692.4	1,875.1	2,041.4
Asset turnover ratio	1.12	0.98	0.96	0.97	0.83

*1 Average at the beginning and end of the fiscal year
*2 Asset turnover ratio = Net sales / Invested capital
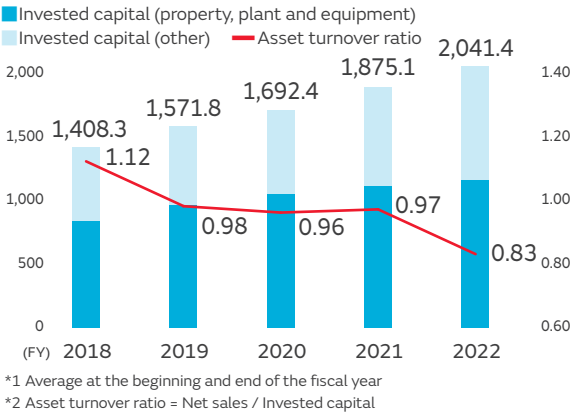
Capital expenditures and depreciation and amortization (Billion yen)

■ Capital expenditures ■ Depreciation and amortization

(FY)	2018	2019	2020	2021	2022
Capital expenditures	291.6	281.6	196.7	152.8	208.1
Depreciation and amortization	124.4	140.3	143.1	155.6	161.3

Net income and return on equity (ROE) (Billion yen or %)

■ Net income — Return on equity (ROE)

(FY)	2018	2019	2020	2021	2022
Net income	206.9	183.0	237.1	314.1	253.7
Return on equity (ROE)	13.5	11.1	13.1	15.0	10.9

Return to shareholders (Billion yen or %)

■ Total cash dividends ■ Share buyback
— Payout ratio — Dividend on equity (DOE)

(FY)	2018	2019	2020	2021	2022
Total cash dividends	59.7	62.1	73.6	83.2	94.5
Share buyback					80.0

Payout ratio **30%** DOE **4%**
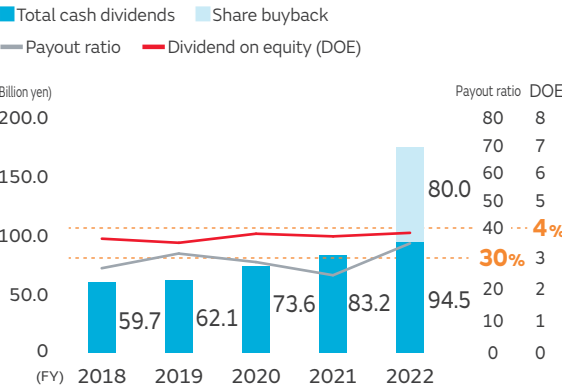
ESG

Amount of GHG emissions and emissions reduction rate vs. fiscal 2019 (kt-CO₂e/year or %)

■ Scope 3 ■ Scope 1 + Scope 2
— Scope 1 + Scope 2 reduction rate — Scope 3 reduction rate

(FY)	2019	2020	2021	2022
Scope 3	4,477	4,174	4,362	4,211
Scope 1 + Scope 2	1,604	1,435	1,400	1,341
Scope 1 + Scope 2 reduction rate		11	13	16
Scope 3 reduction rate	7	3	6	

Fiscal 2024 targets
Scope1+Scope2:
20% reduction

Fiscal 2030 targets
Scope1+Scope2:
46% reduction

Scope3:
27.5% reduction

* GHG emissions in fiscal 2019 and fiscal 2020 were recalculated in accordance with the calculation standards set by SBT.

Electricity consumption and renewable energy sourcing (Thousand MWh/year or %)
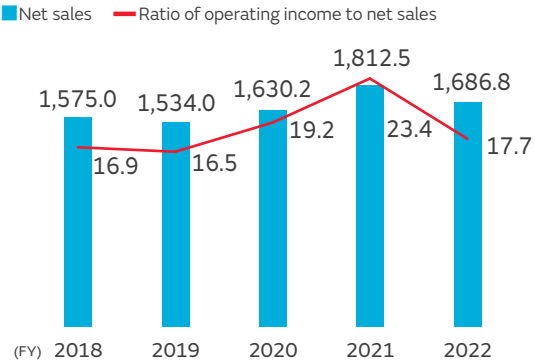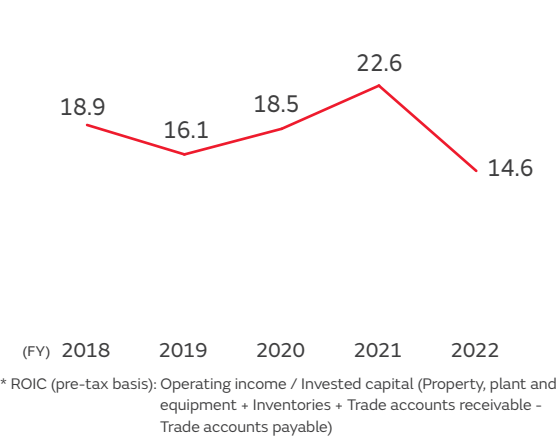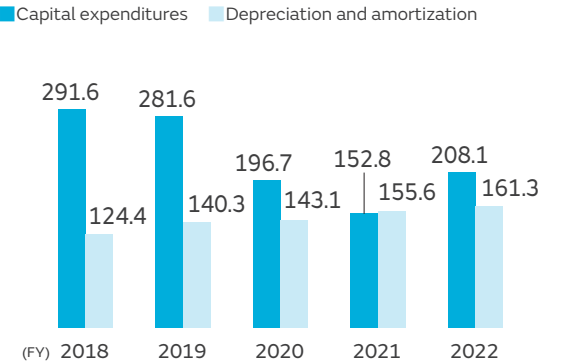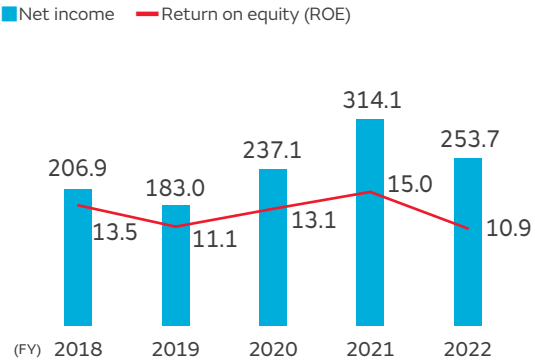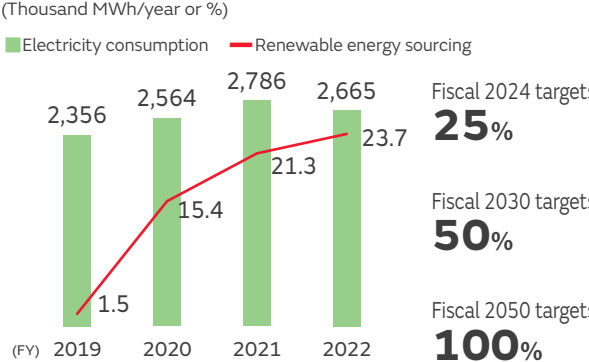
■ Electricity consumption — Renewable energy sourcing

(FY)	2019	2020	2021	2022
Electricity consumption	2,356	2,564	2,786	2,665
Renewable energy sourcing	1.5	15.4	21.3	23.7

Fiscal 2024 targets **25%**
Fiscal 2030 targets **50%**
Fiscal 2050 targets **100%**

Percentage of overseas indirect employees* with experience working at other sites

Fiscal 2021 results **3.0%**

Fiscal 2022 results **5.3%**

Fiscal 2024 targets **7%**
Fiscal 2030 targets **10%**

* Applies to overseas local staff, excluding those transferred from Japan to overseas

Ratio of mid-career employees in managerial positions (%)

(Scope: including those who entered the company through M&A / on a consolidated basis in Japan)

(FY)	2018	2019	2020	2021	2022
	20.4	21.6	23.5	25.7	26.6

Ratio of women in technical fields for new graduate in career-track hiring and ratio of women in managerial positions (%)

(Scope: Murata Manufacturing Co., Ltd. on a non-consolidated basis)

— Ratio of women in technical fields for new graduate in career-track hiring
— Ratio of women in managerial positions

(FY)	2018	2019	2020	2021	2022
Ratio of women in technical fields	10.7	15.8	13.0	14.9	15.5
Ratio of women in managerial positions	0.8	1.5	1.8	2.4	3.5
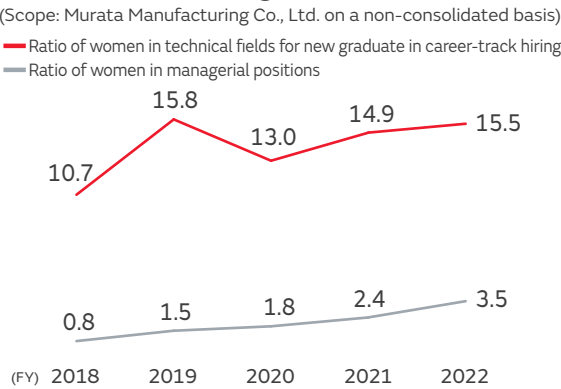
Number of Members of the Board of Directors and ratio of Outside Directors (persons or %)

■ Number of Members of the Board of Directors
— Ratio of Outside Directors

(FY)	2019	2020	2021	2022	2023*
Number of Members of the Board of Directors	14	13	12	10	10
Ratio of Outside Directors	42.9	38.5	41.7	50.0	50.0

* As of June 30, 2023
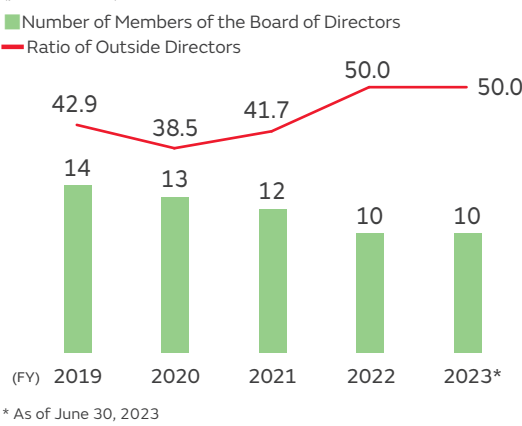
Process of value creation

At Murata, employees around the world respond to the changing business environment, thinking and acting based on the Murata Philosophy as the shared guiding principles. Each and every employee feels rewarded and continues to grow through his or her work. They trust and cooperate with each other to demonstrate collective strength, thereby creating new innovation.

Innovator in Electronics
—As a leading innovator in the electronics industry, Murata is committed to realizing and improving society through proactive value creation—

Recognizing the environment (opportunities and risks)

- Expansion of the usage of electronics
- Transition to a sustainable society
- Advancement of digitalization
- Increasing geopolitical risks
- Changing population structure and balance of power
- Response to post-pandemic ociety

Core competencies 2
The power to give shape to needs

Core competencies 1
The power to read the future

Key values CS and ES

Core competencies 3
The power to deliver value

Management capital Murata has cultivated through the implementation of the Murata Philosophy

- Human capital
- Organizational capital
- Monozukuri capital
- Intellectual and technological capital
- Customer and business partner capital
- Financial capital

Murata Philosophy

Reinforcement of corporate governance system

Growth strategies

Deepen core businesses and promote evolution of business models

3-layer portfolio
1. Standard-products business
2. Application-specific components business
3. Creation of new business models

Four business opportunitie
- Communications
- Mobility
- Environment
- Wellness

Execute four management transformations
- Management that creates a continuous cycle of social value and economic value
- Autonomous and decentralized organizational management
- Change-responsive management based on hypothetical thinking
- Digital transformation (DX)

Key issues (materialities) originating with social issues

Contribution to solving social issues through our business

Communications	Mobility	Environment	Wellness
Contribute to building the social infrastructure that the advancement of communications technology is causing to expand	Contribute to achieving the formation of a safe transportation society and new cities	Create businesses to solve climate change and resource & energy shortages, thereby contributing to improving global environmental problems	Contribute to a society where all people can live healthy, prosperous lives

Initiatives on social issues through business activities overall

E (Environmental)	S (Social)	G (Governance)
Reinforcement of climate change countermeasures. Use of sustainable resources. Preventing pollution and managing chemical substances	Secure and safe workplace and health management. Respect for human rights and diversity. Coexistence with local communities	Appropriate business transactions. Business continuity management (BCM). Information security

Strengthen management foundations

Vision2030 What Murata wants to be

Murata will innovate to create a continuous cycle of social and economic value and contribute to the enrichment of society

Murata provides the essentials
Murata in everyday life

Murata enables the future
Solving social issues

Murata evolves through innovation
Practicing sustainable operations

Global No. 1 Component & Module Supplier

Value creation with stakeholders

Economic value
- Net sales
- Operating income ratio
- ROIC (pre-tax basis)

Social value
- Amount of GHG emissions
- Renewable energy implementation rate
- Rate of use of sustainable resources
- Resource recycling rate
- Percentage of overseas indirect employees with experience working at other sites
- Positive employee engagement response rate

Management capital and core competencies

Murata's mission is to "contribute to the advancement of society," and we believe that Murata exists for this purpose. In order to realize this mission through the efforts of all employees, the values of "CS and ES" are regarded as key values in our management. At Murata, CS means "continuing to create and provide value that is recognized by the customer," and ES means "every employee achieves satisfaction and continuing growth through the performance of their work duties." Enhancing CS leads to satisfaction and growth of our employees, and enhancing ES leads to the provision of more value to customers. We practice these values based on our desire to be a company that can realize them in our daily business. In addition, management capital that has been developed through the implementation of the Murata Philosophy will continue to be the source of value creation in the future. Murata will demonstrate its core competencies by utilizing such capital, while continuing to drive the business by carrying out CS and ES at a high level.

Murata will continue to create value as an Innovator in Electronics by reinforcing the capital, cherishing the spirit of the Murata Philosophy and further developing the core competencies.

Management capital

Source of value creation nurtured through the implementation of the Murata Philosophy

Human capital	• Global penetration of Murata Philosophy (management philosophy) • Employees who sympathize with the Murata Philosophy and sincerely practice it • CS and ES as key values • An organizational culture that utilizes diverse individuals and helps their collaboration	▶P.35 ▶P.73 ▶P.75 ▶P.81	Stakeholder engagement Message from the vice president in charge of human resources Strengthening human capital Respect for human rights
Organizational capital	• Business management philosophy and management systems backed by scientific management • Solid corporate governance that is trusted by stakeholders and enables us to grow together	▶P.37 ▶P.86 ▶P.93 ▶P.95	Message from the Director of Corporate Unit Risk management Message from the Chairman of the Board Corporate governance
Monozukuri capital	• Production technology and management systems that are highly integrated, from materials to final products • A strong "Kaizen" mindset and management technology to promote improvement activities • Quality control technology and quality management systems that extend back to the origin	▶P.63	Murata's monozukuri (manufacturing)
Intellectual and technological capital	• Unique platform technology, core technology, and intellectual property that Murata has built and expanded as an Innovator in Electronics	▶P.57 ▶P.61 ▶P.62	Message from the Director of Corporate Technology & Business Development Unit Development of elemental technology and promotion of innovation Murata's intellectual property activities
Customer and business partner capital	• Customer and sales networks we have built by providing global No. 1 products • Networks and teamwork among sites around the globe • Global partner network in the supply chain • Trust and credibility we have earned through our solid networks	▶P.35 ▶P.80 ▶P.83	Stakeholder engagement Coexistence with local communities CSR procurement promotion
Financial capital	• Financial base to support sustained growth and prepare for changes in the environment and various risks and opportunities • An investment strategy that emphasizes ROIC (pre-tax basis) and aims to increase capital efficiency in the long term • Credibility earned through dialogue with stakeholders and capital markets	▶P.35 ▶P.37	Stakeholder engagement Message from the Director of Corporate Unit

Core competencies 1 ## The power to read the future

Since most of our sales are generated from products with high shares in global markets, we have opportunities to communicate with customers in a wide range of industries, which allows us to stay ahead of and anticipate customer needs.

Even in a vastly changing business environment, we are able to continue to provide value to our customers by boosting cooperation of each function, formulating four roadmaps, anticipating customer needs, and preparing optimal solutions as a company. The sales and marketing department produces the Market Roadmap based on general trends in the market. It is then integrated with medium- to long-term customer needs of the sales promotion department of the business divisions, thereby composing the Needs Roadmap. These are connected to the Product Roadmap and the Technology Roadmap by the development department, which in turn are linked to R&D and product development. Using "marketing by everyone" as our motto, we leverage our global network to anticipate customer needs ahead of any other company, and each employee maximizes value offered to customers.
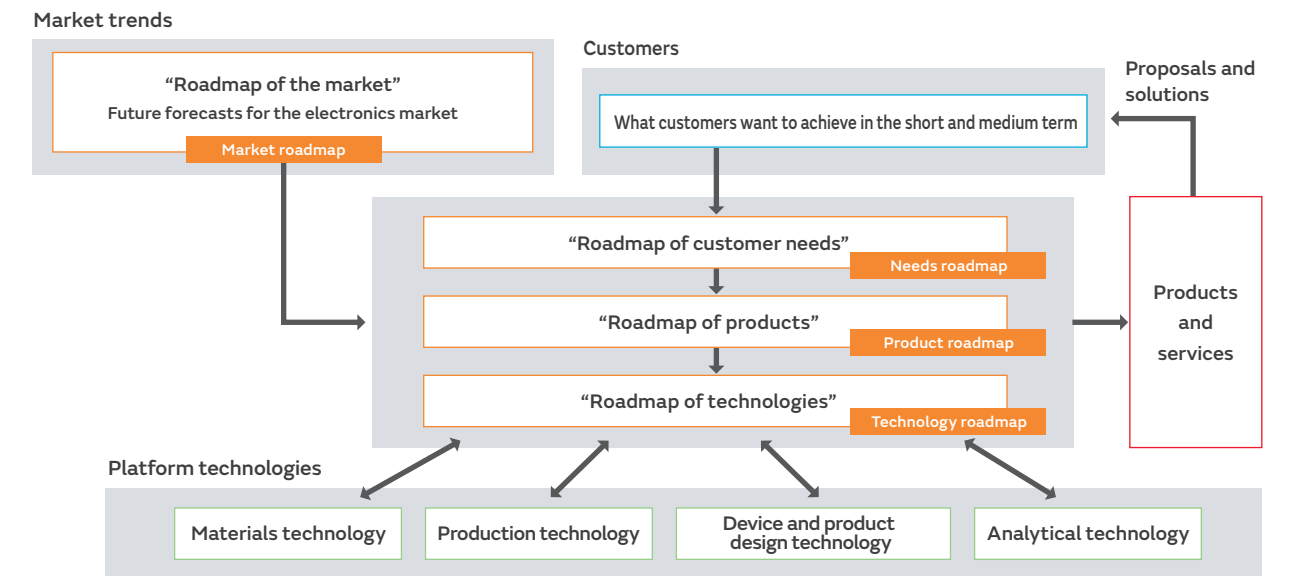
Core competencies 2 ## The power to give shape to needs

Murata has built a vertically integrated production system ranging from raw materials to finished products, continuously investing in the development of technologies in areas such as materials, processes, production, product design, analysis, and evaluation. The elemental technologies that we have developed and acquired independently serve as platforms that we deploy in a variety of products and processes.

Within the engineering chain management (ECM) axis, we closely align the functions of material development, product development, production technology, and manufacturing. As we do so, we use these platform technologies to optimize development the entire Group. We continuously create new products, thereby giving shape to customer needs.

Core competencies 3 ## The power to deliver value

Fiscal 2020
R&D expenses
101.7 billion yen
Ratio of R&D expenses to net sales
6.2%

Fiscal 2021
R&D expenses
111.3 billion yen
Ratio of R&D expenses to net sales
6.1%

Fiscal 2022
R&D expenses
124.2 billion yen
Ratio of R&D expenses to net sales
7.4%
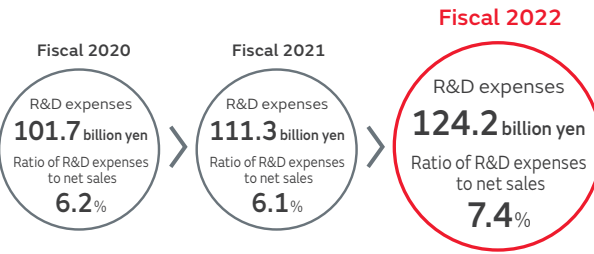
In addition, processes, equipment, and new products created in the ECM axis are mass-produced in the supply chain management (SCM) process system. Combining these with our customer information and production information in our production management system enables us to deliver value to customers in a speedy and timely manner.

Growth strategies under Vision 2030

In order for Murata to continue to create value as an innovator in the drastically changing electronics industry, it is necessary to capture the global trends of technology and changes in society and reflect them in business management. The company has formulated and is implementing two growth strategies for the purpose of getting to what Murata wants to be, as declared in Vision 2030.

The first is to "deepen core businesses and promote evolution of business models," with the aim of higher level portfolio management based on the 3-layer portfolio and four business opportunities.

The second is to "execute four management transformations," with the aim of steadily taking the required action in the run-up to 2030 and strengthening our management base.

By expressing these as visions, we will ensure consistency in our actions ahead of 2030, and by getting to what Murata wants to be, we will endeavor to further enhance our corporate value.

Innovator in Electronics

Murata will innovate to create a continuous cycle of social and economic value and contribute to the enrichment of society.
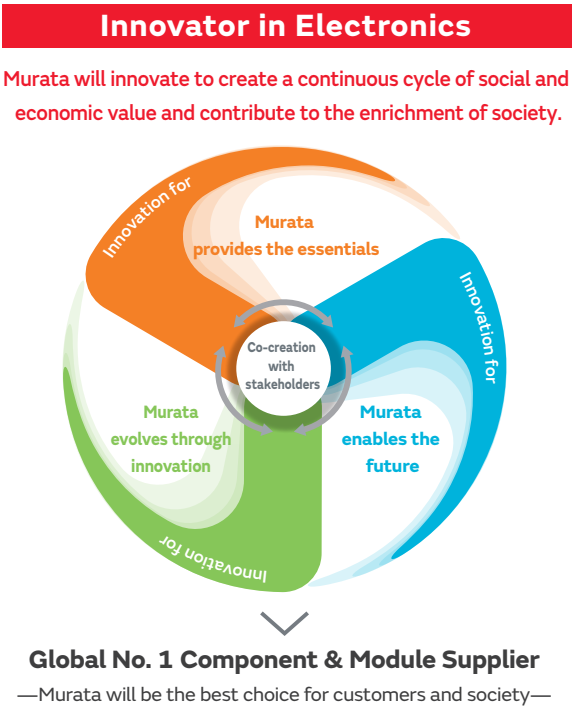

Murata provides the essentials
Innovation for
Innovation for
Co-creation with stakeholders
Murata enables the future
Murata evolves through innovation
Innovation for

Global No. 1 Component & Module Supplier
—Murata will be the best choice for customers and society—
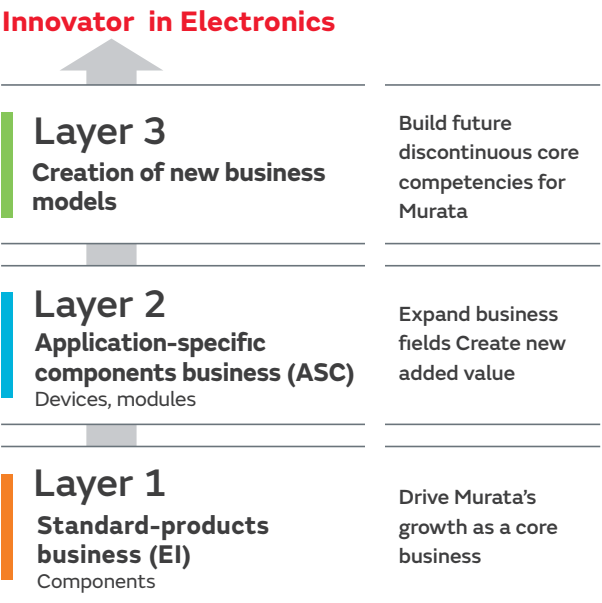
Growth strategy 1   Deepen core businesses and promote evolution of business models ▶P.45

In the area of 3-layer portfolio management, we have positioned the first layer as standard-products business centered on capacitors and inductors, the second layer as application-specific components businesses centered on modules and devices, and the third layer as the creation of new business models that can provide value in response to changing customer needs as the electronics field expands. We will perform management using the 3-layer portfolio in four business opportunities of communications, mobility, environment and wellness to create value.

3-layer portfolio

Innovator in Electronics

Layer 3
Creation of new business models
Build future discontinuous core competencies for Murata

Layer 2
Application-specific components business (ASC)
Devices, modules
Expand business fields Create new added value

Layer 1
Standard-products business (EI)
Components
Drive Murata's growth as a core business

Four business opportunities

Core fields
Fields where we will continue to provide value through further technological innovation by leveraging our accumulated strengths and properly grasping diversifying applications and Changing customer structure

Communications   Mobility

Challenge fields
Fields where we will aim to provide new value by leveraging our knowledge and technologies for innovation as the electronics field expands
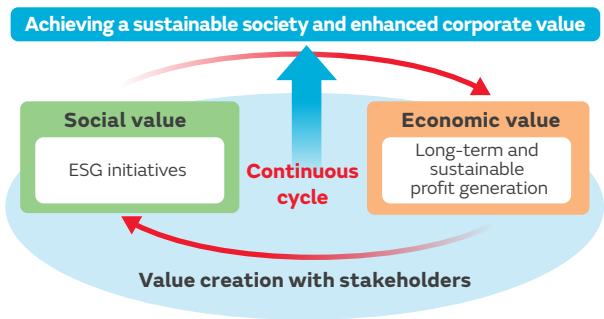
Environment   Wellness

Growth strategy 2   Execute four management transformations

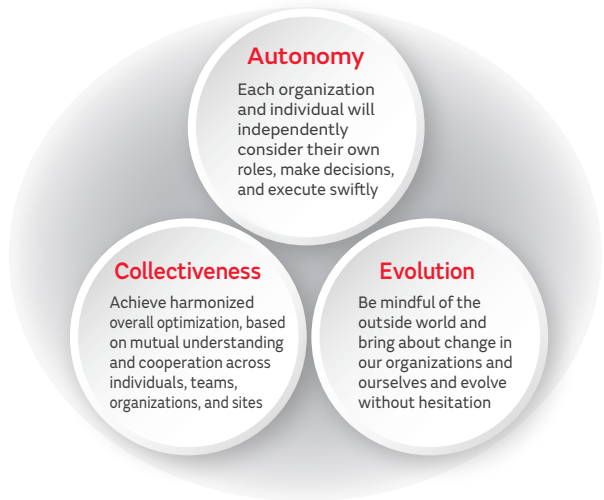### 1   Management that creates a continuous cycle of social value and economic value

Murata will create a continuous cycle of social value and economic value by balancing profit creation with the contribution to realizing a sustainable society, creating and continuing to provide value to customers and society through innovation, and reinvesting the profits generated to further create value. Moreover, by actively tackling social issues, we will also strengthen the competitiveness of our business.

Achieving a sustainable society and enhanced corporate value

Social value
ESG initiatives

Continuous cycle

Economic value
Long-term and sustainable profit generation

Value creation with stakeholders

3   Change-responsive management based on hypothetical thinking

We will practice change-responsive business management. Specifically, we will not be passive in the face of intensifying changes in our environment, but instead will prepare for possible future events by formulating hypotheses and flexibly adjusting course in response to changes. Each function and organization will continuously gather information, engage in discussions, take actions, and conduct monitoring, thereby enhancing our sensitivity to changes in our environment and strengthening our ability to respond to them.

2030   2040

Impact (opportunity / risk) level
Significant
Minor

Vision 2030 Medium-term Direction 2024

Ultra-long-term business environment change scenarios and preparation

Strengthen ability to respond to change based on hypothetical thinking

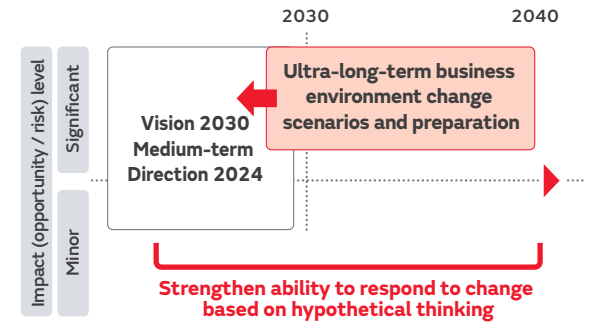### 2   Autonomous and decentralized organizational management

With our external environment changing rapidly and our business expanding recently, it is becoming increasingly important to have each employee think independently, make decisions, and take quick actions with an awareness of the significance of Overall optimization and responding to changes. We will be aiming to make our organizational administration more conducive to motivation and growth by emphasizing the three components of autonomy, collectiveness, and evolution.

Autonomy
Each organization and individual will independently consider their own roles, make decisions, and execute swiftly

Collectiveness
Achieve harmonized overall optimization, based on mutual understanding and cooperation across individuals, teams, organizations, and sites

Evolution
Be mindful of the outside world and bring about change in our organizations and ourselves and evolve without hesitation

4   Digital transformation (DX)

Murata defines digital transformation (DX) in its own words as "an initiative that enables people and organizations (business processes) both inside and outside Murata to connect digitally and freely and make processes shorter, faster, and visible, thereby driving to dramatically increase competitiveness and customer value." We will be accelerating our efforts to deliver such transformation.

Digital infrastructure
Strategic investment in DX talent and IT platforms

Create new value
Creation of value by linking data and business processes

Rationalize/shorten time
Hourly productivity enhancement through digitalization

Dramatic increases in competitiveness and customer value
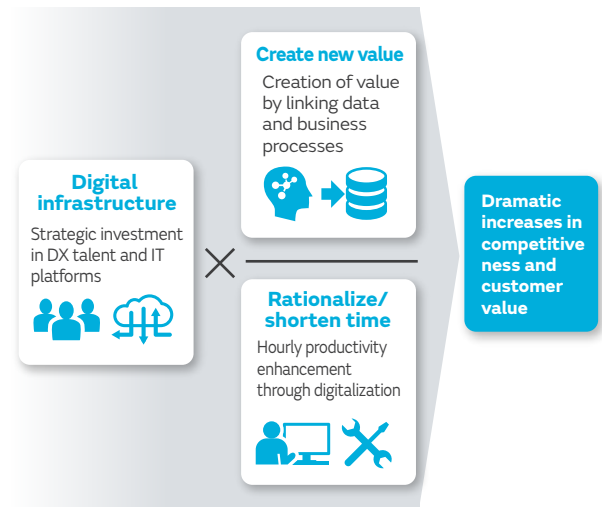
Murata's materiality

We have declared what Murata wants to be in our "Vision 2030": creating a continuous cycle of social value and economic value and contributing to t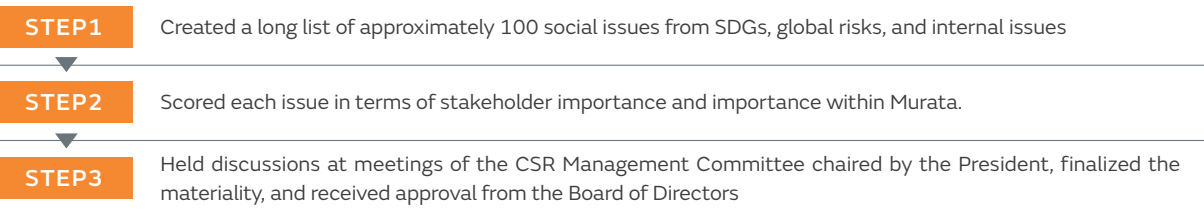he enrichment of society by providing the essentials, enabling the future, and evolving through innovation via co-creation with stakeholders.

We will realize both profit creation and contribution to the realization of a sustainable society, by creating and continuing to provide value to customers and society through innovation, and reinvesting the profits generated to further create value. To this end, we have determined 13 key issues (materialities) based on social issues from two categories, namely, "contribution to solving social issues through our business" and "initiatives on social issues through business activities overall," and will be carrying out initiatives to address them.

Process of identifying materiality

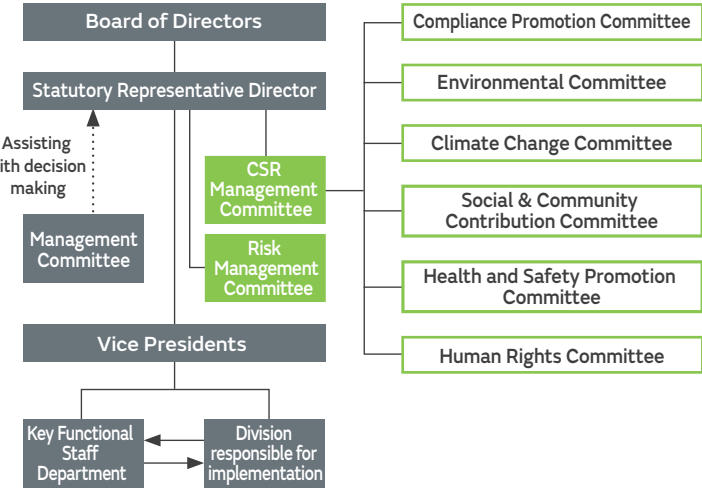| STEP1 | Created a long list of approximately 100 social issues from SDGs, global risks, and internal issues |
| STEP2 | Scored each issue in terms of stakeholder importance and importance within Murata. |
| STEP3 | Held discussions at meetings of the CSR Management Committee chaired by the President, finalized the materiality, and received approval from the Board of Directors |

Promotion framework

Murata has established the CSR Management Committee to put together a structure for CSR management and set a direction for activities.

In fiscal 2022, we set up the Human Rights Committee as a subordinate committee of the CSR Management Committee, while in fiscal 2023, we put the Risk Management Committee, which was also a subordinate committee of the CSR Management Committee, under the direct supervision of the Statutory Representative Director. Through this organizational structure, we are moving forward with the discussion of themes that require cross-organizational activities and carrying out initiatives to tackle the materiality.

Board of Directors
Statutory Representative Director
Assisting with decision making
Management Committee
CSR Management Committee
Risk Management Committee
Vice Presidents
Key Functional Staff Department
Division responsible for implementation

- Compliance Promotion Committee
- Environmental Committee
- Climate Change Committee
- Social & Community Contribution Committee
- Health and Safety Promotion Committee
- Human Rights Committee

CSR Management Committee

The CSR Management Committee has been established to continuously and systematically promote CSR management, including initiatives related to sustainability, and further entrench CSR internally. It also serves as the committee in charge of dealing with external parties
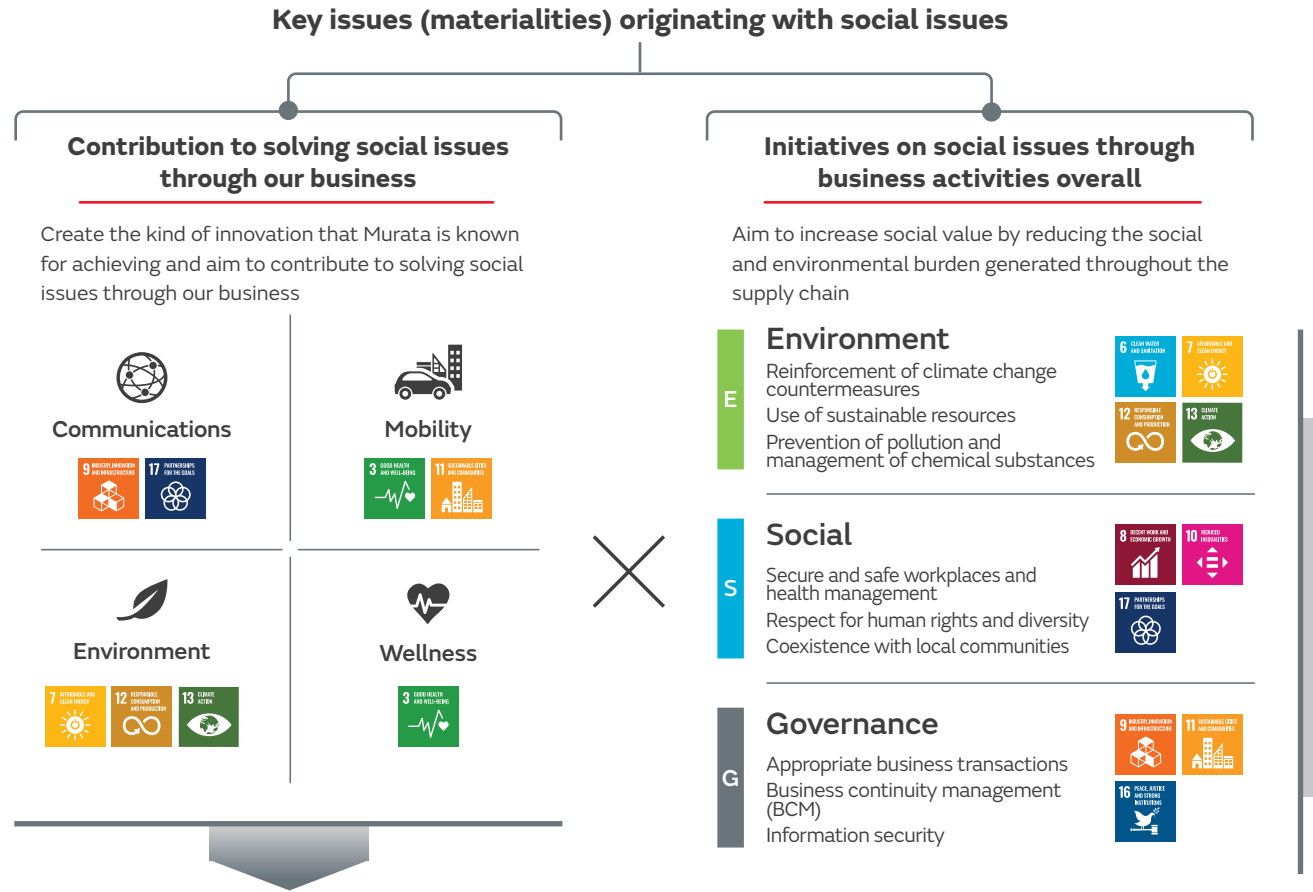
Risk Management Committee ▶P.86

Committee that identifies and assesses company-wide risks that may affect Murata's business activities and deliberates on corresponding countermeasures.

Human Rights Committee ▶P.81

Committee established to coordinate cross-organizational action to address company-wide issues in the field of human rights

Topics — Joining the RBA

In fiscal 2022, Murata joined the Responsible Business Alliance (RBA), a corporate collective for promoting CSR. RBA is comprised of electronics manufacturers and suppliers from around the world, and aims to improve CSR standards in the areas of labor, health and safety, environment, ethics, and management systems throughout the global supply chain. Murata will respect the RBA Code of Conduct even as it changes to reflect CSR trends, encourage our suppliers and all other entities in our supply chain to take action, and endeavor to ensure business activities are conducted fairly.

Overview of materiality

Key issues (materialities) originating with social issues

Contribution to solving social issues through our business

Create the kind of innovation that Murata is known for achieving and aim to contribute to solving social issues through our business

Communications

Mobility

Environment

Wellness

Initiatives on social issues through business activities overall

Aim to increase social value by reducing the social and environmental burden generated throughout the supply chain

E — Environment
Reinforcement of climate change countermeasures
Use of sustainable resources
Prevention of pollution and management of chemical substances

S — Social
Secure and safe workplaces and health management
Respect for human rights and diversity
Coexistence with local communities

G — Governance
Appropriate business transactions
Business continuity management (BCM)
Information security

Contribution to solving social issues through our business

Materiality	Background of setting the material issues	Social value provided by Murata
Communications	With the evolution of communications systems in anticipation of 5G and 6G, the diversification of applications, and the advance of DX and IoT, communications have become indispensable social infrastructure for enriching people's lives, and will continue to play an important role in resolving social issues. Murata has set this in order to keep contributing to building the social infrastructure that the advancement of communications technology is causing to expand.	• Stabilization of the electronics industry through the stable supply of high-market-share products used in many communication devices • Evolution of communications systems and development of applications through the provision of cutting-edge products
Mobility	The nature of the automobile itself is undergoing a transformation against a backdrop of increasing urbanization, changing work styles, and increasingly serious environmental issues. Murata has set this in order to respond to the diversifying needs of customers in the mobility field by contributing to the realization of a society in which transportation is safe and secure and a society that integrates various means of transportation and services.	• Popularization of xEVs for a decarbonized society through the stable supply of high-quality, highly reliable products • Improvement of vehicle safety, including driver assistance, by providing highly functional and reliable products adapted to the evolution of autonomous driving technology • Provision of compact, high-performance products and solutions that help prevent traffic accidents and solve problems in the logistics sector
Environment	Climate change and other environmental issues are a global threat to the life of humanity and the health of the planet. They also affect Murata's business, our customers, and our entire supply chain. Murata has set this in order to create businesses to tackle climate change and resource/energy shortages, and thereby contribute to solving global environmental problems, with the ultimate aim of realizing a sustainable society.	• Reduction of materials used in production and packaging materials by developing lighter, thinner, and smaller products, and reduction of energy used in manufacturing and transportation • Reduction of the number of components in electronic devices and improvement of energy efficiency by increasing product performance • Promotion of a decarbonized society and circular economy through the use of batteries and power sources, and the realization of environmental monitoring using modules and sensors • Deployment outside Murata of technology and production expertise related to energy saving and renewable energy acquired in our process improvement activities
Wellness	Initiatives in the areas of preventative medicine and health promotion are becoming more widespread as society ages. At the same time, health concepts, including balanced mental and social health in addition to physical health, and the pursuit of people's own happiness are changing. Murata has set this in order to contribute to the realization of a society in which all people can live healthy, prosperous lives	• Acceleration of digitalization in the medical and healthcare domains by providing compact, high-quality products • Provision of solutions that combine Murata's products and technologies to facilitate visualization and changes in people's behavior

Initiatives on social issues through business activities overall

Environment

Reinforcement of climate change countermeasures ▶P.65

Web https://corporate.murata.com/en-global/csr/environment_murata/climate_change

Background of setting the material issues	Climate change has caused a variety of environmental issues around the world in recent years. Murata aims for a continuous cycle of social value and economic value by promoting climate change countermeasures from the perspective of both its own environmental initiatives and its business activities, in accordance with the Murata Philosophy. Murata has set this in order to contribute to the decarbonization of society.
Our goal	We aim to reduce the amount of greenhouse gases (GHG) emitted during manufacturing, by operating in accordance with RE100[1] and SBT[2].
Medium- to long-term goals	Fiscal 2024 targets GHG emissions (Scope 1 + Scope 2): 20% reduction vs. fiscal 2019 (1.28 million t-CO_2e or less) Renewable energy sourcing: 25% Fiscal 2030 targets GHG emissions (Scope 1 + Scope 2): 46% reduction vs. fiscal 2019 (0.87 million t-CO_2e or less) GHG emissions (Scope 3): 27.5% reduction vs. fiscal 2019 (3.25 million t-CO_2 or less) Renewable energy sourcing: 50% Fiscal 2050 targets Renewable energy sourcing: 100%
Fiscal 2022 results	● Took measures such as conserving energy, switching to renewables, and purchasing renewable energy certificates, and achieved a reduction of 16% (1.34 million t-CO_2e) in GHG emissions (Scope 1 + Scope 2) from fiscal 2019 and 24% of renewable energy sourcing in fiscal 2022. ● Began verifying a modal shift[3] in fiscal 2022 through discussions with major suppliers and cooperative efforts with transport operators, with the goal of reducing CO_2 in our upstream value chain (fiscal 2022 Scope 3 emissions: 4.21 million t-CO_2). ● Installed new systems combining solar panels and storage batteries in four domestic plants, achieving a cumulative annual total CO_2 reduction of 1,897 t-CO_2e across the four plants. ● Implemented approximately 570 individual energy-saving measures throughout Murata (estimated reduction of 47,000 t-CO_2e per year). ● Constructed a multistory parking garage with a green design, which is equipped with double-sided solar panels and wall-mounted solar panels at a plant in Wuxi Murata Electronics Co., Ltd. (China). This is the first such structure built by Murata. ● Signed an agreement to procure power derived from additional renewable energy (70MW), through a virtual power purchase agreement (PPA[4]) scheme from Mitsubishi Corporation. ● As a response to TCFD, in addition to the qualitative evaluation performed in fiscal 2022, Murata implemented quantitative analyses for transition risks and opportunities during 4°C scenarios (IPCC RCP[5] 8.5, IEA/STEPS[6]) and 1.5/2°C scenarios (IPCC RCP 1.9 and 2.6, IEA/SDS[7]).
Current issues and initiatives	● We will implement effective energy conservation measures and engage in initiatives to calculate our CFP[8], with the main objective of visualizing our energy usage. ● We will utilize the Sustainability Investment Promotion System (internal carbon pricing system, easing investment payout periods, etc.) to accelerate the promotion of energy conservation and renewable energy. ● We will investigate the long-term procurement of renewable energy from power companies and from off-site. ● We will work with suppliers to explore methods of refining and utilizing data, and will work with transport operators to determine the scope and benefits of implementing a modal shift. ● Based on renewable energy promotion and greenhouse gas reduction initiatives, Murata will continue to consider establishing roadmaps and strategies to achieve carbon neutrality.

*1 An international initiative run by an international NGO called The Climate Group, in which globally influential companies aim for 100% renewable energy.
*2 Science Based Targets: Quantitatively based scientific goals regarding long-term scenarios for greenhouse gas reductions.
*3 Switching from means of transportation such as trucks to ones with a smaller environmental impact, such as trains and ships, for the purpose of reducing CO_2 emissions in the transportation sector.
*4 Virtual Power Purchase Agreement A mechanism for trading the environmental value of renewable energy power rather than the power itself. It is one of the methods of procuring additional renewable energy.
*5 Representative Concentration Pathways Greenhouse gas concentration trajectory scenarios
*6 Stated Policies Scenario Published policy scenarios compiled by the International Energy Agency (IEA) that incorporate the current plans of national governments.
*7 Sustainable Development Scenario Sustainable development scenario.
*8 Carbon Footprint of Product GHG emissions throughout the lifecycle of a product.

Use of sustainable resources ▶P.71

Web https://corporate.murata.com/en-global/csr/environment_murata/resource

Background of setting the material issues	As the global population increases, pressing social issues such as resource depletion and increased waste have become more severe. Murata has set this in order to address these social issues and to contribute to cultural development by achieving the sustainable use of resources in its own business activities.
Our goal	Realize sustainable resource usage within Murata's business activities, and contribute to the development of culture through co-creation with partners.
Medium- to long-term goals	Fiscal 2024 targets Rate of use of sustainable resources[1]: 1% improvement from fiscal 2021 results Resource recovery rate[2]: 5% improvement from fiscal 2021 results Fiscal 2030 targets Rate of use of sustainable resources: 25%; resource recovery rate: 50% Fiscal 2050 targets Rate of use of sustainable resources: 100%; resource recovery rate: 100%
Fiscal 2022 results	● In order to determine our rate of use of sustainable resources and resource recycling rate, we continued to survey the amount of our procured resources, their recycling ratio, and actual waste treatment results. ● We continued to implement measures to reduce waste. ● We began horizontal recycling of PET film used in manufacturing processes for multilayer ceramic capacitors at some business sites, in order to recycle resources.
Current issues and initiatives	● We will continue initiatives to determine the rate of use of sustainable resources among suppliers. ● We will continue initiatives to determine the resource recycling rate for each business division. ● We will continue to implement initiatives at each business division and business site to serve as leading examples in achieving our medium- to long-term goals.

*1 Ratio of resources with lower risk of depletion that can be used sustainably by building a recycling scheme, etc. (Potentially depletable resources: Ag, Ni, etc.)
*2 Percentage of Murata's emissions (waste + valuable material) that are recycled as circulating resources

Prevention of pollution and management of chemical substances

Web https://corporate.murata.com/en-global/csr/environment_murata/pollution_chemical

Background of setting the material issues	Recently, stricter environmental regulations have been enacted in many countries. Murata has set this in order to pursue sustainable business processes, such as reducing environmental burden as much as possible by promoting initiatives to proactively prepare for these regulatory changes.
Our goal	Murata aims to reduce environmental burden and realize manufacturing that harmonizes with society by pursuing sustainable business processes that are not restricted to conventional frameworks.
Medium- to long-term goals	Fiscal 2024 targets Serious environmental incidents: 0 Amount of VOC[1] emissions: Equal to or lower than fiscal 2021 emissions Chemicals used for cleaning do not contain specified VOCs Fiscal 2030 targets Serious environmental incidents: 0 Amount of VOC emissions: 30% reduction vs. fiscal 2021
Fiscal 2022 results	● During fiscal 2022, 4[2] serious environment incidents occurred. We determined "what Murata wants to be" in order to reduce the risk of serious environment incidents occurring, and defined issues and measures for meeting the fiscal 2024 target. ● We calculated VOC emissions from each business division and business site and determined our current situation, in order to work toward reducing VOC emissions. ● We built a system for checking whether chemicals used for cleaning contain specified VOCs prior to using the chemicals. The system is now in operation on a trial basis. Each business division has begun formulating alternate measures and schedules.
Current issues and initiatives	● We will tackle the issues and take the measures to reduce the risk of serious environment incidents occurring that we defined in fiscal 2022. In fiscal 2023, based on past incidents, we will review the system to enable each business site to identify and take measures to mitigate all risks of incidents. ● We will formulate and implement VOC emission reduction measures and schedules at applicable business sites. ● We will implement initiatives to build a scheme for replacing chemicals used for cleaning that contain specified VOCs.

*1 Volatile Organic Compound: One of the causes of air pollution
*2 Although this was an incident in which a small amount of diesel oil and household wastewater leaked and caused legal limits to be exceeded at the property boundary, no administrative penalties, such as an order to suspend production, the imposition of a fine, or instructions to conduct a cleanup, were imposed.

Social

Secure and safe workplace and health management ▶P.78

Web https://corporate.murata.com/en-global/csr/people/safe_secure

Background of setting the material issues	A foundation of CS and ES, which are Murata's important values, is the physical and mental health of employees. Based on this recognition, Murata has set this in order to implement health management that ensures safety and security.
Our goal	We aim to provide employees with safe workplaces where each and every employee can feel healthy and work with peace in mind.
Medium- to long-term goals	Fiscal 2024 targets Fatal serious incidents: 0 Annual incident rate (per 1,000 workers)[1]: Less than 1.35 Fire incidents: 30% reduction compared with average for fiscal 2019–2021 Self-rated health[2]: 80% (with 14% reporting extremely good health) Fiscal 2030 targets No fatal serious incidents, no employee injuries or incidents, and a vibrant workplace Fatal serious incidents: 0 Annual incident rate (per 1,000 workers): Less than 1.0 Fire incidents: 0 Self-rated health: 80% (with 20% reporting extremely good health)
Fiscal 2022 results	● In fiscal 2022, we had no serious fatal incidents, and achieved an industrial incident rate per 1,000 workers of 1.44. We implemented initiatives to reduce industrial incidents, through such measures as sharing incident information, holding meetings, and introducing new risk assessments that encompass more types of risk. ● In fiscal 2022, we were able to reduce fire incidents by 30% compared with the average number of incidents from fiscal 2019 to fiscal 2021. We analyzed the causes of fire incidents and then implemented measures to prevent recurrence. ● The self-rated health for fiscal 2022 was 77%. We implemented initiatives based on our Health Management Plan, shared examples, and conducted discussion meetings.
Current issues and initiatives	● We will continue to introduce new risk assessments and implement measures to support the health of workers ahead of the start in fiscal 2024 of a system for extending the retirement age to 65 years, in order to further reduce industrial incidents. ● In order to ensure that new risk assessments suit workplaces, we will build a training system capable of allowing training to be conducted within business sites. ● By implementing various initiatives based on our Health Management Plan, such as establishing systems to promote health management, implementing health measures, enhancing stress management, and increasing health literacy, we will aim to increase the figure for self-rated health.

*1 At Murata, this ratio is managed per 1,000 people and includes both incidents that require time off from work and those that do not.
*2 The self-rated health means a subjective evaluation of an individual's own state of health, instead of a numerical result from a medical examination. This table presents the percentage of employees who answered in the affirmative when asked if they regard themselves as healthy.

Respect for human rights and diversity ▶P.75 ▶P.81

| Web | https://corporate.murata.com/en-global/csr/people/hr/capital |
| Web | https://corporate.murata.com/en-global/csr/people/human_rights |

Background of setting the material issues	As stated in the Murata Philosophy, "We contribute to the advancement of society by creating innovative products and solutions," Murata has grown together with our customers through innovation. Murata has set this because we recognize that innovation is the result of diverse individuals helping each other to improve, and that it is essential for the development of culture to respect human rights of all stakeholders involved, including those in the supply chain.
Our goal	We aim for sustainable growth leveraging diverse human resources globally, while understanding and respecting the concept of human rights.
Medium- to long-term goals	Fiscal 2024 targets　Percentage of overseas indirect employees* with experience working at other sites: 7% 　　　　　　　　　Ratio of women in managerial positions: 4% (Murata Manufacturing Co., Ltd. on a non-consolidated basis) 　　　　　　　　　A PDCA cycle according to the human rights management system must be implemented at each worksite. Fiscal 2030 targets　Percentage of overseas indirect employees with experience working at other sites: 10% 　　　　　　　　　Ratio of women in managerial positions: 10% (Murata Manufacturing Co., Ltd. on a non-consolidated basis)
Fiscal 2022 results	● The percentage of overseas indirect employees with experience working at other sites reached 5.3% in fiscal 2022. We expanded systems and measures for employees to gain diverse global work experience. ● The ratio of women in managerial positions (Murata Manufacturing Co., Ltd. on a non-consolidated basis) was 3.5% in fiscal 2022. In order to increase the ratio of women in managerial positions, we implemented measures to plan appropriate training, and conducted lectures for organization managers and dialog sessions for female employees. ● We implemented operations according to our human rights management system at all domestic business sites, and also began expanding these to overseas business sites. ● In addition to conducting training on the topic of "Business and Human Rights," we continued to engage in initiatives aimed at raising awareness of human rights among employees. ● We established the Human Rights Committee as a subcommittee of the CSR Management Committee.
Current issues and initiatives	● We will take measures such as boosting the recruitment of women, creating a development plan for managerial candidates, and transforming attitudes among managers. ● To accompany the human rights management systems for each business site, which have been in operation for some time, we will identify human rights risks for the Murata Group as a whole including the supply chain, through a company-wide human rights risk assessment conducted together with external experts. ● In addition to operating human rights management systems at domestic and overseas business sites, we will further strengthen to reflect recent international trends through measures such as conducting human rights training for site managers, supervisors, and personnel.

* Applies to overseas local staff, excluding those transferred from Japan to overseas

Coexistence with local communities ▶P.80

| Web | https://corporate.murata.com/en-global/csr/people/society |

Background of setting the material issues	Under our founder's philosophy, Murata hopes to continue to be a company whose presence in local communities is a source of pride and joy to those communities as well as a company that our employees are proud and happy to work for. To this end, Murata has contributed to society as a member of local communities. Murata has set this because we recognize that given the increased expectations of us from the local communities in which we operate, we need to reinforce our initiatives to achieve the philosophy.
Our goal	We aim to keep in harmony with local communities regardless of changes in the business environment and to be a company that makes communities proud.
Medium- to long-term goals	Fiscal 2024 goals　Must continue to value communication with local residents and promote contribution activities with the goal of resolving local issues. Fiscal 2030 goals　Must continue to value communication with local residents and promote contribution activities with the goal of resolving local issues.
Fiscal 2022 results	● We identified our impact in regions where group companies are located, identified local issues and needs, and independently planned and implemented contribution activities, in accordance with our Guidelines of Contribution Activities for Society and Community. ● We presented our initiatives and approach concerning social and community contribution activities on our website, and shared information on activities we conducted via a dedicated blog. ● We contributed to boosting employee morale and revitalizing communities by conducting activities that contribute to society through sports. For example, we signed an affiliation agreement with Haruka Kawasaki, a professional golfer from the same area as our headquarters. ● Since 2019 we have been partnering local educational institutions and other organizations to conduct school visits that enable students to develop programming and logical-thinking skills by solving problems by themselves. These visits include the "Move, Sensei Robot!!" activity, a hands-on computer programming lesson. In fiscal 2022 we visited 20 schools and 784 children took part. ● To support Japanese language instruction and improve communication, Fukui Murata Manufacturing (Fukui Prefecture) and Izumo Murata Manufacturing (Shimane Prefecture), following dialogue with government authorities, dispatched interpreters and donated interpretation equipment to elementary and junior high schools with many Brazilian children of Japanese ancestry, whose parents are engaged in manufacturing at our partner companies.
Current issues and initiatives	● Through dialogue with local communities, we will work with our employees to implement measures required in each region to address local issues and needs confronting Murata's sites. ● We will increase recognition of Murata's regional contribution efforts by engaging in initiatives to release internal and external information at each site, and thereby make Murata a company that communities are proud to host.

Governance

Appropriate business transactions ▶P.89

| Web | https://corporate.murata.com/en-global/csr/governance/compliance |

Background of setting the material issues	Murata's CSR Charter and Corporate Ethics Policy and Code of Conduct define how we engage in appropriate transactions with suppliers, how we comply with antitrust laws, and how we prevent bribery and other corruptions. We aim to engage in fair business transactions with these practices serving as a foundation for our daily business activities and duties. Murata has set this because we recognize the importance of conducting fair business transactions in order to realize healthy sustainable growth and to earn social trust while expanding business globally.
Our goal	We aim to maintain zero occurrence of major violation of appropriate business transactions and continue to be a company trusted by society.
Medium- to long-term goals	Fiscal 2024 targets　<Antitrust laws>　Laws, regulations, and internal rules/procedures must be deployed and thoroughly implemented on a global basis. 　　　　　　　　　<Bribery>　　　In regions with a high corruption index, bribery management and prevention systems compliant with company policy must function and systems for reporting to headquarters must be established. Fiscal 2030 targets　<Antitrust laws>　Laws, regulations, and internal rules/procedures must be deployed and thoroughly implemented on a global basis. 　　　　　　　　　<Bribery>　　　All affiliated companies must establish bribery management and prevention systems compliant with company policy, and must maintain zero incidents of bribery/corruption.
Fiscal 2022 results	<Antitrust laws>　● We improved how information on internal rules and procedures is made known throughout the company, in order to help ensure that internal rules and procedures for preventing violations of Antitrust laws are administered properly. 　　　　　　　　● We conducted practical training on preventing cartels, domestically and overseas. <Bribery>　● We continued to expand our bribery management systems. 　　　　● We engaged in initiatives to enhance employee training on bribery, in order to enhance the understanding of our employees.
Current issues and initiatives	<Antitrust laws>　● We will continue to provide information and training on internal rules and procedures related to preventing cartels, and will raise awareness and improve compliance among employees. <Bribery>　● We will finish introducing our bribery management systems, and then will establish a monitoring system. 　　　　● We will conduct training to enhance employee understanding of bribery, and will continue to prevent bribery and corruption from occurring.

Business Continuity Management (BCM*) ▶P.87

| Web | https://corporate.murata.com/en-global/csr/governance/risk |

Background of setting the material issues	Companies are expected to prioritize human life and safety while quickly resuming product supply and to fulfill social obligations, even if an emergency arises with a significant impact on business. Murata has set this because we recognize that to become the components manufacturer in the world and always be selected as the best choice by customers and society, ensuring business continuity is a key task.
Our goal	We aim to build BCM organizations in domestic and overseas business sites and plants, in order to prepare for disaster.
Medium- to long-term goals	Fiscal 2024 targets　Business continuity plan (BCP) that satisfies requirements must be established at domestic worksites and plants. 　　　　　　　　　BCP for handling disasters that might occur in our overseas locations must be formulated at each worksite and plant. Fiscal 2030 targets　A company-wide BCM must be established so that, if a disaster occurs, sites not affected by the disaster can cooperate quickly in order to maintain the business continuity of the entire Murata Group. 　　　　　　　　　Autonomous BCM activities must be performed, such as conducting periodic trainings at worksites and plants to verify and improve BCP effectiveness. Measures must be taken for a Nankai Trough earthquake, which is expected to cause major damage.
Fiscal 2022 results	● Domestically, we continued to develop BCPs. For example, we revised our assumptions concerning damage to infrastructure at each business site and plant in the event of natural disasters, estimated the resultant manufacturing stoppage and recovery periods for each process, and formulated plans for advance measures to prevent supplies to customers from being interrupted. ● Overseas, we began initiatives to revise BCPs in the same way as in Japan, after considering natural disaster risks and other data in each country.
Current issues and initiatives	● We will continue to review natural disaster risks and damage assumptions, and modify BCPs to make them effective for preventing halts in the supply of products to customers from domestic and overseas business sites and plants.

* Business Continuity Management: Management activities conducted on an ongoing basis to formulate, maintain, and update BCPs for ensuring business continuity, to implement advance measures, and to conduct education and training for disseminating initiatives.

Information security ▶P.88

| Web | https://corporate.murata.com/en-global/csr/governance/security |

Background of setting the material issues	The risks of information leaks caused by internal fraud targeting information retained by companies and by disruptions to business activities caused by cyber attacks have been increasing in recent years. Murata has set this because we recognize that in order to provide reassurance to all stakeholders, it is important to protect the various types of information we retain, including technical, management, and personal, which is the source of Murata's competitiveness. This includes both information handled by the company and information provided by clients, customers, and partners.
Our goal	We aim to minimize risks by routinely implementing the information security risk management PDCA cycle, in order to prevent potentially serious incidents from happening.
Medium- to long-term goals	Fiscal 2024 targets　Incidents determined to be potentially serious: 0 　　　　　　　　　Employee training ratio*1 : 100% Fiscal 2030 targets　Incidents determined to be potentially serious: 0 　　　　　　　　　Employee training ratio: 100%
Fiscal 2022 results	● In fiscal 2022, we had one incident*2 determined to be potentially serious. ● We achieved an employee training ratio of 96% in fiscal 2022.
Current issues and initiatives	● We continue to implement human, technical, and physical measures based on international standards (ISO27001), in order to address new risks and persistent risks, and to maintain and improve our information security level. ● In response to the growing importance of information security in the automotive industry, our major domestic and overseas sites (including our headquarters) have been certified under TISAX*3, an information security evaluation conducted by the German Association of the Automotive Industry. Going forward, we will continue to get more of our sites certified and further enhance our information security level.

*1　Ratio = (Number of sites that have conducted training) / (Total number of sites)
*2　Notification of Unauthorized Access to File Server (Second Report)　https://corporate.murata.com/en-global/newsroom/news/company/general/2023/0613
*3　Trusted Information Security Assessment Exchange

Stakeholder engagement

At Murata, we value dialogue with stakeholders such as customers, employees, shareholders, investors, suppliers and members of the local community. We aim to co-create value with stakeholders by taking valuable opinions received through communication with them utmost sincerity and reflect such opinions in our management and business activities. Murata works to build trusting relationships with stakeholders through communication to co-create new value with them, thereby implementing the Murata Philosophy and contributing to achieving a sustainable society.

Stakeholder	Relationship with stakeholders	Means of engagement		Examples of activities	Reflections in management and business activities
Customers	At Murata, the values of "CS and ES" are regarded as key values in our management. In order to realize them, Murata strives to understand customer needs through communication in technology exchange meetings, etc. at an early stage of planning, development and designing phase of new products. By resolving customers' issues and responding to their needs though such activities, Murata endeavors to build long-term trusting relationships with customers.	● Communication through business activities ● Product exhibition and online seminar ● Websites and social media		■ **Murata's environmental initiatives and customer support system** In response to the diverse demands of our customers, Murata is working on complex challenges such as product life cycle assessment including carbon footprint, especially in the environmental area. To address these challenges, we have established a system that enables prompt and accurate information to be provided to customers through close cooperation between the sales divisions, the business divisions, and the functional divisions.	At Murata, we believe that we can enhance corporate value by contributing to the resolution of customers' challenges and social issues and maximizing customer satisfaction. Sharing internally customer feedback, which has a significant impact on business, also helps to raise employees' awareness of their role in solving social issues.
Employees	At Murata, the values of "CS and ES" are regarded as key values in our management. Murata aims to be a company where each and every employee achieves satisfaction and continues to grow through the performance of their work duties. To foster such company culture, we are promoting two-way communication.	● Policy briefing session by the president ● Employee survey ● Employee training (job grade-specific training programs/philosophy education, etc.) ● Discussion with executives ● Internal portal site/newsletters ● Whistle-blowing system and consultation hotlines ● Labor-management consultation		■ **Dialogue with labor unions and building of sound labor-management relations** Murata Manufacturing conducts discussions on personnel systems and ways of working through active dialogue with labor unions. In addition to monthly labor-management consultation meetings, Murata has quarterly meetings where leaders of labor and management have dialogue on management and workplace issues. We are building healthy labor-management relationships by, for example, improving the workplace environment based on recommendations from labor unions.	In fiscal 2022, labor and management held a series of discussions on the design of various systems for the introduction of a mandatory retirement age of 65 and revisions to the personnel system that will have a significant impact on employees, including a revision of the job classification system and promotion system. Discussions were advanced thanks to labor unions for conveying employee feedback on the company's proposals and a labor-management agreement was reached. In addition to the company's efforts, the labor unions make efforts to disseminate information about the system through its bulletin and to ensure that the system is well understood.
Shareholders and investors	Murata strives for timely, accurate and fair disclosure of information to shareholders and investors. Murata is also engaged in constructive dialogue with shareholders and investors with the aim of achieving sustainable growth and increasing the medium- to long-term corporate value.	● Briefing session for securities analysts and investors (corporate information meetings, ESG briefings, and earnings release conference) ● Meetings with securities analysts and investors in Japan and overseas ● General meeting of shareholders ● Company website (IR)		■ **Constructive dialogue with shareholders and investors for value creation** Murata holds more than 500 dialogues annually with investors and analysts. Not only the IR department but also management actively participates in these dialogues. We also share valuable opinions from dialogues across the company to further improve our corporate value.	In response to opinions of shareholders and investors, we have strengthened dissemination of medium- to long-term business opportunities at corporate information meetings and held our first ESG briefing. In addition, with regard to information disclosure, we improved our earnings release conference materials and expanded disclosure of ESG information.
Suppliers	At Murata, we emphasize communication that will build mutually trusting relationships with suppliers that enables us to thrive and prosper together. We work with suppliers to improve our unique technologies and management technologies, and build trusting relationships by treating them sincerely, with impartiality and fairness, while complying with laws and regulations and abiding by social ethics.	● Interaction with suppliers in daily procurement practice ● Website exclusively for suppliers ● Hotline for suppliers ● Conducting briefing sessions and questionnaires for suppliers ● On-site audit for suppliers		■ **Co-creation of value with suppliers through our portal site** At Murata, we are working to promote DX also in our procurement activities. As part of this effort, we have launched a portal site for suppliers to harness information and communication between Murata and suppliers, and are operating it as a foundation for value co-creation.	Through the portal site, we communicate with suppliers on a wide range of topics, including production, quality control, and the SDGs. By sharing the opinions of suppliers obtained through the portal site with the procurement departments and related departments, we aim to improve the economic and social value not only of Murata but also of the entire supply chain.
Members of local communities	Murata aims to become a "presence in local communities that is a source of pride and joy to those communities". In order to achieve this, Murata has made efforts to build good, trusting relationships with the people of the region through various ways of communication while gaining their understanding toward Murata's business and initiatives by continuously engaging in activities that lead to solutions to the problems of the region in which we conduct business.	● Discussion and information exchange meeting with the local government, local communities, residents, and NPO in areas where our factories or offices are located ● Factory tour ● Participation/sponsorship for local events ● Volunteer work of employees in the area ● Providing visiting class and electronics workshops		■ **Regional revitalization project for sustainable community development and business growth** Izumo Murata Manufacturing in Shimane Prefecture started a regional revitalization project with Shimane Shimadzu and Shimane Fujitsu. In order to continue business in rural areas where the working population is declining, the entire region must grow. Murata aims to create a continuous cycle of sustainable community development and business growth by strengthening cooperation with neighboring companies.	In the regional revitalization project, young employees are playing a central role in promoting activities. In addition, industry-government-academia collaboration is taking place involving organizations outside the three companies, such as the municipality and local high schools. Through this project, employees experience working with a diverse group of people inside and outside the company to solve social issues in the community. We expect this opportunity helps develop and retain local talent that will support the future of the company and the community.

Strengthening organizational capital and maximizing enterprise value by enhancing business management

Member of the Board of Directors and Executive Vice President
Director of Corporate Unit
Director of Corporate Management Group

Masanori Minamide

Anticipating a drop in sales and profits, but seeing signs of medium- to long-term growth

Although our product sales steadily expanded during the COVID-19 pandemic, demand for components for laptop PCs and tablets declined sharply from the middle of fiscal 2022 on. There has also been a large-scale inventory adjustment in the smartphone space, weakening demand for components. As for profits, we could not counteract the decline in the operating rate for key products and the rise in manufacturing costs (including raw materials and energy expenses) by benefitting from the depreciation of the yen, streamlining, and passing on higher costs to customers. As a result, fiscal 2022 saw a 6.9% decrease in net sales and a 29.8% drop in operating income compared to the previous year.

For fiscal 2023, we expect demand for components to recover in the second half gradually. However, we are working on the assumption that sales and profits will decline for a second consecutive fiscal year because of lower product prices, a significant drop in the operating rate due to production cutbacks at plants, and rising costs such as personnel and energy expenses.

Despite these circumstances, we are beginning to see results from efforts to drive medium- to long-term growth in the mobility market, one of our focus markets. We expect sales to increase with vehicle electrification and are taking steps to regain market share for some of our related second-layer products.

Steadily addressing medium-term management issues despite the challenging business environment

Despite our poor operating performance, in fiscal 2022 we achieved some degree of success in building a foundation for long-term value creation. Specifically, we proceeded with the four medium-term management issues articulated in Medium-term Direction 2024, specifically the first phase of Vision 2030, which includes management transformation, higher-level portfolio management, formation of a lean management base, and preparation for 2030.

Regarding management transformation, to firmly establish hypothesis-based thinking in the business management process, we integrated our single-year budget with our medium-term plan and added the data to the numerical targets as monitoring indicators. We clearly defined the hypotheses on which these targets are based and verified them every quarter, laying a foundation for promptly responding to changes in our environment. In addition to joining the Responsible Business Alliance (RBA) (see page 29) and establishing a Human Rights Committee within the CSR Management Committee, we introduced a sustainability investment promotion system to achieve sustainable growth. This system consists of two measures. The first is a mechanism for encouraging investment that involves the relaxation of rules on determining investment recoup periods and establishing special quotas. The second is the application of an Internal Carbon Pricing (ICP) system, characterized by the recognition of amounts of GHG emissions as expenses in management accounting.

For higher-level portfolio management, we strive to create value by practicing 3-layer portfolio management and positioning four business markets as key business opportunities. Regarding the former, we moved forward with integrating Resonant and Eta Wireless, which we acquired in fiscal 2021, to strengthen differentiated technologies in the second-layer businesses. Regarding the latter, in the mobility area, one of our

core fields, we worked to build our presence by aggressively increasing capacitor production capacity and launching products such as new inductors. In our challenge fields, we pressed ahead with the deployment of proprietary energy management systems at our own factories. Also, we invested in an environmental fund to create essential new businesses for the next generation.

Concerning the formation of a lean management base, we endeavored to strengthen our human capital and upgrade our risk management process. In terms of human capital, in addition to developing the next generation of corporate executives, we also launched "Make2030," a program designed to nurture the next generation of leaders who are our path forward. In this way, we are putting together a structure whereby talent in a wide range of age groups can work with the current executives to address long-term management issues. In addition, we have focused on risk management in recent years, leveraging the insights of our Outside Directors to develop a risk management structure that contributes to our value-creation process. For example, in April 2023, we put the Risk Management Committee, which had previously been under the jurisdiction of the CSR Management Committee, under the direct control of the Representative Director, to emphasize that risk management is our highest priority. Under the new structure, we expanded the scope of risk management to encompass business opportunities. We will also aim to enhance the sophistication of our risk management further while linking it with the change-responsive management theme based on hypothetical thinking.

Preparation for 2030 refers to activities that assess business management-related risks and opportunities and translate the necessary preparations into concrete actions. In addition to discovering and nurturing technologies that can

New responsibilities and roles as Director of Corporate Unit

In July 2022, I assumed the position of Director of the Corporate Unit, adding responsibilities in the areas of human resources, IT, sustainability, governance, corporate communications, and legal affairs/intellectual property to those I was already handling in my previous role, such as accounting/finance, and management strategy. The Corporate Unit is tasked with optimizing functions, supporting business operations, and promoting synergies among businesses within Murata's distinctive three-dimensional matrix organization.

Recently, the viewpoints that need to be kept in mind in corporate management have expanded from financial to non-financial, and the long-term goals of the company and its stakeholders are becoming more aligned. In this regard also, I feel the weight of responsibility in my new role to lead the corporate function as a whole and contribute to the co-creation of value with stakeholders from multiple perspectives.

be a source of future competitiveness and formulating and implementing intellectual property strategies to support these, we are connecting our global network to address possible future threats and moving forward with scenario planning to manage risks.

Flexible financial strategies and execution of a stock split to broaden our investor base

Our financial strategy remains unchanged from Medium-term Direction 2024. We will meet shareholders' expectations over the long term through a fundamental policy of stable dividend increases with a dividend on equity (DOE) of 4% and a dividend payout ratio of 30% or more as targets. We will hold cash reserves equivalent to 2.5 to 3.5 months of net sales to cope with unexpected risks and promptly execute strategic investments when speed is required. In fiscal 2022, we conducted a treasury stock acquisition for the first time in 11 years, purchasing shares worth 80 billion yen. Going forward, we will continue to pursue flexible financial strategies while monitoring business opportunities from a medium- to long-term perspective, the corresponding investment plans, and the level of liquidity we have on hand.

In May 2023, under applicable disclosure rules, we announced a three-for-one stock split effective October 1, 2023. The purpose of the stock split is to enlarge our investor base and make our shares more liquid by reducing the monetary amount of each share trading unit, thus making it easier for individual investors to buy and sell our shares. Although BtoB business models like ours may be difficult for individual investors to understand, we will further evolve our IR activities to emphasize the appeal of Murata's value creation story.

Practicing and further advancing the consistent management philosophy founded on the Murata Philosophy

We incorporated a management philosophy centered on the Murata Philosophy, our guiding principle, into our vertically integrated business model and the business management system that supports it. Its understanding is well understood by our people and organizations in the form of values and codes of conduct. In other words, we have consistency because management is always based on our philosophy. We collectively define this as "organizational capital" in the value creation process and are continually refining it.

For example, the Murata Philosophy includes the phrase "applying scientific approach," which is reflected in our upstream management-centered manufacturing and quality control systems, global marketing processes, and management accounting systems. One concept we have had in place since our founder employed it is our management accounting system, which recognizes "internal interest" as a cost. This internal interest is calculated by applying a predetermined interest rate to accounts receivable, inventories, and production facilities. Since the internal interest rate is determined after considering our cost of capital, each business division and factory naturally becomes conscious of the cost of capital as they operate their business. At the same time, the concept of ROIC has become ingrained within the company. We have positioned it as the most important KPI for business evaluation for many years.

Of course, my mission also encompasses upgrading our business management system to keep pace with the changing times and enhancing effectiveness. As a system, hypothesis-based thinking is also taking root as a business management tool to support autonomous decentralized management, but issues remain with portfolio management, such as our dependence on first-layer businesses for earnings and the need to rebuild our second-layer business and develop new business models for our third-layer business. I believe that we will demonstrate results in these areas within the period of Medium-term Direction 2024. In addition, the inclusion of ICP in profit and loss for each business and product category, which I mentioned earlier, is intended to clarify that responsibility for formulating strategies to reduce GHG emissions also lies with business managers and to translate these strategies into deploying policies to the frontlines. In the future, we will continue to evolve our business management processes to reflect social demands and the business models we develop as a result.

Strengthening the "earning power" required for sustainable growth

Our ROIC (pre-tax basis) for fiscal 2022 dropped significantly from 22.6% in the previous year to 14.6% as a result of a decline in the ratio of operating income to net sales, as well as a deterioration in asset efficiency due to a sharp fall in the equipment operation rate and inventories increase. The rise in inventories was intentional, designed to stand us in good stead when demand recovers. However, since the pace of the component demand rebound is proving to be slower than expected in fiscal 2023, we are making additional production cutbacks and adjusting operations to lower the age of inventories to appropriate levels before the end of fiscal 2023.

While our operations will remain subdued in the short term, business opportunities will expand given the evolution of communications systems from 5G to 6G, the construction of network infrastructure, the proliferation of electrification and autonomous driving technologies, further advances in the mobility space, and the expansion of the electronics industry into the environmental and wellness markets. To ensure we are prepared, we need to make investments to maintain and expand our competitive advantage. Given the lackluster demand for components, now is precisely the right time to prepare ourselves for future growth opportunities. Therefore, during fiscal 2023, we intend to steadily execute the capital expenditures and strategic investments (including environmental investments, investment for growth such as M&A, and IT infrastructure reinforcement) called for in the capital allocations section of Medium-term Direction 2024.

To achieve our management target ROIC (pre-tax basis) of 20% or more after making investments for growth, we need to improve our ratio of operating income to net sales and asset efficiency. In my view, if we make our partner companies or employees bear the burden of our drive to boost ROIC, this would conflict with the "together with all our stakeholders" part of the Murata Philosophy, and would actually have the effect of pushing up our capital cost and eroding our operational capital in the medium to long term.

Considering that, measures to improve ROIC must encompass not only smart factories and digital-driven productivity improvements but also the sound management of our portfolio by utilizing a system for assessing the viability of businesses. In addition to directing the revamp of our businesses and technologies, we will position the resolution of issues such as improving capital efficiency and which businesses to select and focus on, as well as translating the solutions into tangible financial results as our highest priority management challenge. We will accelerate our pivot to portfolio management through in-depth Board of Directors and the Management Committee discussions.

Medium-term Direction 2024 capital allocations

FY2022–2024 plan	
In	**Out** (Billion yen)
Operating cash flow 1,250.0	Capital expenditures 640.0 (Land and buildings: 100.0)
	Strategic investment 230.0
	Shareholder returns 270.0
	Corporate bond repayment 110.0

Sustainable value creation through stakeholder discussions

In Vision 2030, we declare that having led the sector with our products and technologies, from now on, we will strive to "become the leading choice for customers and society by creating a continuous cycle of social and economic values." To kickstart this continuous cycle of social and economic values and sustainably create growth through co-creation with our stakeholders, we must define the scenarios, milestones, and management strategies we will employ. We will then need to link them with our human resource, DX, and sustainability strategies and support them with an appropriate risk management framework and governance structure.

As Director of the Corporate Unit, I will be pressing ahead with formulating specific value-creation scenarios and making them more viable propositions through dialogue with our stakeholders. I would therefore ask for your continued guidance and support.
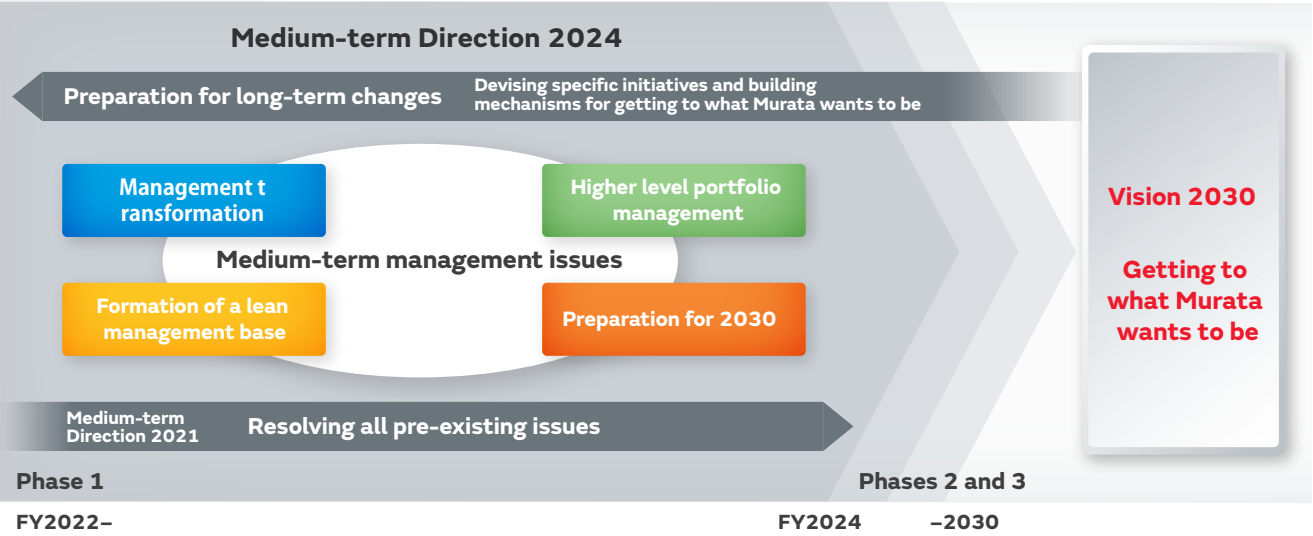
Progress with Medium-term Direction 2024

We have positioned Medium-term Direction 2024 as the first phase toward getting to what Murata wants to be, as declared in Vision 2030. In addition to economic value targets, Mid-term Direction 2024 also sets social value targets, and we will be accelerating initiatives to create a continuous cycle of social value and economic value and contribute to the enrichment of society.

Besides the resolution of pre-existing management issues, Medium-term Direction 2024 also cites as a medium-term management task the gradual translation of the four tasks of "management transformation," "higher level portfolio management," "formation of a lean management base," and "preparation for 2030" into tangible results over the three-year period of the plan, with the aim of identifying changes in our environment from a long-term perspective, and starting right now, to steadily move forward with the necessary preparations identified through backcasting.

Medium-term Direction 2024

Preparation for long-term changes

Devising specific initiatives and building mechanisms for getting to what Murata wants to be

- Management transformation
- Higher level portfolio management

Medium-term management issues

- Formation of a lean management base
- Preparation for 2030

Vision 2030

Getting to what Murata wants to be

Medium-term Direction 2021 | Resolving all pre-existing issues

Phase 1 — FY2022–

Phases 2 and 3 — FY2024 –2030

Fiscal 2022 actual component demand in units (compared with initial forecast)

- Smartphone market growth had been flat since fiscal 2021, and we expected to see a decline in the PC market due to weaker demand related to remote working and online education, but demand for components for the consumer market was far lower than originally anticipated because of the protracted market slump and prolonged inventory adjustments.
- In the mobility market, component demand held firm thanks to a recovery in automobile production volume and further electrification, but factors such as the semiconductor shortage restricted auto output, and the figure was lower than we had initially projected.
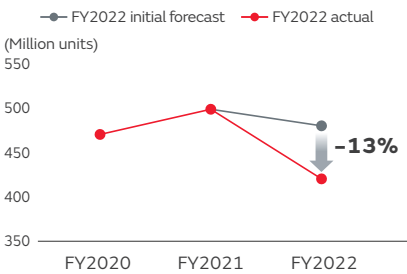
Demand for components in the electronics market in fiscal 2022 was down compared to our forecast at the beginning of fiscal 2022
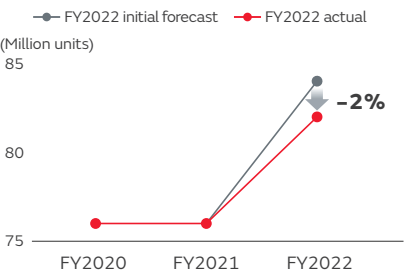
Trend with component demand in units

Smartphones
(Million units) — FY2022 initial forecast — FY2022 actual
−21%

PCs
(Million units) — FY2022 initial forecast — FY2022 actual
−13%

Automobiles
(Million units) — FY2022 initial forecast — FY2022 actual
−2%
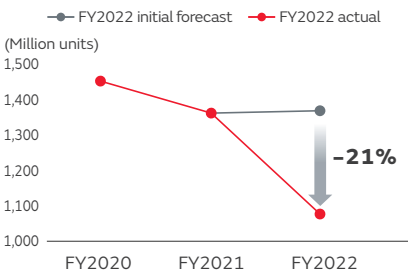
Note: Figures for smartphones and PCs are for components included, while figures for automobiles are for the number of vehicles produced

Economic value targets

	FY2021	FY2022		FY2024
	Actual (US-GAAP)	Initial forecast	Actual (US-GAAP)	Target
Net sales	1,810 billion yen	1,930 billion yen	1,690 billion yen	2,000 billion yen
Ratio of operating income to net sales	23.4%	22.8%	17.7%	20% or higher
ROIC (pre-tax basis)*	22.6%	21.6%	14.6%	20% or higher

* ROIC (pre-tax basis) = Operating income / Invested capital (Property, plant and equipment + Inventories + Trade accounts receivable - Trade accounts payable)

Fiscal 2022 results (comparison with previous year)

Net sales: The weak yen had the effect of boosting revenues, and net sales of multilayer resin substrates for smartphones increased. However, while net sales of lithium-ion secondary batteries for power tools climbed, net sales of MLCC for computers and smartphone, as well as SAW filters and RF modules for smartphones, declined. As a result, net sales fell 6.9% from the previous year.

Ratio of operating income to net sales: Although yen depreciation and cost reductions helped lift profits, lower capacity utilization and higher fixed costs resulted in a year-on-year decline of 5.7 points.

ROIC (pre-tax basis): Invested capital such as inventories and property, plant and equipment increased, and operating income fell substantially, leading to an 8.0-point drop from the previous year.

Social value targets

		FY2021 results	FY2022 results	FY2024 targets
Environment	Amount of GHG emissions (Scope1+2):	13% reduction vs. fiscal 2019 (1.40 million t-CO_2e)	• Took measures such as conserving energy, switching to renewables, and purchasing energy certificates, achieving GHG emissions of 1.34 million t-CO_2e (down 16% from fiscal 2019) and 23.7% of renewable energy sourcing in fiscal 2022. • We calculated our carbon footprint (CFP) and pursued further initiatives by utilizing an investment promotion system. ▶P.65 Strengthening Murata's response to climate change	20% reduction vs. fiscal 2019 (1.28 million t-CO_2e or less)
	Renewable energy implementation rate (%)	21.3%		25%
	Rate of use of sustainable resources[1]	• In order to determine our rate of use of sustainable resources and our resource recovery rate, we continued to survey the amount of our procured resources, their recycling ratio, and actual waste treatment results.		1% improvement from fiscal 2021 results
	Resource recovery rate[2]	• We continued to take steps to reduce waste, and began horizontal recycling of materials at some business sites. ▶P.71 Use of sustainable resources		5% improvement from fiscal 2021 results
Diversity	Percentage of overseas indirect employees[3] with experience working at other sites	3.0%	• The figure for FY2022 was 5.3%. • We expanded systems and measures for employees to gain diverse global work experience. ▶P.75 Strengthening human capital—Leverage diversity in human resources	7%
ES	Positive employee engagement response rate	68%	• We devised and implemented measures for each tier/attribute based on the fiscal 2021 results. * We did not conduct a global survey of employees in fiscal 2022, as these surveys are carried out once every two years. • To accompany company-wide initiatives, business sites and departments also continued taking action to improve engagement. ▶P.77 Strengthening human capital—Engagement	70% or higher

[1] Ratio of resources with lower risk of depletion that can be used sustainably by building a recycling scheme, etc. (Potentially depletable resources: Ag, Ni, etc.)
[2] Percentage of Murata's discharges (waste + valuable material) that are recycled as circulating resources
[3] Applies to overseas local staff, excluding those transferred from Japan to overseas

Efforts made in fiscal 2022 to tackle medium-term management issues

Management transformation ▶P.28

- Joined the RBA(Responsible Business Alliance), an industry coalition promoting CSR in global supply chains, as a regular member in June 2022
- Took action to raise awareness internally concerning sustainability and initiatives to tackle key issues (materialities) originating with social issues
- As mechanisms for maintaining a Autonomous and decentralized organizational management, incorporated the hypothetical thinking approach into administrative processes related to business planning, formulated budgets and medium-term business plans, and reviewed business evaluation processes
- Drew up a next-generation value chain concept aimed at maximizing customer value creation and are currently documenting it with a view to establishing PoC (Proof of Concept)
- Improved digital infrastructure by defining requirements and strengthening IT human resources ahead of the construction of a next-generation data platform
- Took steps to reorient internal attitudes and behaviors toward management transformation
- Introduced management and administration systems to drive sustainability initiatives

Topics   Steps to reorient internal attitudes and behaviors toward management transformation

In January 2023, as part of our efforts to drive management transformation, we organized the following events to promote understanding and resonance among employees and to forge networks internally.

■ Dx Innovators Day

Dx Innovators Day 2022, an event for all employees to promote DX, which is one of the Vision 2030 growth strategies, was run in hybrid format (physical and online), with personnel from around 20 sites in Japan and overseas taking part. The event featured a wide range of content, including a speech by President Norio Nakajima on the topic of Murata's DX ambitions, lectures by outside speakers on the theme of society in 2030, and the showcasing of DX case studies from inside Murata.

Content from the event has also been archived and shared internally, which is helping to make DX more comprehensible to employees and better resonate with them, and also to get them feeling more involved in the DX process. To change attitudes and behaviors among employees in ways that transcend the boundaries of their respective areas of expertise and the organizations to which they belong, ongoing and multifaceted dialogue is vital, so we will also be strengthening and promoting DX as a vehicle for communication.

■ Environmental Innovation Day

This event was held with the aim of fostering awareness internally of the importance of resolving environmental issues, strengthening cooperation through the sharing of examples of initiatives, and encouraging more action to be taken. More than 1,000 employees from Japan and overseas participated, both in person and online, and the program included presentations on internal initiatives aimed at creating a continuous cycle of social value and economic value, lectures from outside speakers, and an environmentally themed poster session.

During the poster session, personnel from domestic and overseas sites made presentations on a myriad of themes. They shared opinions from customers and markets, described recycling and energy-saving initiatives, and showcased examples of new materials technologies they have developed. All the presentations triggered lively discussions. Going forward, we will keep taking action with the aim of creating a continuous cycle of social value and economic value.
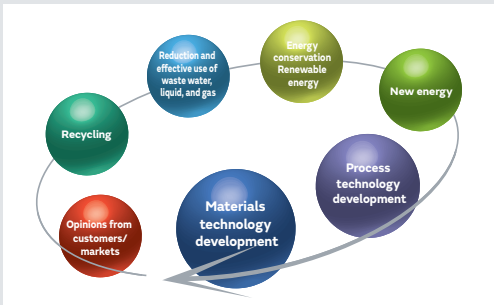
Examples of themes from Environmental Innovation Day

Topics   Management and administration systems to drive sustainability initiatives

Murata has been implementing management and administration systems that combine autonomous operation by each organization with governance by the corporate organization. They include a detailed profit-and-loss management system for each product and production process as well as evaluations of the economic efficiency of investments with a focus on return on investment and recoup periods. In addition, to accelerate the creation of a continuous cycle of social value and economic value, we have adopted some new sustainability-related management and administration systems. First, we have launched an internal carbon pricing system to recognize emissions as an expense in management accounting with the aim of reducing GHG emissions. Second, with the goal of encouraging investment in sustainability, we have introduced a system to reflect the amount of GHG emission reduction in incremental profit when making economic evaluations of investments, as well as a special quota certification system for sustainability investment Besides developing new products and technologies and generating business opportunities, we will be accelerating our efforts to reduce environmental impact by incorporating sustainability perspectives into the management and administration systems that form the foundation of our business activities.

New sustainability-related management and administration systems

1	**Recognition of amount of GHG emissions as expense** ● Introduction of internal carbon pricing system
2	**Promotion of sustainability investment** ● Reflection of amount of GHG emissions reduction in incremental profit ● Introduction of special quota certification system for sustainability investment

Higher level portfolio management ▶P.45

- Based on the view that the deepening of core businesses and the evolution of business models is essential to achieve medium- to long-term growth, moved forward with three-layer portfolio-based management

Formation of a lean management base

Strengthen human capital ▶P.73

- To accompany company-wide initiatives, business sites and departments continued taking action to achieve the Medium-term Direction 2024 social value targets, namely "percentage of overseas indirect employees with experience working at other sites: 7%" and "positive employee engagement response rate: 70% or more"
- To augment the role of traditional hierarchy-based education in human resources development, implemented a program to train develop potential future corporate executives
- Initiated discussions to gain further support internally and externally for our strategy for strengthening Murata's human capital

Strengthen quality foundation

- Held discussions on getting buy-in from senior management to further raise awareness of the importance of quality governance and on what the role of quality should be in future manufacturing and DX

Preparation for 2030

Strengthen monozukuri in a broad sense ▶P.63

- With the aim of improving productivity, moved forward with the elimination of muda and the deployment of technology on the production frontline sites, as well as the development of innovative technologies with an eye to the future
- Made progress with the establishment of a global HR development system with the objective of strengthening the development of the monozukuri (manufacturing) talent that form the backbone of the production frontline

Respond to management risks ▶P.86

- Reinforced internal and external information collection/dissemination structures by establishing an intelligence function, took measures to tackle emergent risks, and conducting scenario planning to mitigate future risks

Strengthen the power to sell and power to support

- Moved to strengthen sales capabilities by enhancing sales strategies and improving the underlying human resource development programs for each personnel tier and for expert talent in order to reinforce our core human resources. This was achieved through both autonomous activities in each region and stronger global cooperation
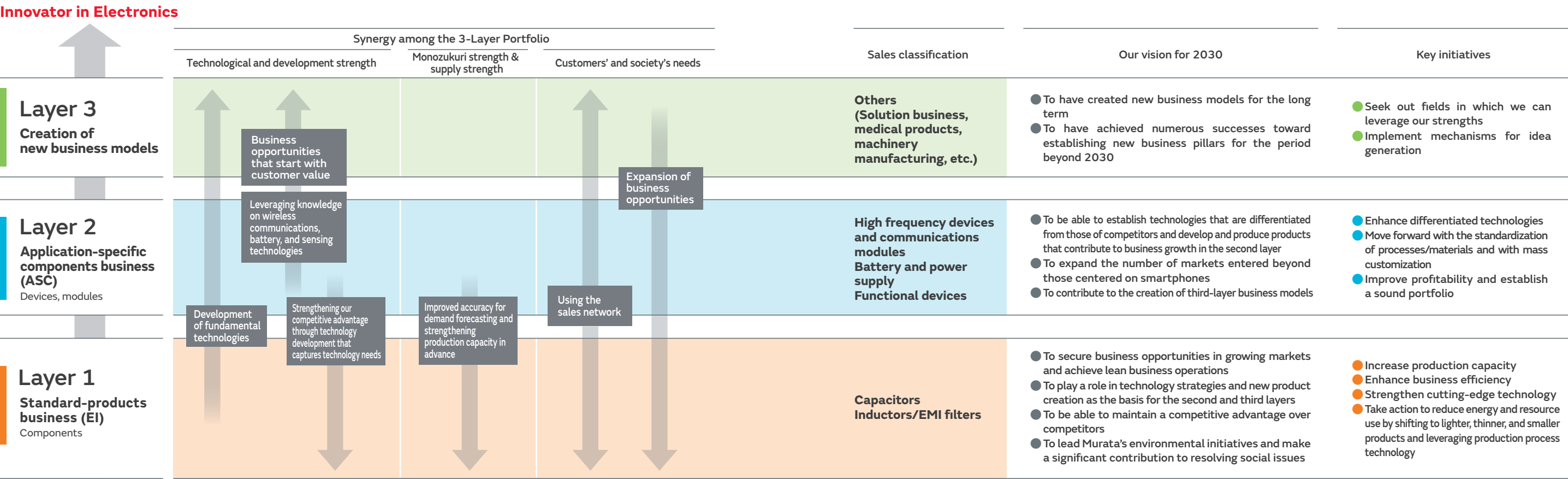
Drive innovation ▶P.61

- Discussed a future intellectual property strategy driven by the exploration of unknown technologies based on the premises of portfolio adoption for current R&D activities and future changes in our operating environment

3-layer portfolio management and strategies for each business

Synergy between layers 1 and 2 has supported Murata's competitive advantage as well as product and technology innovation. As the value sought by customers undergoes tremendous change, we will achieve further growth through the synergy among the three layers.

Innovator in Electronics

	Synergy among the 3-Layer Portfolio			Sales classification	Our vision for 2030	Key initiatives
	Technological and development strength	Monozukuri strength & supply strength	Customers' and society's needs			
Layer 3 Creation of new business models	Business opportunities that start with customer value		Expansion of business opportunities	**Others** (Solution business, medical products, machinery manufacturing, etc.)	● To have created new business models for the long term ● To have achieved numerous successes toward establishing new business pillars for the period beyond 2030	● Seek out fields in which we can leverage our strengths ● Implement mechanisms for idea generation
Layer 2 Application-specific components business (ASC) Devices, modules	Leveraging knowledge on wireless communications, battery, and sensing technologies		Using the sales network	**High frequency devices and communications modules** **Battery and power supply** **Functional devices**	● To be able to establish technologies that are differentiated from those of competitors and develop and produce products that contribute to business growth in the second layer ● To expand the number of markets entered beyond those centered on smartphones ● To contribute to the creation of third-layer business models	● Enhance differentiated technologies ● Move forward with the standardization of processes/materials and with mass customization ● Improve profitability and establish a sound portfolio
Layer 1 Standard-products business (EI) Components	Development of fundamental technologies / Strengthening our competitive advantage through technology development that captures technology needs	Improved accuracy for demand forecasting and strengthening production capacity in advance		**Capacitors** **Inductors/EMI filters**	● To secure business opportunities in growing markets and achieve lean business operations ● To play a role in technology strategies and new product creation as the basis for the second and third layers ● To be able to maintain a competitive advantage over competitors ● To lead Murata's environmental initiatives and make a significant contribution to resolving social issues	● Increase production capacity ● Enhance business efficiency ● Strengthen cutting-edge technology ● Take action to reduce energy and resource use by shifting to lighter, thinner, and smaller products and leveraging production process technology

Four business opportunities recognized by Murata

Core fields

⊙ Communications

Improved accuracy for demand forecasting and strengthening production capacity in advance

As communications systems change to 5G and then to 6G, business opportunities will expand even further.
We will correctly grasp the diversifying applications, changing customer structure and continue to offer value, taking an overwhelming lead with technological innovation that ensures we continue winning, even in an increasingly competitive environment.

Recognized business opportunities

● Increase in demand for components Rising demand for components due to increasing number of connected devices and greater processing power
● Increasing requirements for high performance and reliability to support network connectivity
● Shift of added value to hardware plus software/solutions as applications with embedded communications functions diversify and data-driven solutions and services emerge

🚗 Mobility

Automobile industry entering an age of once-in-a-century revolution

We will redefine the market in a broader sense as "mobility." In addition to contributing to the evolution of the automobile (in-car) as the global No. 1 component manufacturer, we will aim to capture business opportunities in the broader sense of mobility (out-car). We will deepen our understanding of diversifying customer requirements in the mobility field and steadily produce results and build reputation.

Recognized business opportunities

● Shift of added value to hardware plus software/solutions as applications with embedded communications functions diversify and data-driven solutions and services emerge
● Expansion of services centered on movement itself, as typified by MaaS (Mobility as a Service), and a resultant increase in new opportunities to leverage our knowledge in the communications field to provide new value, such as by offering software and solutions

Challenge fields

🌿 Environment

Markets where promises have been made to become a sustainable society

Murata aims to create innovation bringing together our business and solutions to the energy issue and other environmental issues. We will take initiatives to respond to the environment to secure a competitive advantage as well as firmly catch hold of the growing opportunities, starting with the battery and power supply business, and take on the challenge of creating new businesses.

Recognized business opportunities

● Accelerating initiatives to transition to a decarbonized society
● Advancing the circular economy, which places value on product repair, reuse, and resource recycling
● Advancing the development of environmental technology (clean tech) in all industry segments

❤ Wellness

Pursuing new prosperity for an age when people's expected lifespan reaches 100 years

We will use Murata's technology and our know-how in the electronics field to help the development of the medical field and seek to provide value in terms of preventing sickness and promoting health. We will also produce innovations to achieve new kinds of prosperity including mental health and good interpersonal relations, thereby realizing a society where people can live a healthy and prosperous life.

Recognized business opportunities

● Transforming the medical and healthcare domain using digital technology
● Expanding initiatives in preventive medicine and health promotion in line with the acceleration of the population aging
● Changing health concepts, including balanced mental and social health in addition to physical health, and the pursuit of people's own happiness

Capacitors

■ Multilayer ceramic capacitors (MLCCs)

Employed in mobile equipment, home appliances, IoT devices, and more, MLCCs can temporarily store and discharge electricity, absorb noise in signals, extract signals with certain frequencies, and block direct current and pass alternating current only. MLCCs are also used for applications for which high reliability is required, including automotive, medical, and aerospace equipment.

Business opportunities
- Increased demand for components due to 5G and advancements in automobile electrification

Strengths
- Extensive product lineup / high market share
- Technological capabilities and monozukuri strength that enable small, high-performance products, ensure reliability and high quality
- Worldwide sales network and the largest supply capacity in the industry
- Profitability based on integrated manufacturing systems from materials to finished products

Competitors
- Samsung Electro-Mechanics (South Korea), TAIYO YUDEN (Japan), TDK (Japan), Yageo (Taiwan), etc.

Risks
- Deterioration in market conditions due to global economic stagnation and increasing geopolitical risks, and the resulting fluctuations in demand for electronics products
- Changes in the business environment due to intensified competition with competitors

Growth strategies

1 Increase production capacity to meet growing demand for components
Demand for components is expected to continue to increase in the communications and mobility markets. We will further expand the scale of our operations by leveraging our competitive advantage of having the largest production capacity in the industry.

2 Plan and execute growth scenarios based on risks such as the rise of competitors
In the MLCC market, which is expected to grow in the future, competition with existing competitors is expected to intensify. We aim to achieve sustainable business growth by paying attention to the competitive environment.

3 Continue to maintain the top market share through continuous innovation and our global sales network
Murata's share of the MLCC market is 40%, with a high share of 50% in the automotive market, which is expected to grow in the future. We will maintain and improve our market position by further strengthening the competitive advantages we have cultivated to date.

Progress with growth strategies | **Establishment of joint venture with Ishihara Sangyo Kaisha, Ltd. and Fuji Titanium Industry Co., Ltd.**

We have set up a three-way joint venture with Fuji Titanium Industry Co., Ltd., one of our suppliers of barium titanate, a material used on MLCCs, and its parent company, Ishihara Sangyo Kaisha, Ltd. Demand for MLCCs is expected to continue to grow against the backdrop of rapid advances in IT devices and the electrification of automobiles, and we believe that a stable supply structure, starting from materials, is essential. As such, we have positioned the launch of this joint venture as a key measure for stabilizing our supply chain.

Inductors/EMI filters
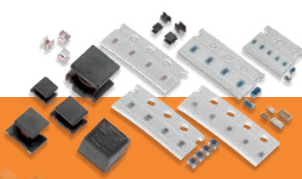
■ Inductors (coils)

Inductors work by making electricity and magnetism interact with each other to convert voltage and stabilize current, etc. Together with capacitors and resistors, they are the basic components of electronic circuits. Like capacitors, they are electronic components commonly used in many different electronic devices.

Business opportunities
- Increased demand for components due to 5G and advancements in automobile electrification
- Growing need for higher performance and reliability of RF inductors and power inductors

Strengths
- Extensive product lineup / high market share
- Optimal product design using various manufacturing methods
- High quality, high customer support, and the evaluation and analysis technology to support it
- High supply capacity to meet strong demand

Competitors
- TDK (Japan), TAIYO YUDEN (Japan), Cyntec (Taiwan), Sunlord (China), etc.

Risks
- Deterioration in market conditions due to global economic stagnation and increasing geopolitical risks, and the resulting fluctuations in demand for electronics products
- Intensifying competition with competitors

Growth strategies

1 Provide new customer value in response to market changes
In the future, technologies and applications in the in-vehicle system market and telecommunication market will undergo major changes. In the in-vehicle system market, demand for power inductors and inductors for interfaces will grow, and in the telecommunication market, as modules inside smartphones become smaller, RF inductors will become more compact and have higher Q*. We are working to provide new customer value by firmly grasping changes in the market and customers, releasing new products such as new power inductors for automotive applications and compact, high-Q RF inductors.

2 Provide products that meet market demands by integrating development capabilities and basic technologies
Murata creates roadmaps of markets, products, and technologies for the next five to ten years, and quickly commercializes products demanded by customers through product development that anticipates future needs. Murata also possesses multiple methods and processes for development and monozukuri technologies, including multilayer, winding, and film. By integrating advanced material development, product development, process development and basic technologies (simulation, reliability evaluation, mounting technology, application), we will provide products that meet market demands.

3 Expand global support system for customers
The need for noise suppression is further increasing in the in-vehicle system market due to the advancement of automobile electrification and the expansion of 5G in the telecommunication market. By deepening relationships with customers and pursuing cutting-edge technologies through customer support for noise suppression and the provision of new products and solutions using EMC labs in eight locations not only in Japan but also in Europe, the United States, China, and other parts of the world, we will become the "No. 1 EMC Solution Provider."

*Q stands for Quality Factor. The higher the Q value, the higher the inductor characteristics

Progress with growth strategies | **Initiatives to elevate our position in the in-vehicle market**

We are focusing on the power inductor business to improve our position in the in-vehicle market. Power inductors are important electronic components that support energy conversion in power circuits involving, for example, DC-DC converters. The number of DC-DC converters installed in automobiles is increasing due to the advance of vehicle electrification, and there is a growing need for power inductors that are smaller and have superior electrical characteristics. We are therefore expanding our supply capacity and accelerating the development of new products. Going forward, we will be continuously releasing new products, such as metal power inductors offering some of the best electrical characteristics in the industry while being compact in size, and by responding to customer needs, we will be looking to expand our sales and market share in the in-vehicle market.

High frequency devices and communications modules 1
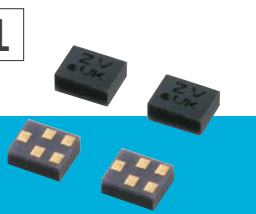
Surface acoustic wave (SAW) filters

A SAW filter is a filter that can pick out electric signals in a particular frequency band, using the surface acoustic wave that propagates along the surface of the piezoelectric substrate. Ensuring smooth wireless communication between devices requires high-functioning filters that can let though electric signals in a particular frequency band, while eliminating noises of unnecessary frequency bands.

Business opportunities
- Expansion of the communications market through the advancement of 5G
- Addition of wireless communications functions to IoT devices
- Advancement of technological trends such as higher frequency and smaller filters with superior composite performance

Strengths
- Extensive product lineup / high market share
- Superior characteristics (high frequency / broadband / high attenuation / low insertion loss / small size) required in the future communications market
- Reliable quality
- Largest production capacity in the industry and reliable supply capability

Competitors
- TAIYO YUDEN (Japan), Qualcomm (U.S.), Qorvo (U.S.), Wisol (South Korea), Shoulder (China), etc.

Risks
- Deterioration of market environment due to global economic stagnation and heightened geopolitical risks
- Intensified competition with competitors and entry by low-cost manufacturers

Growth strategies

1 Secure profit-earning opportunities by differentiation in high-value-added products and strengthening cost competitiveness
In addition to our proprietary I.H.P. and TC-SAW technologies, we will strengthen alliances for new technologies and strive to enhance cost competitiveness by improving productivity to respond to the rise of other manufacturers in the sector.

2 Mass production of filters using XBAR technology
With the spread of 5G and next-generation Wi-Fi standards, the need for high-performance, high-frequency filters with a broad bandwidth is expected to increase. XBAR technology has advanced characteristics at high frequencies and in a broad bandwidth, as well as high compatibility with the SAW filter manufacturing process. This will strengthen our business as a differentiating technology for filters.

3 Explore new applications and customers by leveraging Murata's strengths in the expanding communications market with 5G
With the spread of IoT devices other than smartphones, wireless communications functions is added to various applications. In addition, with the introduction of 5G, the combination of incorporated frequency bands is becoming more complex, and the technical requirements for filters are becoming more challenging. Murata will expand its business in new markets by leveraging its technological strengths.

Progress with growth strategies | **Strategy for the surface acoustic wave (SAW) filter business that reflects changes in the competitive landscape**

Since the beginning of 2023, smartphone production has slumped and middle- and low-end handsets are accounting for a greater share of the market. Demand for SAW filters has been similarly sluggish, and competition among rival players is intensifying. On the other hand, the proportion of high-end handsets equipped with modules is rising amid the ongoing trend toward higher functionality and denser implementations, and the need for compact SAW filters with superior characteristics for use in modules is also increasing.

In view of these circumstances, we will establish technological superiority by accelerating the development of products with differentiated technologies, such as compact products and XBAR, while strengthening our cost competitiveness in product lines for which the competitive environment is becoming harsher. Through these initiatives, we will maintain the top market share in the industry.

High frequency devices and communications modules 2
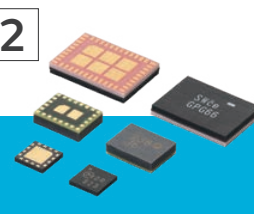
RF modules

RF modules are electronic component units that realize an analogue high-frequency circuit that controls communications among wireless devices by integrating various key devices in a small package. This module is comprised of passive devices such as SAW filters, high-power amplifiers (PA) in transmission circuits, low-noise amplifiers (LNA) in reception circuits, antenna changeover switches and other semiconductor devices. RF modules are used for various types of wireless devices including smartphones and tablet PCs.

Business opportunities
- Expansion of frequency bands, advancement of communications technologies driven by growing adoption of 5G
- Advancement in modularization and miniaturization of electronic components

Strengths
- In-house production of key devices such as filters and packaging technologies
- Identification of customer trends and capability to propose products utilizing sales and technical support network
- Business speed, reliable quality and stable supply enabled by integrated production

Competitors
- Skyworks Solutions (U.S.), Qorvo (U.S.), Qualcomm (U.S.), Broadcom (U.S.), etc.

Risks
- Potential moves by customers and component suppliers due to heightened geopolitical risks
- Entry of low-cost module manufacturers into the market

Growth strategies

1 Realize business growth by investing resources in differentiating technologies
In the current competitive environment, the level of technology of competitors is very high. We will establish a competitive advantage by fostering or acquiring differentiated technologies.

2 Empower Digital Envelope Tracking Technology
We will differentiate ourselves from our competitors and capture business opportunities through the "Digital Envelope Tracking Technology" of Eta Wireless Inc., which we acquired in September 2021.

3 Enhance fundamental capabilities to improve position in growing markets
In the 5G and the 6G era, which is also called Beyond 5G, "ultra-low power consumption" and "ultra-reliable communication" are required. In order to survive in the global competition, we will continue to strengthen the high technological capabilities and high-quality monozukuri that Murata has cultivated over the years.

Progress with growth strategies | **Making production progress visible to improve the manufacturing frontline's ability to respond to changes**

Komoro Murata Manufacturing (Nagano Prefecture), which produces high-frequency modules, is actively pursuing factory smartification. The advantages of the company's high-frequency modules lie in the fact that the company employs differentiated technology to provide customized products that are optimized for each customer following discussions with them. However, a disadvantage is that this calls for the production of numerous different products, which means that it is difficult to gauge production status. This makes it essential to meticulously manage progress to respond to sudden fluctuations in demand. To address this issue, the company introduced a system that monitors the production line using heat map. This is resulted in not only improved production efficiency but also in enhanced ability to respond to demand fluctuations. We intend to roll out this success story from Komoro Murata Manufacturing to other plants to increase production efficiency throughout the Group.

High frequency devices and communications modules 3

■ Multilayer resin substrates (Multilayer LCP Product)

Multilayer LCP Product is a thinner multilayer resin substrate comprising LCP (liquid crystal polymer) sheets. It features exceptional RF characteristics and realizes a substrate with a stable performance due to low water absorption. It is also characterized by the ability to handle a flexible bending process because it does not require an adhesive layer. In addition,

high multiple layers are possible by using Murata's multilayer technology, enabling high flexibility in design. Multilayer LCP Product is used in smartphones, wearable devices, and other applications, contributing to smaller, thinner, and higher performance devices with low energy consumption.

Business opportunities
- Expansion of high-frequency communication markets such as 5G and UWB (Ultra Wide Band)
- Resolution of customers' issues by utilizing characteristics, such as low water absorption and shape retention property

Strengths
- Superiority in low transmission loss properties in the high-frequency band
- High multi layers, low water absorption, flexibility that can handle complex bending process
- Extensive mass production experience for LCPs

Competitors
- ZDT (Taiwan), Flexium Interconnect (Taiwan), etc.

Risks
- Intensifying competition with competitors
- Changes in the demand due to changes in customers' designs

Growth strategies

1 Extend sales activities in new business areas and to new customers
In addition to earnings in existing business areas, we will expand our customer base and diversify revenue sources, including strengthening internal synergies.

2 Further enhance differentiated technologies
We will further strengthen our competitive advantage in terms of characteristics in the 5G millimeter wave bands and UWB areas.

3 Improve productivity through the promotion of smart factories and the development of cost reduction technologies
We will strengthen our monozukuri strength and cost competitiveness by continuing productivity improvement activities.

Progress with growth strategies | ## Preparing for market expansion in the 5G millimeter wave bands

Millimeter wave, which are frequency bands used in 5G, has been slow to spread globally due to lags in infrastructure development, lack of services, and difficulties in area deployment. However, millimeter wave is a technology with great potential. Millimeter wave has features such as high radio wave linearity and wide bandwidth (allowing a large amount of data to be sent at one time). Millimeter wave will enable high-speed, large-capacity communications, and we can expect to see the birth of new applications that take advantage of these characteristics and the expansion of the electronics market.

Multilayer LCP Product demonstrates advantages in applications such as millimeter-wave transmission lines, which leverage its low transmission loss performance at ultra-high frequencies. In addition, as the frequencies used become higher, Multilayer LCP Product will be able to show its competitive superiority in terms of transmission loss compared with competing technologies. Since the millimeter wave market is expected to expand significantly in the future, we will steadily implement our growth strategy for this business to take advantage of opportunities in this growing market.

High frequency devices and communications modules 4

■ Connectivity modules

Connectivity modules are essential compound components that wirelessly connect various devices. These are mounted on familiar home appliances used in our daily lives, such as smartphones, tablet PCs, digital cameras and air conditioners,

and in-vehicle devices such as car navigation systems. They are also used in various other settings, enabling users to download and upload photos and music from the internet and perform hands-free calling while driving.

Business opportunities
- Growing adoption of 5G
- Full-fledged consideration of Beyond 5G
- Expansion of wireless communication functions in automobiles and various types of devices following the development of an IoT society

Strengths
- Millimeter wave modules using Murata's unique multilayer resin substrates (Multilayer LCP Product)
- Technologies that enable miniaturization and high performance as well as ensure reliability
- Software technologies that improve connectivity
- Product proposal capabilities and partnerships with customers by leveraging our knowledge of communications cultivated through our smartphone business

Competitors
- Quectel (China), Azurewave (Taiwan), etc.

Risks
- Intensifying competition with competitors
- Delays in new product releases due to delays in the start-up of new applications such as autonomous driving
- Deterioration of market environment due to heightened geopolitical risks

Growth strategies

1 Execute portfolio review
We will review our business structure, which is centered on smartphones, and aim to expand our business in diverse areas centered on mobility and IoT, which are expected to grow in the future.

2 Cultivate new markets and develop and expand sales of new products
We will sow the seeds of the future in response to expanding business opportunities resulting from changes in communications systems.

3 Strengthen the structure with a view to further market expansion in the area of communications
We will pursue a production system that can efficiently respond to diverse customer requirements by realizing a thick and short value chain through further strengthening of the cooperation between development and manufacturing.

Progress with growth strategies | ## Shift into IoT/mobility markets and progress with development and mass production of new products

We are pivoting our business portfolio from one centered on the smartphone market as the proportion of our sales coming from the IoT and mobility markets expands. To meet the diverse needs of customers in these markets, we are also strengthening our factory production structure to respond to demand for various product types and quantities. At the same time, we are improving our customer support structure by deploying web-based tools.

We also aim to grow our business by developing and mass-producing modules that support the millimeter wave, UWB, Radar, and V2X communications standards, which are expected to proliferate in the connectivity field going forward, as well as edge AI module products, which are ideal with the IoT world, in which all devices are connected.

Battery and power supply

■ Lithium-ion secondary batteries

Murata's lithium-ion secondary batteries are classified into three types: cylindrical, laminated, and small lithium primary batteries. The cylindrical type, on which we are particularly focusing, has the advantages of high output, safety, long-term storage, and high temperature characteristics.

We will leverage these strengths to expand our business in the expanding markets for small drive systems and storage batteries to contribute to the enrichment of society by responding to the need for decarbonization, renewable energy, energy conservation, and so on.

Business opportunities

Lithium-ion secondary batteries: cylindrical type
- Trends toward cordless power tools, gardening tools, and cleaners, as well as shift to decarbonization (from gasoline engines to batteries and motors)
- Utilization of natural energy, in-house consumption of electricity, and backup power supplies during power outage

Lithium primary batteries: small type
- Greater demand for small batteries for automotive and medical applications

Strengths
- High-quality, high-output technology
- Packaging technology that enables impact resistance and miniaturization

Competitors
- Samsung SDI (South Korea), LGES (South Korea), Panasonic (Japan), TDK (Japan), EVE (China), etc.

Risks
- Market entry and expansion by competitors in our target markets
- Rising resource prices due to increased resource depletion risk and geopolitical risk
- Global environmental regulations and trend towards local production for local consumption

Growth strategies

1 Further enhance differentiated technologies
We will strengthen Murata's technological strengths based on our superior materials technology and expand our business in growing markets.

2 Establish business foundation as Murata's environmental contribution business
We aim to capture business opportunities on the environmental front such as through storage batteries using Murata's unique FORTELION lithium-ion secondary battery, which uses olivine-type lithium iron phosphate as the cathode material and has a long service life and high safety characteristics.

3 Build a strong business foundation through timely investment and strengthening of monozukuri
We will focus on markets where we can leverage our strengths to achieve stable future growth, while also strengthening our monozukuri strength to maximize our differentiated technologies.

Progress with growth strategies | **Enhancing productivity and strengthening our business foundation through collaboration within the Group**

In fiscal 2023, we are facing a challenging business environment, as the slump in the power tool market has led to a decline in capacity utilization at our plants. Yet even under such circumstances, we are working to strengthen our business foundation to realize future growth. As part of these efforts, we will be endeavoring to improve productivity, an issue we were unable to give adequate attention to in the past as we were responding to growing demand. We are also promoting exchanges between personnel at plants for other businesses and personnel at battery factories. This initiative has led to the development of on-site supervisors at battery factories and the creation of safe and secure workplaces, thereby improving our frontline capabilities. By deepening exchanges among Group personnel and applying Murata's technologies and monozukuri strength to the battery business, we are aiming to build a competitive business foundation.

Functional devices

■ Sensors

Sensors are electronic components that convert the various forms of energy around us into signals and data that are easy for humans and machines to handle. Murata has a diverse product lineup ranging from high-performance, high-reliability devices using ceramic material technology, microfabrication technology such as MEMS, and devices and modules using magnetoresistive elements.

Business opportunities
- Increased demand for high-performance sensors driven by growing use of advanced driver assistance systems (ADAS) and autonomous driving
- Increased demand for components due to the advancement of automobile electrification
- Need for sensor nodes due to expansion of AI and cloud-based services
- Creating new demand through value co-creation with external partners

Strengths
- Low noise, high sensitivity, high accuracy, robustness, and reliability achieved by Murata's MEMS designing, processing and packaging technologies
- Extensive sensor technology and a diverse product lineup
- Creating and proposing value to customers with differentiated elements through the use of various materials

Competitors
- Bosch (Germany), Analog Devices (U.S.), STMicroelectronics (Switzerland), Panasonic (Japan), TDK (Japan), Nippon Ceramic (Japan), etc.

Risks
- Intensifying competition with competitors
- Delays in releasing new products in response to needs arising from changes in the external environment
- Acquisition of technology to meet diverse market needs

Growth strategies

1 Create core technologies and invest resources in applications that leverage our strengths
The growth of the mobility, IoT, and wellness markets is expected to lead to a significant increase in the number of functions requiring sensors. We aim to expand our sensor business by focusing on areas where we can leverage Murata's strengths in response to expanding business opportunities.

2 Differentiate technologies and create new value with partners
We will further refine our technological capabilities, which is one of our strengths, and at the same time, we will aim to co-create value with our partners and tackle business challenges with new ideas that are not bound by existing areas.

3 Establish SCM to maximize product value
Sensors are characterized by high-mix low-volume production, and we will build a production process that provides value to customers while differentiating our products and accommodating high-mix production.

Progress with growth strategies | **Expansion of sensor line-up and strengthening of production capacity for the autonomous driving market**

We supply various products such as ultrasonic sensors and MEMS inertial sensors for the autonomous driving market. In the area of ultrasonic sensors, in June 2023 we were able to launch mass production of a product for ADAS that can estimate the distance of close-proximity objects with a precision of 15 cm (down from 30 cm previously). And regarding MEMS inertial sensors, which our customers are showing a lot of interest in, we are boosting production capacity expansion at our subsidiary in Finland and at Kanazawa Murata Manufacturing (Ishikawa Prefecture). This will not only enable us to respond to increasing demand, but also to emphasize the value of reliable supply to customers in the automotive industry, who place importance on BCP, as our production sites will be more decentralized. We will be aiming to leverage these strengths to grow the sensor business.
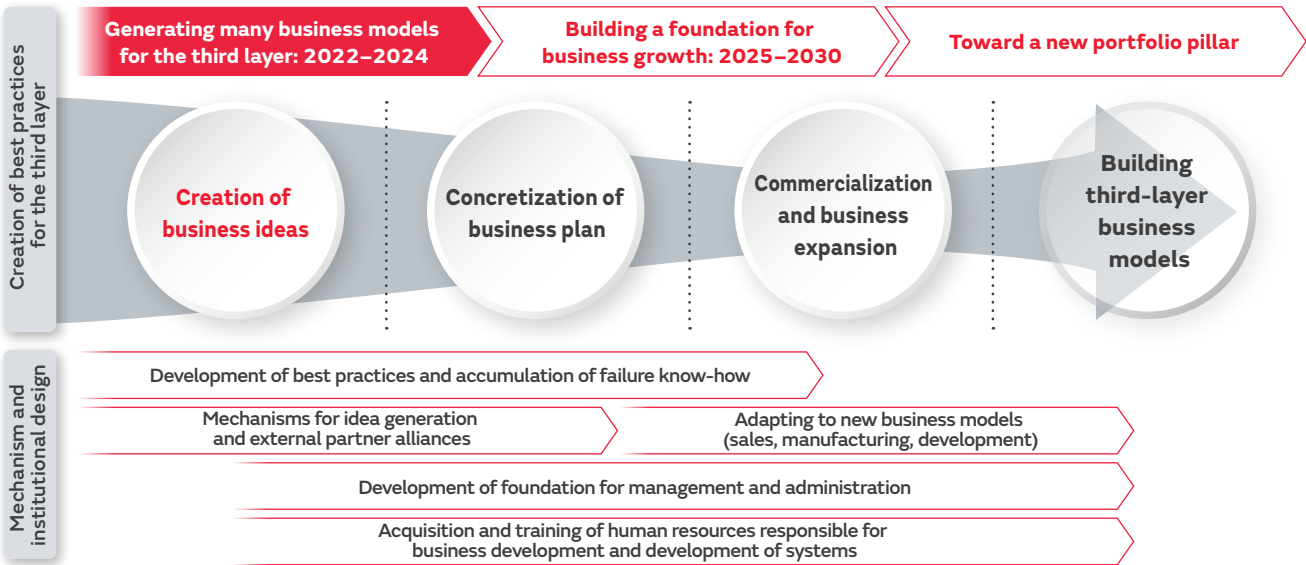
MEMS inertial sensors (SHCA600)

Creation of new business models for the third layer

Under Medium-term Direction 2024, we will identify areas where Murata can leverage its strengths while building on quick successes and small successes as the first step toward making third layer businesses a pillar of our portfolio in 2030 and beyond. Furthermore, in order to create new businesses for the third layer, we will implement a concrete strategy that includes human resources and organizational structure to address issues that cannot be addressed within the existing internal framework.

Creation of best practices for the third layer

| Generating many business models for the third layer: 2022–2024 | Building a foundation for business growth: 2025–2030 | Toward a new portfolio pillar |

- Creation of business ideas
- Concretization of business plan
- Commercialization and business expansion
- Building third-layer business models

Mechanism and institutional design

- Development of best practices and accumulation of failure know-how
- Mechanisms for idea generation and external partner alliances
- Adapting to new business models (sales, manufacturing, development)
- Development of foundation for management and administration
- Acquisition and training of human resources responsible for business development and development of systems

Implement mechanisms for idea generation

As mechanisms for promoting innovation for the development of third-layer businesses, we are creating "technology displays" to showcase our technology to customers and partners and are actively pursuing "knowledge collaboration" with external parties. By turning the ideas generated through these various initiatives into actual commercial ventures, we will develop businesses for the third layer.

Initiatives	Overview		Aims
KUMIHIMO Tech Camp with Murata	A project administered jointly with our partner companies. Involves providing Murata's products to start-ups, solicit ideas for new products and services, and providing support for everything from prototype production to mass production and sales, in order to bring these ideas to commercialization.	KUMIHIMO Tech Camp with Murata	● Increase awareness of Murata's highly reliable, high-precision sensor devices and other products ● Work together with start-ups to provide support for the market launches of new products and services
Murata Mirai Mobility	An experience-based facility for introducing Murata's solutions and technologies for the in-vehicle system market		● Reinforce external collaborations, such as technology exchanges ● Reinforce collaborations with research and development sites ● Create industry-leading innovative products and technologies
Murata Interactive Communication Space	A facility that promotes knowledge collaboration. Visitors can experience Murata technologies and products that could lead to the technologies and applications of the future.		
Explore new technologies and business areas to develop through VC (venture capital) investment	VC investment in Japan and overseas. Involves collecting information about start-ups, markets, and technologies around the world.		● New commercialization of Murata technologies ● Seize opportunities for co-creation ● Take on the challenge of developing business fields

Showcasing initiatives at our plants

Factory showcasing is designed to generate business opportunities by bringing our wares to our plants and allowing customers to come in and view them, handle them, and try them out.

As one of our third-layer businesses, we aim to provide solutions for social issues. There are a myriad of social issues, but ones such as human (employee) safety and health, decarbonization, and disaster prevention are also faced by the Group's business and production sites. Our factories can thus serve as excellent models where the effectiveness of our products in addressing issues has been verified and data has been accumulated, enabling us to demonstrate the convenience and value of our solutions to customers.

We therefore intend to develop our third-layer businesses by proactively turning our plants into showcases and also presenting the data required for deploying our solutions in society.

Case study 1   Clean energy park at Kanazu Murata Manufacturing

Here, we have installed a renewable energy system that utilizes our proprietary control technology (efinnos). It combines large solar panels and storage battery units with our proprietary energy management system that allows for real-time optimization of energy use through integrated management of information such as production plans, electricity consumption, weather conditions, and power generation projections.

The Hokuriku region, where Kanazu Murata Manufacturing (Fukui Prefecture) is located, is an area of low solar radiation and heavy snowfall. We utilize knowledge and data obtained under these harsh conditions to improve our products and operations. We are also able to offer customers optimal effectiveness simulations using this empirical data.

Case study 2   Smart manufacturing support tool for manufacturing sites (JIGlet)

JIGlet is a tool to support frontline visualization and operational improvement. It enables even personnel on the manufacturing frontline who lack IT knowledge to easily record and accumulate data on the status of equipment and personnel, visualize process variation and waste with graphs, and utilize the gained insights in various ways to make improvements and solve problems. The device is simple to deploy, as it can be retrofitted to existing equipment, eliminating the need for large-scale equipment installations and investment.

By showcasing our own factories as settings where these products are installed, we first verify their effectiveness internally, and then aim to provide optimal solutions to the various issues faced by our customers.

Message from the Director of Corporate Technology & Business Development Unit

Prepare for future business opportunities by promoting knowledge collaboration through essential technology development and external cooperation

Member of the Board of Directors and Senior
Executive Vice President
Director of Corporate Technology & Business
Development Unit
Executive in Charge of Medical Products Business

Hiroshi Iwatsubo
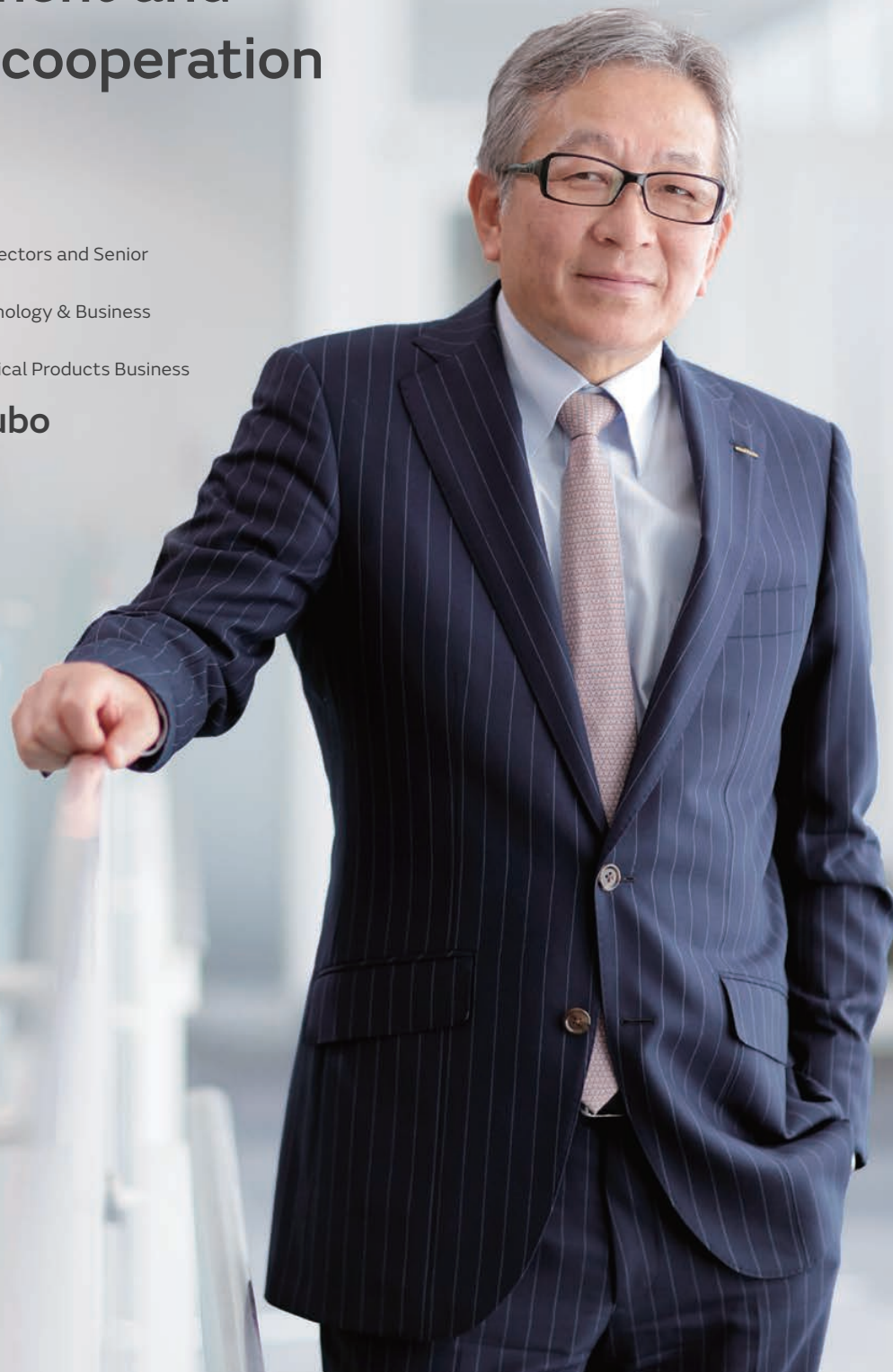
View of the current electronics industry and direction for technological development

First, I would like to share my perception of the current state of the electronics industry. It cannot be denied that the smartphone and tablet PC markets, which have driven our growth in recent years, have matured and are approaching a transition period for applications. In addition to the predicted decline in consumer confidence in the wake of the COVID-19 pandemic, the demand for components suffered a blow due to delayed demand for applications using 5G communications technology and for events with large crowds. Moreover, in our mobility business, stable growth is expected to continue because of the adoption of several types of electric vehicles (xEVs) and progress in automated driving technology. However, such growth is insufficient to compensate for the lower telecommunications market demand. Under these circumstances, Murata intends to advance research and development in existing business areas where we can anticipate a certain level of technological evolution while continuing to invest in new businesses where we have yet to gain a foothold. This will position us for the future expansion of electronics usage from 2030 and beyond.

Leveraging Murata's core technologies to support business development

Murata has built a vertically integrated production system ranging from raw materials to finished products and has developed several core technologies to support this process. Among these, materials technology is one of our strengths. Few electronic component manufacturers have the capacity to work on improvements in terms of characteristics from the raw materials stage. For example, the characteristics of barium titanate used in multilayer ceramic capacitors can be significantly altered simply by adding trace amounts of additives. The many years we have spent devoted to pursuing materials technology and accumulating expertise have led us to create a materials cluster centered around functional ceramics, which has enhanced our competitive edge. More recently, the emergence of materials informatics and the development of chemical analysis technology have posed a risk that relying on materials technology alone no longer guarantees our competitive edge. At the same time, having quality materials alone does not guarantee superior products. Specific know-how is essential in various phases, such as production processes and product design. We intend to create a platform for this know-how alongside materials technology and refine our core technologies to develop technologies that further differentiate us from competitors and innovation.

We also believe that the pursuit of materials technology will lead to the creation of new business opportunities. As our materials portfolio expands, we are also researching materials technology that could potentially be used in the areas of the environment and wellness, which we have identified as challenge fields.

Contributing to solving social issues through our business in the area of wellness

In the long-term Vision 2030, Murata advocates practicing a 3-layer portfolio management strategy. As background, the company has grown through technological innovation in the first and second layers. In layer 3 business, we have been able to promote research and development while strengthening collaboration with external parties such as companies, universities, and research institutes more than ever before. I also feel that our internal discussions have deepened. As a result, we have launched new products in the third layer faster than in the past. In particular, the wellness market has been attracting increased attention regarding preventative healthcare. With that, several hardware and solutions have emerged that utilize Murata's electronics to maintain and improve health and enrich people's lives.

Given the current scale of Murata's business, some might question why we would engage in a business worth several hundred million yen. However, as we face an uncertain future, the layer 3 business is one way for us to expand our options, and we believe it is indispensable for sustainable value creation. Engaging business in areas where Murata has no to limited experience comes with risk. However, being overly risk-averse makes it more difficult to take on new challenges, particularly for large companies. Therefore, we will first identify areas where we can demonstrate our strengths by

capturing quick and small successes that do not damage our financial base. Once we establish a commercialization plan, we will then allocate the necessary resources to develop our layer 3 business.

Examples of medical and healthcare devices

Infusion Controller SEEVOL
An infusion device that features the industry's first camera-based droplet detection function and a natural drop system that does not put mechanical stress on the patient's blood vessels. It helps promote the more widespread use of chemotherapy that is easier and less of a burden for both patients and healthcare professionals.

Murata CPAP MX
A device used in continuous positive airway pressure(CPAP) therapy, in which air is pumped through a mask worn during sleep as the main treatment for obstructive sleep apnea syndrome. It is compact, lightweight for easy portability, and its unique built-in air intake silencer makes it extremely quiet.

Note: The information on medical devices included in this report is intended for shareholders and investors and is not intended to attract clients or give medical advice.

Promotion of knowledge collaboration with different industries

While our vertically integrated business model is one of our strengths, collaborating with external parties is essential for achieving innovation. Presently, I am focused on promoting knowledge collaboration with different industries. Through many years of personal involvement in Murata's research and development, I have felt that relying solely on in-house innovation is limited due to the lack of speed. To develop our business without missing opportunities, we must recognize the importance of serendipity (accidental discovery), which begins with meeting people. In the future, we will further implement mechanisms that proactively create opportunities for innovation. For example, the first

KUMIHIMO Tech Camp with Murata, held in fiscal 2022, offered Murata's connectivity modules and sensors to start-up businesses and universities to solicit ideas for new products and services. We received numerous ideas that align with the concept of "changing the world with Murata hardware." We will consider collaborating with the Grand Prize and Excellence Award winning companies to realize their ideas and work with them towards commercialization. While the first event involved our standard products, the second event, scheduled for fiscal 2023, will leverage new devices and technologies not introduced on our website. We are also preparing to hold the same event not only in Japan but also overseas. We want to continue this project in a more enhanced form to explore new ways to solve challenges using our products and technologies. We will contribute to the development of society by creating innovative services and solutions by combining our products and technologies with the imaginative power of start-up businesses and universities.

For details of the KUMIHIMO Tech Camp with Murata, please see here. ▶

Training engineers by raising awareness and supporting career development

In addition to creating business opportunities, the co-creation with external parties also allows our in-house engineers to gain valuable inspiration. We also promote our Venture Study Abroad Program, where employees are sent to a startup company for engineer training. This initiative was born out of the desire to place our engineers at the forefront of innovation, where they can acquire industry knowledge and experience the blood, sweat, and tears that go into creative work. They can then apply that experience to subsequent tasks and the launch of new opportunities. There will be many pitfalls that come with expanding business into areas that are uncharted territory for Murata. In such circumstances, we must develop human resources with good judgment about deciding who to partner with outside the company and from who to seek guidance. Although many individuals at manufacturing companies are uncomfortable with negotiating externally, we want our engineers to have opportunities to connect with external parties and build experiences. Supporting engineers' career development is another essential part of their training. While there is a need for personnel who are devoted to the research and development of specific technologies, it would be prefer situation that most engineers would rotate departments and work on two or more technologies rather than stay in the same place for a long time, both for the benefit of their career and for the company. Some engineers believe that if they continue researching and developing the same technology for 10 years, they will become experts in that field, but they are mistaken. Experience in two or more fields creates a chemical reaction that drives innovation. We have many technology domains, career development

programs such as education systems for young to mid-career employees and corporate executive candidates, and practical training programs for young employees overseas. We hope our engineers will take advantage of these opportunities to advance their careers and that management staff will encourage their subordinates to do the same.

We also established a personnel system in which engineers with highly specialized skills, such as product design and equipment development, are rewarded with generous compensation. To become a manager, one must have the skills to manage subordinates. However, we were concerned that human resources possessing technical expertise were not being adequately rewarded in terms of compensation. By changing this system, we aim to improve the engagement of engineers and promote the appointment of talented human resources from outside the company to become an organization that generates sustainable innovation.

Contributing to the enrichment of society as an Innovator in Electronics

In creating a new business model for the third layer, it is important to have mechanisms in place for commercializing technologies and ideas at a fast pace. When making business decisions, I believe that it might be too late with a new business idea and plan such as the one which 8 out of 10 people can understand after hearing a single explanation. Because someone must have already thought of the idea. Most people still cannot envision ways to solve social issues in our challenge fields, such as environment and wellness, which we will focus on in the future. By hypothesizing and preparing for what technologies will be necessary from 2030 onward, we

will create new value that only Murata can offer and create a continuous cycle of social and economic value.

I feel strongly that engineer training is an important matter not only for Murata, but for the whole industrial world in Japan. Since the time of our founder, we have placed great importance on industry-academia collaboration. Going forward, we will continue to focus on a resonance that transcends the boundary between business and academia so that Kyoto, where our head office is located, will produce engineers who will excel on the global stage. We want to ask all our stakeholders for their continued support throughout this cycle.

Development of elemental technology and promotion of innovation

Basic view

Murata will accelerate technological innovation in order to ensure that we continue to create new value. We conduct development in-house, from materials to processes, manufacturing technology, product design, analysis and evaluation. In doing so, we develop and accumulate our own fundamental technologies and are creating technology platforms that can be applied to new developments. By adding core technologies acquired through M&As to Murata's unique core technologies that have been refined over many years, we will create further differentiated technologies and innovations.

For the Companies to continue creating value as an Innovator in Electronics, partnerships and collaborations with external parties will be essential. As a mechanism to drive innovation, we will showcase our technologies to proactively promote collaborations with external parties. Through these efforts, we will utilize the technologies and experience we have developed through research and development in existing businesses, and combine them with software and communication networks to create new businesses.

Platform technologies and core technologies

Materials technology
- Materials design
- Materials processing

Simulation and modeling technologies for material compositions, bonding states and structures, and electrical properties. Synthesis dispersion engineering of materials controlling particle sizes and crystal structures.

Manufacturing technology
- Laminating & stacking
- Printing
- Sintering
- Surface treatment
- Precision processing
- Fine processing
- Packaging
- Measurement & testing
- Equipment design
- Automation
- Industrial engineering

Unique core process technologies to enable downsizing and high reliability of devices. Equipment design, automation, and industrial engineering technologies for high quality mass production at low cost.

Device and product design technology
- Passive device design
- Semiconductor and MEMS device design
- RF device design
- Circuit design
- Simulation
- Modeling
- Design for high reliability
- Software

Device design technologies using software, etc. for RF and other module products to achieve high performance, high precision properties, and high reliability under harsh environmental conditions. Modeling and simulation technologies for electromagnetic field analysis, thermal analysis, and stress analysis.

Analytical technology
- Materials characterization
- Failure analysis

Physical and electrical characterization technologies for material compositions and device performances through non-destructive analysis, thermal analysis, organic/inorganic analysis, and surface analysis, etc. Failure analysis technique for materials and devices.

Initiative toward solving social issues × creating new businesses

In an attempt to directly solve social issues through Murata's innovations, we are promoting activities to generate creative and groundbreaking new businesses with emphasis on what makes Murata unique. In the η (Eta) Project launched in 2021, taking social issues as our starting point, we look into development themes to spark innovation that may become pillars of our business in 10 to 20 years from now, through cross-functional collaboration among members with various technical backgrounds who were selected via internal open recruitment. Through this project, we will identify tangible themes for new business creation, and will also develop an organizational foundation for taking on the challenges of new business areas and foster next-generation leaders. Promotion of these initiatives will enable Murata pave the way to the future and evolve through innovation.

η

Social issue solution × New business creation

- Storage of hydrogen
- Utilization of microalgae
- Recovery of the marine environment
- Diversity and empowering people with physical disabilities (using brain waves)
- Traceability in forestry

For more information on the η Project, please see here. ▶

Murata's intellectual property activities

Basic view

Murata conducts speedy and flexible intellectual property activities in line with its management and business policies. As the appropriate acquisition and accumulation of intellectual property will contribute to maintaining and strengthening the competitiveness of the business, the Intellectual Property Group provides prompt support for business and development. Based on our policy for decentralized autonomous organizational management, we seek to make proposals from a corporate perspective and to ensure appropriate governance.
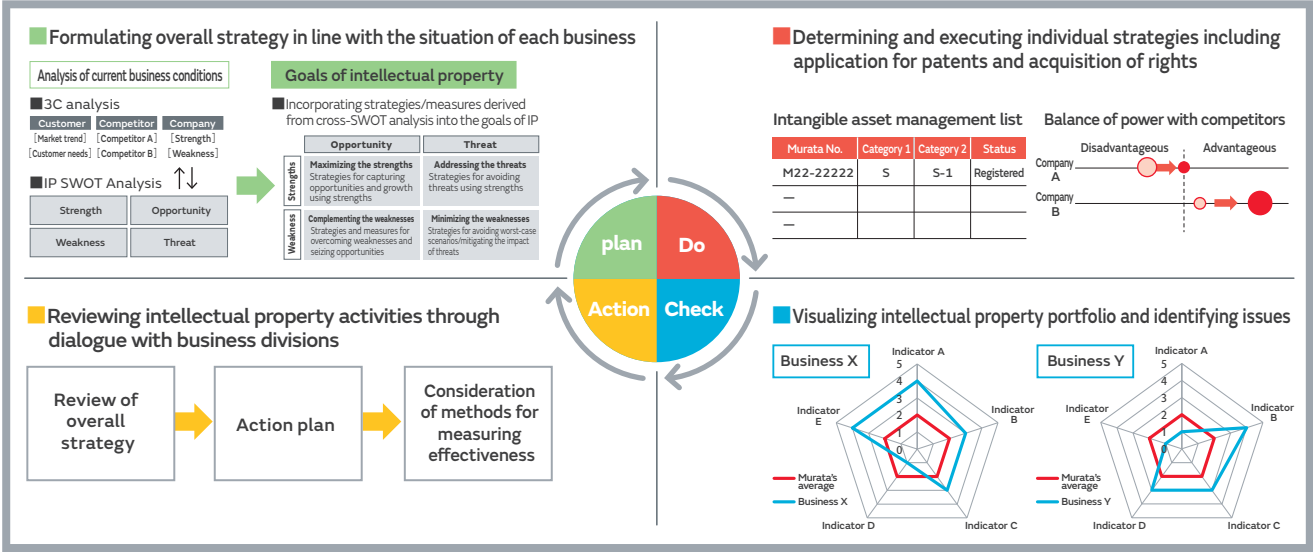
In recent years, an increasingly broader role is required of the intellectual property function, including contribution to corporate management and strategic disclosure of information. Amid this situation, we are exploring avenues for intellectual property activities that lead to the co-creation of value with internal and external stakeholders, in addition to the patent rights acquisition for traditional use purposes.

Intellectual property strategies in existing businesses

In addition to acquiring intellectual property rights, we have launched activities to objectively evaluate portfolios of the entire company and each business, based on IP scores and investment efficiency compared against reference values, term of rights, and composition by our own categorization, in order to optimize strategies and activities. The activities on strategic intellectual property are annually reported to and supervised by the Board of Directors, and are also discussed by the Management Committee to strengthen the governance over intellectual property activities.

	Role of intellectual property function	Direction of intellectual property strategy
1st layer Components	• Thorough protection of rights for platform technologies and core technologies • Determination and execution of obtaining patent rights or keeping them confidential	Control the rise of rival companies and the risk of technological imitation
2nd layer Devices/ modules	• Identification of technologies that differentiate us from rival companies and protection of our rights in focused areas • Strategic use of intellectual property in accordance with the business environment	Improve business profitability by securing competitive advantage for intellectual property

Practical PDCA Cycle for IP Strategy

Formulating overall strategy in line with the situation of each business

Analysis of current business conditions
- 3C analysis: Customer [Market trend], Competitor [Competitor A] [Competitor B], Company [Strength] [Weakness] [Customer needs]
- IP SWOT Analysis: Strength, Opportunity, Weakness, Threat

Goals of intellectual property
- Incorporating strategies/measures derived from cross-SWOT analysis into the goals of IP
  - Opportunity / Threat
  - Strengths: Maximizing the strengths (Strategies for capturing opportunities and growth using strengths) / Addressing the threats (Strategies for avoiding threats using strengths)
  - Weakness: Complementing the weaknesses (Strategies and measures for overcoming weaknesses and seizing opportunities) / Minimizing the weaknesses (Strategies for avoiding worst-case scenarios/mitigating the impact of threats)

plan / Do / Action / Check

Determining and executing individual strategies including application for patents and acquisition of rights

Intangible asset management list

Murata No.	Category 1	Category 2	Status
M22-22222	S	S-1	Registered
—			
—			

Balance of power with competitors
- Company A: Disadvantageous — Advantageous
- Company B

Reviewing intellectual property activities through dialogue with business divisions
- Review of overall strategy → Action plan → Consideration of methods for measuring effectiveness

Visualizing intellectual property portfolio and identifying issues
- Business X: Indicator A, B, C, D, E (Murata's average / Business X)
- Business Y: Indicator A, B, C, D, E (Murata's average / Business Y)

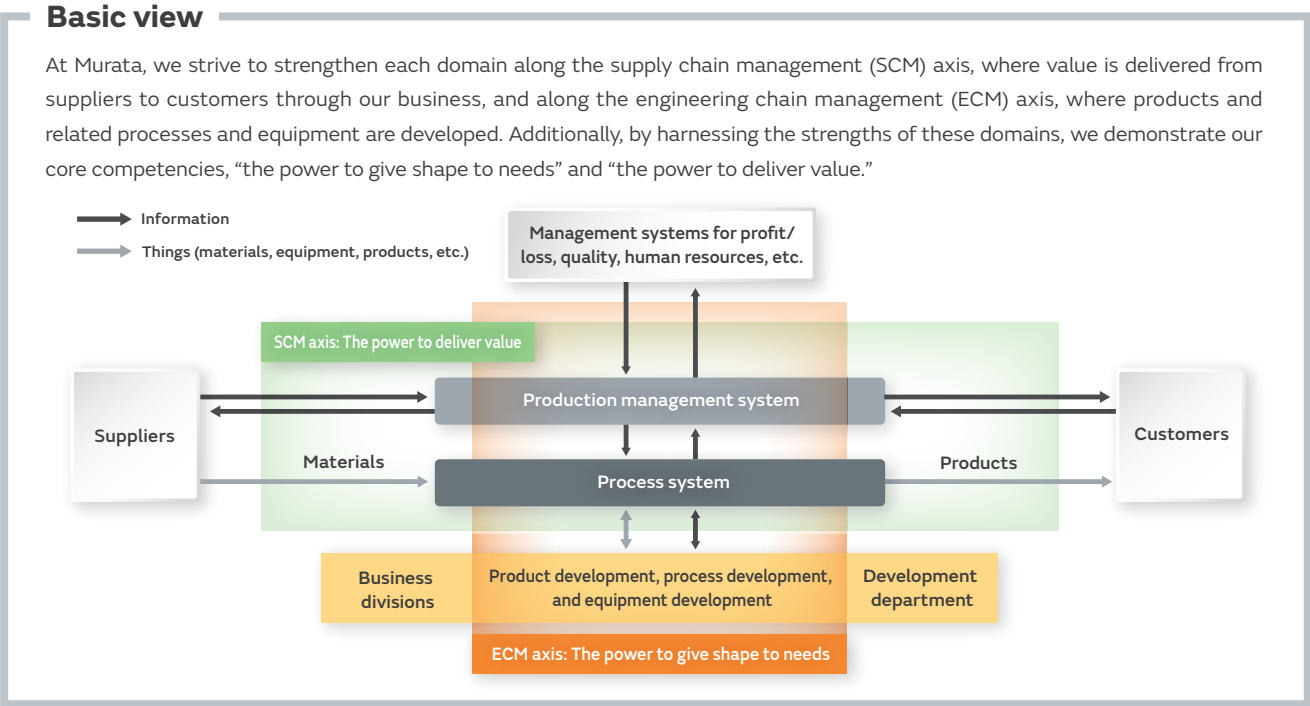## Promoting intellectual property activities to create new businesses

Fully leveraging IP landscape* analysis, we are promoting activities to propose to business divisions the technologies, business areas, and partners for co-creation that will lead to new businesses. To accelerate our efforts, we have set up a team to study and carry out the ideal form of intellectual property activities in the third layer of business domain and the organizational structure that supports these activities. In fiscal year 2022, we established a new special incentive program for inventions that contribute to Murata's challenge fields, with the aim of accumulating intellectual property in the fields of environment and wellness, thereby raising employee awareness and encouraging active creation of new inventions. Through these activities, we will constantly seek intellectual property activities that contribute to the enhancement of Murata's corporate value.

Intellectual property activities according to business stages

- **STEP1** Support for exploring businesses leveraging IP landscape
  - A) Research on technology trends and search for applications
  - B) Select co-creation partners and business areas that capitalize on the company's strengths
- **STEP2** Support early launch of new businesses and formation of new business models
- **STEP3** Formulate and implement an IP mix strategy to ensure the advantage of the business model

* A method that combines IP information and non-IP information to conduct an integrated analysis of the company, its competitors, and its markets, and to utilize the resulting information for management strategies.
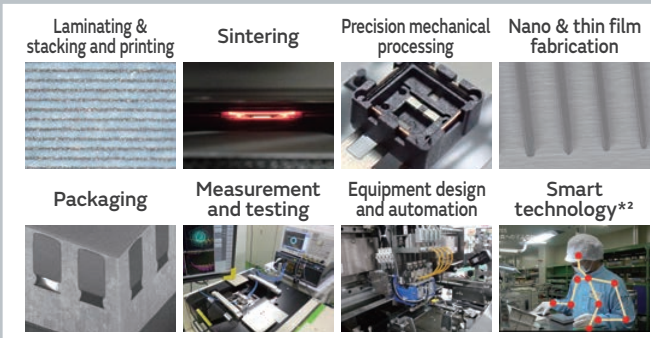
Murata's monozukuri (manufacturing)

Basic view

At Murata, we strive to strengthen each domain along the supply chain management (SCM) axis, where value is delivered from suppliers to customers through our business, and along the engineering chain management (ECM) axis, where products and related processes and equipment are developed. Additionally, by harnessing the strengths of these domains, we demonstrate our core competencies, "the power to give shape to needs" and "the power to deliver value."

Legend:
→ Information
→ Things (materials, equipment, products, etc.)

Management systems for profit/loss, quality, human resources, etc.

SCM axis: The power to deliver value

Suppliers — Materials — Production management system — Process system — Products — Customers

Business divisions | Product development, process development, and equipment development | Development department

ECM axis: The power to give shape to needs

Production technologies that support the creation of new products and business

We focus on concurrent engineering*1. The production engineering department which is responsible for the development of processes and equipment, collaborates from an early stage of the development of new products to develop, design, and manufacture unique in-house facilities that are economical, safe, and of high quality. We are also working on challenging development themes by strategically focusing on elemental technologies that will serve as our competitiveness in the future, with the addition of two new issue-solving perspectives: "environmental responsiveness," such as reducing CO_2 emissions and material consumption, and " vibrant worksites," such as improving worksite wellbeing.

*1 A method in the product development process used to streamline development by simultaneously carrying out multiple tasks

Production technology domains

Laminating & stacking and printing | Sintering | Precision mechanical processing | Nano & thin film fabrication

Packaging | Measurement and testing | Equipment design and automation | Smart technology*2

*2 Technology that solves manufacturing issues such as improving productivity and quality by utilizing technologies such as robots and AI

Management systems and management technology that meet customer requirements

We develop and operate our own production management systems. The functions of our production management systems are threefold: SCM for forming production plans based on the order information received and connecting them to delivery date response and material orders to suppliers; Quality for setting production conditions and controlling quality to perform actual production based on a production plan; and Resource for monitoring the operation status of resources such as workers and equipment and issuing instructions such as increases/decreases and the order of production. We will use these functions to meet the increasingly advanced and diversified demands from our customers.

Suppliers — SCM (Production planning & progress management) — Customers

Quality: Zero-defect Built-in quality | Resource: Worker and equipment control

Big data

Optimal instruction — Processes — Optimal instruction
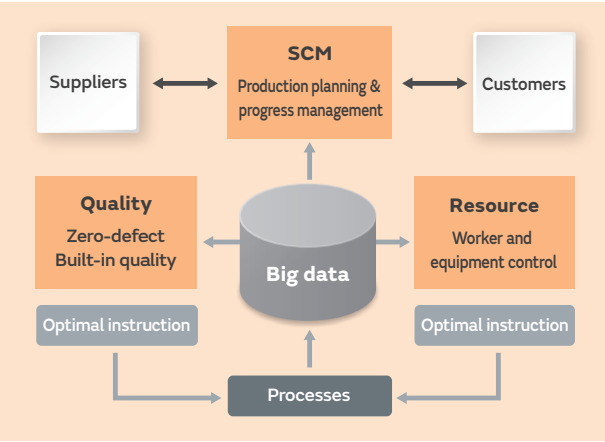
Strategies for strengthening monozukuri capabilities

To maintain and enhance our competitiveness by steadily capturing the demand for electronic components, which continues to grow in line with the expanding electronics domain, we will determine the issues to expect from both the short-term (current situation) and medium- to long-term perspectives and collaborate with our global manufacturing sites, thereby bolstering our monozukuri capabilities.

Human resources who support the monozukuri site

The foundation for excellent monozukuri is human resources. Murata places emphasis on training for improvement facilitators, with a focus on manufacturing supervisors and workers who are active at the frontline of the manufacturing site, to help them improve their workplace through improvement technologies that support our competitiveness in monozukuri. Through continuous training at production sites in Japan and overseas, the total number of improvement facilitators reached 1,862 as of the end of March 2023.

In Murata's equipment- oriented processes, maintenance technicians are also important on-site personnel who support monozukuri. Maintenance skills, which take time to master, are standardized as formal knowledge. This knowledge is passed on at "engineering training gym" that we have set up at our major production sites in Japan and overseas to develop and raise the level of these skills.

Number of improvement facilitators (consolidated)

Legend: ■ Improvement facilitators ● Percentage overseas

(FY)	2017	2018	2019	2020	2021	2022
Improvement facilitators (ppl)	887	1,074	1,290	1,501	1,716	1,862
Percentage overseas (%)	7.7	9.5	11.0	14.5	18.8	17.1
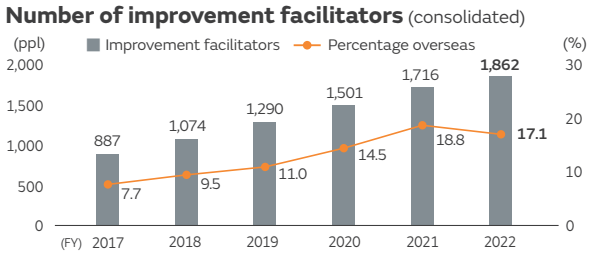
Global human resources development for monozukuri

While Murata's ratio of sales outside Japan to net sales exceeds 90%, its overseas production ratio is approximately 35%. With Japan's working-age population declining into the future, we will accelerate our efforts to strengthen our monozukuri capabilities overseas so as to develop our business globally and continue to provide competitive products. To this end, we have established regional human resource development organizations in Greater China and Southeast Asia, the regions with many manufacturing sites, to drive their autonomous development. Working in collaboration with domestic organization, we have established human resource development programs in areas of manufacturing supervision, equipment maintenance, industrial engineering, and production management to promote the development of human resources for monozukuri.

ASEAN organization for human resources development | Greater China organization for human resources development | Human resources development & exchange | Domestic organization for human resources development
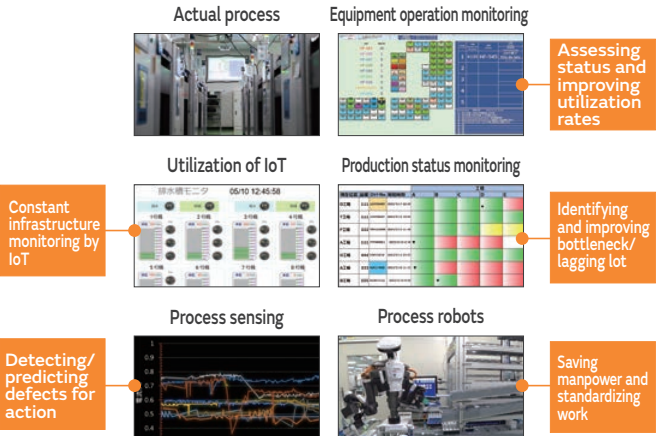
Transformation of the monozukuri utilizing digital technology

We are working to utilize digital systems to create smart factories. Our aim is to respond to challenges of securing human resource recruitment and negotiating complex logistics, as well as increasingly sophisticated needs of customers, further improved quality, new product creation, and productivity enhancement.

To overcome challenges at production sites, we endeavor to innovate operational procedures and system designs, utilizing the latest AI- or robot-powered technologies, as well as our own products and know-how, including sensors and IoT solutions.

For details of the efforts to create smart factories underway at manufacturing sites, please see here. ▶

Examples of digital applications in the monozukuri domains

Actual process | Equipment operation monitoring → Assessing status and improving utilization rates

Utilization of IoT ← Constant infrastructure monitoring by IoT | Production status monitoring → Identifying and improving bottleneck/ lagging lot

Process sensing ← Detecting/ predicting defects for action | Process robots → Saving manpower and standardizing work

Reinforcement of climate change countermeasures

Social value targets

		Fiscal 2024 targets	Fiscal 2030 targets	Fiscal 2050 targets
GHG emissions reduction (%) (vs. fiscal 2019)	Scope1+Scope2	20%	46%	—
Renewable energy sourcing (%)		25%	50%	100%

Basic view

Climate change has caused a variety of environmental issues around the world in recent years. We believe businesses have an important role in fighting climate change. We will contribute to decarbonizing the society through various initiative by setting targets for greenhouse gas (GHG) emissions and renewable energy sourcing.

We recognize that climate change presents both risks of increased cost and disruption for our business as well as new opportunities for Murata to create value while meeting the needs of society. Murata aims to create a continuous cycle of social value and economic value and to contribute to the enrichment of society by promoting climate change countermeasures from the perspective of both its own environmental initiatives and its business activities, in accordance with the Murata Philosophy.

Murata's initiatives on climate change

(Year)	Key milestones in the world/Japan	Murata's initiatives
2009		● Established the Global Warming Prevention Committee (currently Climate Change Committee)
2012		● Started to install equipment for onsite solar power generation (in Japan and overseas)
2015	● COP21 was held, and adopted the Paris Agreement	● Started to respond to the CDP climate change questionnaire
2018		● Joined the Japan Climate Leaders' Partnership (JCLP) as an executive member
2019		● Established the Climate Initiative Subcommittee
2020	● Japan declared that it would realize carbon-neutrality by 2050	● Announced its support for the Task Force on Climate-related Financial Disclosures (TCFD) ● Joined RE100
2021	● Japan set the interim targets for 2030 ● Revised the Plan for Global Warming Countermeasures ● Glasgow Climate Pact	● Established the Renewable Energy Subcommittee ● Kanazu Murata Manufacturing (Fukui Prefecture) became Murata's first plant to run on 100% renewable energy
2022	● COP27 was held	● GHG emission reduction targets received SBT certification ● Established the Energy-saving Subcommittee ● Entered into a physical PPA with Chugoku Electric ● Entered into a virtual PPA with Mitsubishi Corporation
2023		● Entered into a virtual PPA with Renova

Murata endorsed recommendations by the TCFD established by the Financial Stability Board (FSB). We will analyze risks and opportunities brought on by climate change and work to disclose information related to governance and strategies in accordance with the recommendations. Murata promotes its initiatives in the four thematic areas specified in the TCFD recommendations, namely, governance, strategy, risk management, and metrics and targets.

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Governance

Murata is strengthening its governance system for climate change measures. The Board of Directors has overall accountability for the management of all risks and opportunities, including climate change. Our President and the Executive Vice President, who are Executive Directors of the Board, chair Murata's CSR Management Committee and Climate Change Committee, respectively, and are ultimately accountable for the oversight of our climate change measures.

Roles of the committees and activities in fiscal 2022

1 Climate Change Committee

The Climate Change Committee is responsible for governing Murata's overall strategies in response to climate change and monitoring the delivery of climate-related objectives across the Murata group. The committee reports its activity track records to the CSR Management Committee and the CSR Management Committee reports these results to the Board of Directors after thorough examination. The Board of Directors takes the risks and opportunities that occur due to climate change into consideration, and directs business plans and business strategies while considering related policies and current initiatives of Murata. In addition, internal award systems are established as part of our incentives, including a Presidential award system for initiatives to reduce CO_2 at each office. The Committee is composed of persons responsible for the Manufacturing Department, Research and Development Department, Environment Department, Sales Department, and other business divisions. Meetings are held two or more times per year to make decisions on matters for discussion proposed by the subcommittees. Meetings concerning specific themes are also held on an ad hoc basis as the themes occur.

Fiscal 2022 results
● Held meetings three times, examining the calculation of CFP to develop further energy-saving measures.
● Introduced systems that combined solar panels with storage batteries to domestic business sites.
● Discussed introduction of renewable energy through measures such as virtual PPAs.

2 Climate Initiatives Subcommittee

Led by the general manager of the Environment Department and composed of senior managers of relevant departments. In addition to deliberating the viability of climate related strategies, shares successful cases of cross-departmental cooperation and initiatives.

Fiscal 2022 results
● Probed deeply into analyses of opportunities and risks of transition scenarios according to TCFD, and reflected the results onto the disclosed information.
● Had dialogues and interviews with more than ten suppliers with an aim to reduce Scope 3 emissions.

3 Renewable Energy Subcommittee

Led by senior managers of the Battery Department, Business Development Department, Environment Department, etc. Since joining RE100, the subcommittee has deliberated initiatives to promote the introduction of renewable energy across the company such as the maximum introduction of solar power generation where possible at domestic business sites and long-term procurement contracts of power based on renewable energy.

Fiscal 2022 results
● Initiated introduction of systems that combined solar panels with storage batteries into four domestic business sites.
● Signed virtual PPAs and physical PPAs.

4 Energy-saving Subcommittee

Led by senior managers of Environment Department, and each division and business sites. The subcommittee promotes visualization of energy consumption and GHG emissions from product development to manufacturing as well as promotion of energy conservation measures.

Fiscal 2022 results
● Started deliberating CFP calculation to investigate further possibilities of GHG reduction in production processes as well as generating new energy conservation measures.
● Implemented approximately 570 individual energy-saving measures throughout the Murata Group (estimated reduction of 47,000 t-CO_2e per year).

Reporting flow related to climate change

Strategy

Murata identifies climate change countermeasures as critical issues for a manufacturing company and sets "reinforcement of climate change countermeasures" as one of the material issues in Vision2030 and Mid-term Direction 2024, and adopts KPI as a company-wide management target. By capturing climate change in both aspects of opportunity and risk, Murata seeks to practice corporate social responsibility and establish further competitiveness. Murata analyzed risks and opportunities in the two scenarios announced by IPCC[*1] and IEA[*2], namely "4°C or higher global average temperature increase" and "keeping the global average temperature increase to below 2°C (1.5°C or below in some parts), as agreed upon in the Paris Agreement," and re-acknowledged reinforcement of climate change countermeasures as a Murata priority issue. Specifically, Murata will continuously promote product development with competitiveness in terms of smaller size, higher efficiency, and longer service life in order to meet the demand for high-efficiency parts required for changes in society, such as increase in renewable energy and energy conservation needs, the transition in automotive industry due to the shift to EVs, and further speed and capacity increase in information communications infrastructure. Murata also aims to contribute to a decarbonized society and explore new business opportunities by rolling out renewable energy and energy conservation measures externally, combining the solar power generation system introduced at Murata sites with its own storage batteries and energy management systems. The results of scenario analysis conducted in fiscal 2022 will be reflected in future management plan strategies to formulate concrete plans for action.

*1 Intergovernmental Panel on Climate Change (IPCC)
*2 International Energy Agency (IEA)

Climate change element	Item	Action policy	影響度
Transition risk — Increase in decarbonized product needs *Short to medium-term*	Customer loss due to incapability to respond to decarbonization needs	• Continuous product development with competitiveness in terms of smaller size, higher efficiency, and longer service life • Reduction in CO_2 emissions in collaboration with suppliers • Active introduction of renewable energy for the promotion of decarbonization in the manufacturing process	**High**
Increase in environmental awareness *Short to medium-term*	Deterioration of corporate value due to changes in investors' criteria	• Continuous dialogues with investors • Timely and appropriate disclosure of information through the TCFD framework or CDP • Climate Change Committee monitors the progress of achievement of environment management targets	**Low**
Stricter energy conservation standards *medium to long-term*	Increase in plant building and operating costs	• Decrease in cost burden through active use of energy conservation subsidies and preferential tax treatment • Offsetting increased building costs by reducing running costs through energy conservation • Active adoption of low-environmental burden building materials for constructing plants	**High**
Strained balance between mineral supply and demand *medium to long-term*	Increase in material. procurement costs due to the strained balance between the supply of and demand for rare metals, etc.	• Efforts to reduce the amount of materials used, associated with downsizing of products • Recycling process efforts and exploration of alternatives	**High**
Introduction of carbon pricing *medium to long-term*	Increase in fuel and power costs	• Energy conservation efforts at manufacturing sites • Reduction in fossil fuel-derived power consumption due to active introduction of renewable energy • New attempts at realizing alternative energy sources, such as using hydrogen • Introduction of internal carbon pricing system in fiscal 2021 aimed at promoting investments in energy conservation and renewable energy measures	**Medium**
Instability in power supply due to active implementation of renewable energy *medium to long-term*	Loss of business opportunities due to insufficient BCP response	• Enrichment of BCP at individual manufacturing sites • Ensuring a backup system at key manufacturing sites	**Low**
Transition opportunity — Increase in decarbonized product needs *Short to medium-term*	Increase in the demand for high added-value, low-power consumption devices	• Provision of the latest electronic parts that contribute to the evolution of hardware • Continuous product development with competitiveness in terms of smaller size, higher efficiency, and longer service life	**High**
	Expansion of business opportunities due to supporting energy conservation and renewable energy needs	• Contribution to a decarbonized society through battery and power supply business • Promote stakeholders' understanding of the competitiveness of energy conservation and renewable energy efforts of Murata's products through Information disclosure based on TCFD and participation in environmental Initiatives (RE100, SBT, CDP responses) • Creation of new businesses related to energy conservation and renewable energy • Environmental monitoring using modules and sensors (in-house technologies)	**Medium**
Progression of EV shift *Short to medium-tarm*	increase in the demand for electronic parts for automobiles (CASE) and automobile infrastructure	• Acquisition of opportunities due to the expansion of the parts market associated with the shift to EVS • Provision of new value including software solutions drawing on findings in the field of communications • Exploration of business opportunities in the Out-Car area	**High**
Progress in the social implementation of information infrastructure* *Short to medium-tarm*	Increase in the demand for electronic parts for high-speed, large-capacity communications and sensing society	• Promotion of the development of products that can respond to the technical requirements for the upcoming 6G society • Efforts for low power consumption and reduced loss • Continuous development of sensing techniques and devices	**High**
Energy conservation and improved efficiency in business operations *Short to medium-tarm*	Reduction in power costs through introducing renewable energy and storage battery facilities in plants and promoting energy conservation	• Promotion of energy conservation efforts at manufacturing sites • Reduction in costs to purchase non-fossil fuel-derived power by actively introducing renewable energy and storage batteries	**Low**

1) Short-term: Within the next 3 years, Medium-term: Within the next 3 to 5 years, Long term: Within the next 5 to 10 years
2) Impact levels: High: 20 billion+ JPY, Medium: 10 billion to 199 billion JPY, Low: Below 10 billion JPY
 * Elements that indirectly constitute opportunities

Physical risks and action policy

Timing: Medium-term: 2030   Long-term: 2050

Analysis target: 20 major manufacturing sites and offices primarily in Japan, China, and Southeast Asia (covering 80% based on the number of employees in the Group)

	2°C scenario		4°C scenario	
	Impact level	Overall	Impact level	Overall
Extreme typhoons and extreme heat	**Medium to high level of risk**	Over 25% increase in the risk of one or a group of these assets being affected by extreme climate hazards in 2050 from that in 2020	**High to very high level of risk**	Over 80% increase in the risk of one or a group of these assets being affected. by extreme climate hazards in 2050 from that in 2020
Extreme drought and landslide	**Medium level of risk**		**Medium level of risk**	
Extreme rainfall flood and sea-level rise	**Low level of risk**		**Low level of risk**	
Extreme precipitation, storm surge, river flood or snowmelt	**Not material**	Value at Risk (VAR): estimated to be several hundred million JPY	**Not material**	Value at Risk (VaR): estimated to be approximately 1 billion JPY
Actions	• Energy conservation: Initiatives to lower our demand for electricity, a major source of our CO_2 emissions • Renewable energy: Introducing solar power generation facilities and purchase of renewable energy and renewable energy certificates • Internal systems: An internal carbon pricing system was introduced in 2021 to align investment decision-making with Murata's commitment to CO_2 emissions reduction Targets: • Joined RE100, committing to implementing 50% renewable energy by 2030 and 100% by 2050 • Established Scope 1, 2, and 3 reduction targets in conformance with SBT standards			

Value-at-risk (VaR)

• Reflects the estimated financial loss that can incur to the selected portfolio or asset in a year, with a certain probability, if all the estimated hazard events occur under the considered scenarios and period.
• VaR is estimated based on a macro view of the following two aspects:
• Loss from physical damage to an asset: Evaluated with reference to historical events, asset types and cost of construction for the specific locations
• Loss from business interruption: Evaluated based on macro-economic factors such as country GDP, population, land use (e.g. farming, commercial, residential, manufacturing, etc.), and urbanization
• The assessed VaR, in the range of few hundred million to 1 billion yen, is not expected to have a material impact on the company's financial position. As a reference, the potential financial loss would account for less than 0.4% of Murata's net profit in fiscal 2022. We aim to conduct analysis based on Murata-specific information in the future, and depending on the results, VaR may increase.
• Measures to minimize the impact of hazards on our operations will be deliberated according to the business continuity plan (BCP).

🔴 Risk management

CSR Management Committee regularly evaluates a wide range of material issues in social, environmental, and economic areas through a structured process. In the most recent materiality assessment, impact of climate change was identified as a critical risk and endorsed by the Board of Directors as an important issue that Murata should prioritize management oversight and actions. On a strategic level, the Climate Change Committee sets and provides oversight on Murata's climate change agenda, while continuously monitoring of evolving climate-related risks. In fiscal 2021, we mainly used physical scenario analysis to evaluate the potential risks and opportunities posed by future climate change and the resilience of our business strategy. In fiscal 2022, we performed an in-depth analysis of transition opportunities and risks. Other efforts include a full-scale introduction of the sustainability investment promotion system in fiscal 2022, and decarbonization initiatives with the perspective of discontinuous challenges, including the adoption of the internal carbon pricing system.

We have also embarked on Scope 3 emissions reduction initiatives, and in fiscal 2022, visited and interviewed more than ten suppliers. On the operational level, ISO 14001 is enforced in our production facilities to drive continuous improvement while assessing environmental and climate change risks. Since 2018, Murata has also been capturing the latest information on global climate change in a timely manner through its regular membership with JCLP and has applied it to corporate efforts and actions. Risks arising from climate change are incorporated into company-wide enterprise risk register under the supervision of the Risk Management Committee. For example, guidelines for responding to severe weather conditions are provided in our Business Continuity Plan (BCP) to minimize business disruption. Our participation in industry associations, such as JCLP and JEITA, and global alliances, such as RE100, can help us gather insights into emerging risks and opportunities related to climate change. We also make policy recommendations through the global alliances. For the participation in an industry association or the review thereof, Murata periodically checks for any significant discrepancies or deviations in the missions of the industry association from Murata's aims and business activities. Withdrawal from an industry association will be considered if conformity with its missions is considered difficult.
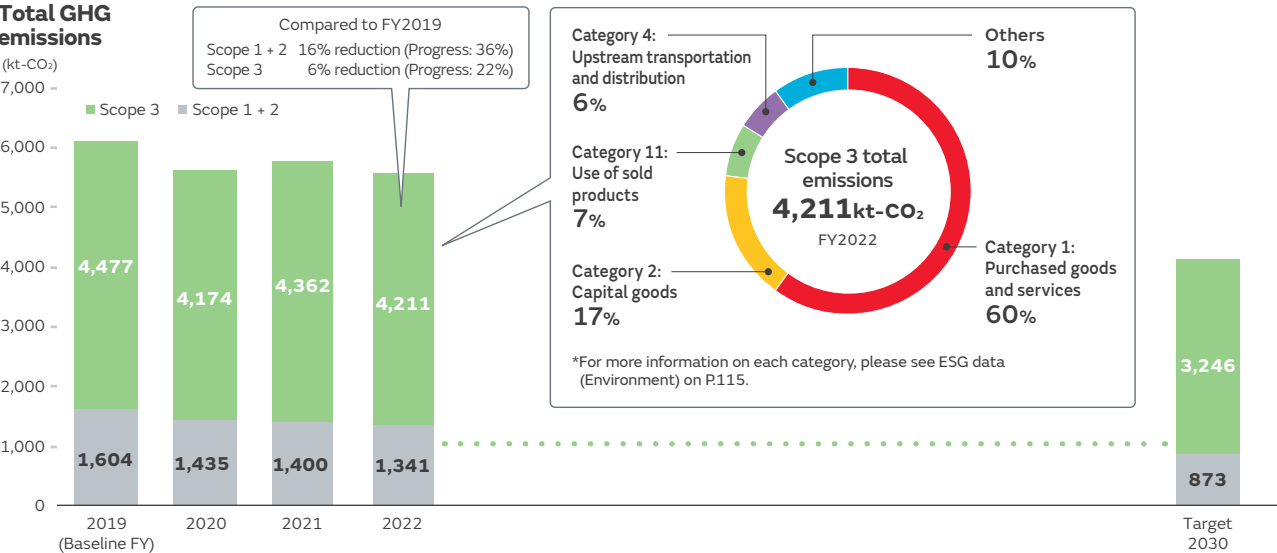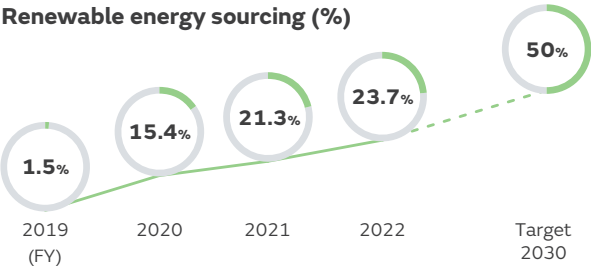
Metrics and Targets

In order to contribute to global initiatives to limit the temperature increase to 1.5°C, Murata acquired SBT certification and joined RE100. While the business scale of Murata is expected to continue expanding, we consider energy-saving, renewable energy, and renewable energy certificates as three pillars in promoting our decarbonization initiatives

to reduce GHG emissions and expand the renewable energy sourcing. In addition, we strive to further strengthen cooperation with our business partners to consider measures for reducing GHG emissions in our entire supply chain, thereby accelerate decarbonization across the whole value chain.

Fiscal 2050
● Renewable energy sourcing: 100%

Fiscal 2030
● Renewable energy sourcing: 50%
● GHG emissions (reduction rate compared to fiscal 2019)
  ● Scope 1 + Scope 2: 873 kt-CO_2e (46% reduction: 1.5°C target)
  ● Scope 3: 3,246 kt-CO_2 (27.5% reduction: WB 2°C target)

Renewable energy sourcing (%)

2019 (FY)	2020	2021	2022	Target 2030
1.5%	15.4%	21.3%	23.7%	50%

Total GHG emissions

Compared to FY2019
Scope 1 + 2   16% reduction (Progress: 36%)
Scope 3   6% reduction (Progress: 22%)

Category 4: Upstream transportation and distribution **6%**

Category 11: Use of sold products **7%**

Category 2: Capital goods **17%**

Others **10%**

Scope 3 total emissions **4,211kt-CO_2** FY2022

Category 1: Purchased goods and services **60%**

*For more information on each category, please see ESG data (Environment) on P.115.

	2019 (Baseline FY)	2020	2021	2022	Target 2030
Scope 3	4,477	4,174	4,362	4,211	3,246
Scope 1 + 2	1,604	1,435	1,400	1,341	873

*GHG emissions in fiscal 2019 and fiscal 2020 were recalculated in accordance with the calculation standards set by SBT.

Initiatives to counter climate change

Expanding renewable energy sourcing—On-site (within business sites)

In fiscal 2022, Murata installed new on-site power generation facilities using solar panels and storage batteries into its four domestic plants. Combined with the one installed at Kanazu Murata Manufacturing (Fukui Prefecture) in fiscal 2021, the systems bring the cumulative annual CO_2 emissions reduction to a total of 2,265 tons. The system consists of large-scale solar panels and power storage unit that utilizes the strength of Murata's rechargeable battery technology, enabling it to operate stably over a long period. By analyzing and accumulating knowledge on how the system is operating under conditions that vary greatly from site to site, such as weather conditions and items produced, we aim to expand the system to even more offices and plants in the future. By making these plants operate on 100% renewable energy in the future, we expand the use of renewable energy for power consumed in the business activities across the Group and contribute to reducing the environmental burden on local communities, thereby helping to create a more sustainable society.

Expanding renewable energy sourcing—Offsite PPA

We are also actively procuring renewable energy from outside our offices and plants. In June 2022, Murata and Mitsubishi Corporation agreed on a cooperative framework for working toward a carbon-neutral society, through which Murata procures 70,000 kW of power derived from renewable energy sources under a virtual PPA by fiscal 2025. We aim of expanding the amount procured to approximately 300 million kWh in the future. In May 2023, Murata entered into a virtual PPA with Renova to purchase power derived from renewable energy source. Under the terms of this agreement, Murata will purchase non-FIT non-fossil fuel energy certificates derived from the electricity generated at new solar power plants

(estimated annual power generation: approx. 100 GWh) Renova will develop exclusively for Murata. This will help Murata to contribute to Japan's carbon neutrality goals through renewable energy procurement with additionality.
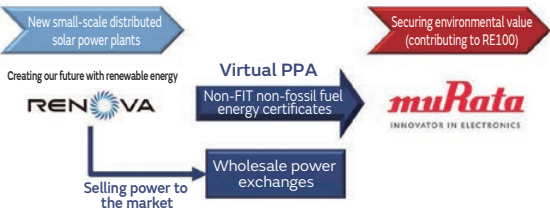
Promoting energy conservation

Continued energy conservation is essential to Murata's efforts to reduce GHG emissions. We installed an energy-saving system combining AI energy-saving controls manufactured by Mutron and Murata's containerized storage batteries at our head office, aiming to achieve an energy-saving rate of 20%. Murata's unique storage battery control technology will enable more flexible energy-saving control, contributing to reducing electricity consumption.

At Minato Mirai Innovation Center (Kanagawa Prefecture), we use IoT for maintenance of our building facility on site using wireless sensors developed by Murata, and manage data, including temperature, humidity, and current values of equipment, on the cloud to visualize the status of the facility. By utilizing IoT tools to analyze data acquired by sensors and for troubleshooting, we achieved a 25% energy saving in air conditioning and a 50% labor saving in patrolling. The project was awarded Excellent FM Award at the 17th Japan Facility Management Association (JFMA) Award. Going forward, we will

expand the introduction of advanced energy-saving measures utilizing IoT at the Group's global operation sites, while also promoting initiatives that we view as business opportunities.

Example of introduction of IoT-based energy-saving measures
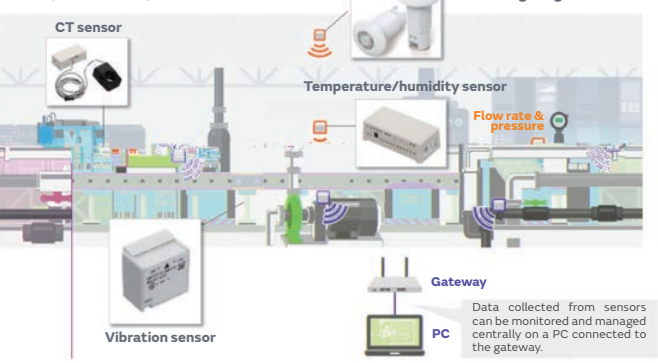
Initiatives in the supply chain

Scope 3 accounts for 76% of Murata's total GHG emissions, of which more than half are attributable to Category 1 (purchased goods and services). Believing that the cooperation of suppliers is therefore vital to promoting our efforts to reduce GHG emissions, we communicate Murata's goals and initiatives through interviews to more than ten suppliers of various sizes and business types on the status of their decarbonization efforts and briefing sessions attended by approximately 200 companies. We will not simply demand that suppliers implement decarbonization initiatives, but will provide them with support to assist in reducing GHG emissions. In the future, we are also considering proposing renewable energy and energy-saving systems for which we have a track record of internal use, along with energy management systems, etc., that use Murata sensors.

Topics   Challenges for using hydrogen energy

Anticipating the arrival of a hydrogen-based society, we will take on the challenge of creating value only possible with Murata. Preparations are underway to introduce hydrogen-related equipment at Yasu Division (Shiga Prefecture). We are also considering connecting to our inhouse renewable energy systems. We aim for technology development from a needs perspective by using the features of our Yasu Division, where our manufacturing and development departments are located. Aiming to promote innovation through collaboration with outside (third-party) companies and organizations, we made an agreement in June 2022 to collaborate with Mitsubishi Corporation on production and use of hydrogen at our plants.

Use of sustainable resources

Social value targets

	Fiscal 2024 targets	Fiscal 2030 targets	Fiscal 2050 targets
use of sustainable resources (%)*1	1% improvement from fiscal 2021 results*3	25%	100%
Resource recycling (%)*2	5% improvement from fiscal 2021 results*3	50%	100%

*1 Rate of resources with lower risk of depletion that can be used sustainably by building a recycling scheme, etc. (potentially depletable resources: Ag, Ni, etc.)
*2 Rate of Murata's discharges (waste + valuable material) that are recycled as resources
*3 Actual figures for fiscal 2021 are currently being compiled.

Basic view

As the global population increases, social issues such as resource depletion and increased waste have become more severe. Murata intends to contribute to the development of culture by addressing these social issues. We will therefore promote the use of sustainable resources by realizing it in our own business activities. Murata has set two targets for fiscal 2050: Rate of use of sustainable resources for procured materials, and resource recycling rate for waste, and is promoting efforts to achieve them.

Rate of use of sustainable resources : For parts and materials used in our products, we aim not to use (1) resources with higher risk of depletion and (2) resources that our stakeholders prohibit or discourage their use. For this reason, we will conduct our business activities so that we can use resources sustainably in the future by switching to resources that do not fall under (1) or (2), by for example, discontinuing the use of virgin materials of resources that are at risk of depletion.

Resource recycling rate : Murata has been committed to zero emissions, emphasizing the elimination of landfill and working on measures such as material recycling and thermal recycling (heat recovery). In recent years, however, there has been a growing demand from stakeholders for processing with less environmental burden, in addition to avoiding landfill. In view of these demands and social trends, we will strive to achieve processes that harmonize with the society in the world in 2050. To this end, we are working on resource recycling to use all waste generated during manufacturing processes as resources for Murata or other companies.

Murata's initiative towards realization of use of sustainable resources
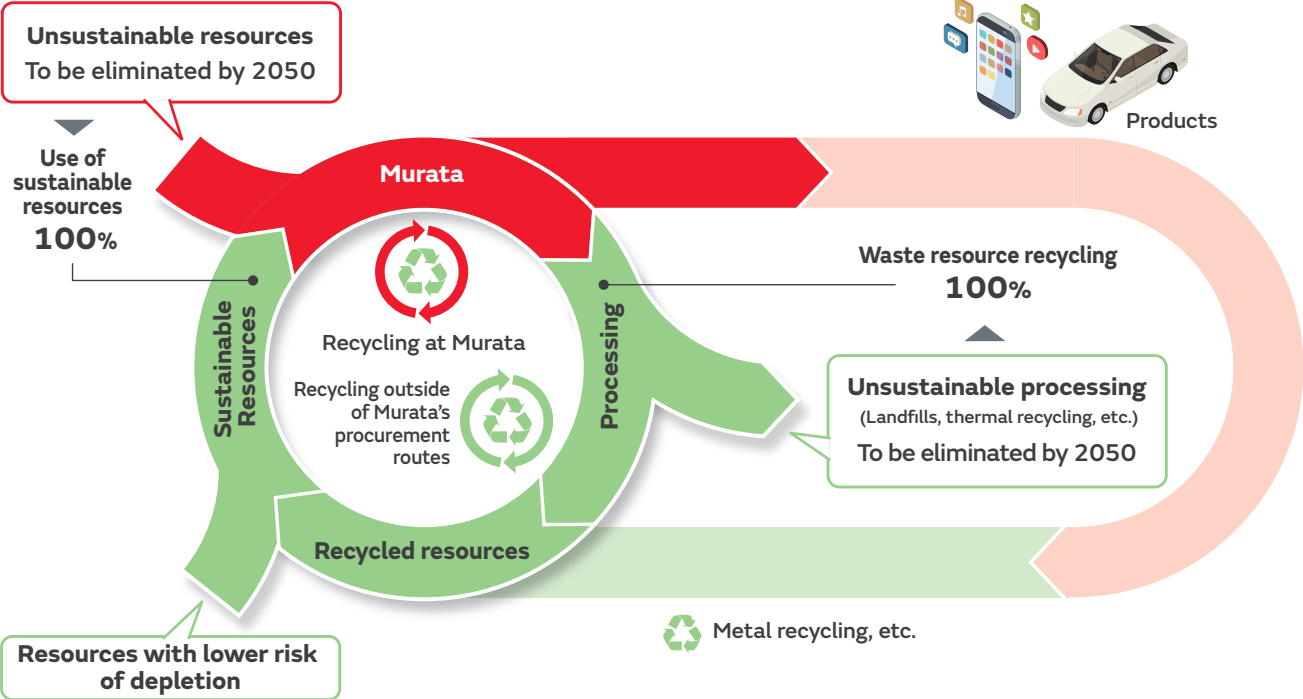
Going forward, we will look into the potential of circulating products sold to our customers based on the basic approach described above. We will also continue our efforts to reduce our total waste, including the reduction of waste liquids.

Efforts to utilize recyclable resources

Murata has become the first company in the electronic component manufacturing industry to successfully create a closed-loop recycling system for polyethylene terephthalate (PET) film used in the manufacturing process of multilayer ceramic capacitors (MLCC). Conventionally, used PET film for MLCCs was thermal-recycled or downcycled (recycling with degradation). However, this is the first time that the closed-loop recycling of PET film for sheet forming in MLCCs, converting it back into PET film to be used again for the same purpose, has been attempted in the electronic component manufacturing industry (as of May 2022, according to the company's study).

In the new recycling system, closed-loop recycling has been made possible by working with a partner company to take the PET film used in the dielectric sheet-forming process and convert it back into PET film to be used again for the same purpose. The recycling system has been introduced in stages, starting from May 2022. We are working to further improve the PET film recycling scheme so that in the future we will be using 100% recycled PET film.

In promoting this initiative, it is necessary to build collaborative relationships throughout the supply chain, including suppliers and customers. We are contributing to the use of sustainable resources and achieving a competitive edge through our pioneering use of this new system, creating a continuous cycle of social value and economic value.

Recycling process: Removing remnants such as remaining dielectric and surface coats
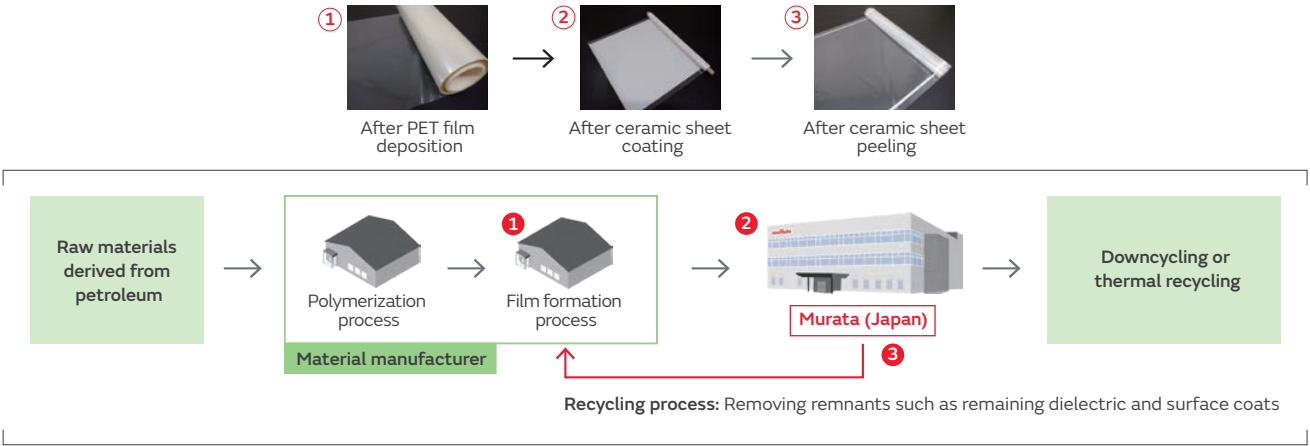
Initiatives to reduce waste

Murata Electronics Singapore (Pte.) Ltd. has introduced a membrane distillation unit (MDU) in 2021, which uses a membrane instead of the conventional sedimentation process in the treatment of plating waste liquid. This waste liquid treatment system employs a new technology designed jointly with Kurita Water Industries. By combining reverse osmosis (RO) membrane and distillation membrane*1, the system is capable of concentrating plating waste liquid up to 60 times from the current level. No chemicals are used in the treatment process, eliminating the possibility of new contaminants being mixed in with the waste liquid. Intermediate waste is recovered and reused as new products, contributing to improved recycling rates and a circular economy.

With this initiative, Murata Electronics Singapore (Pte.) Ltd. was featured in ENVISION Magazine*2 published by the National Environment Agency (NEA) of Singapore, as a key player in the field of green & sustainability in Singapore, providing an opportunity for Murata's stakeholders, especially customers and suppliers, to learn about our commitment to use of sustainable resources.

Murata will continue to focus on creating innovation through partnerships with external parties with the aim of solving social issues.

*1 A technology that allows vapor to permeate through a membrane by utilizing the difference of the boiling points between water and the substance to be filtered in the water.
*2 Published bi-annually, the magazine is distributed free of charge to a 15,000-strong readership comprising the senior government officials, as well as key decision makers in environment-related industries in Singapore.
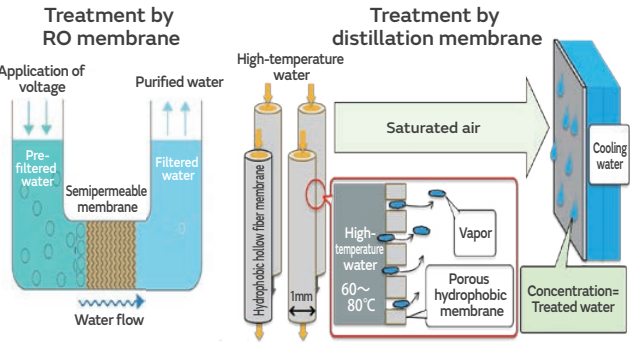
Message from the Director of HR

Things that Will Always Be Important, and Things that Will Be Changed

Fostering a Culture that Recognizes and Respects Individual Differences and Becoming a Company Where the Business and People Grow Together

Vice President
Director of the ESG and HR Group

Takanori Toi

The Murata Philosophy "SHAZE" is the foundation of our human capital approach

I am Takanori Toi, director of the ESG and HR Group, corporate unit. I oversee HR, general affairs, PR, facilities, and sustainability.

Regarding our people, the first thing I would like to mention is the Murata Philosophy, or SHAZE. At Murata, we have a deeply rooted corporate culture that respects this philosophy and as it is the basis for employees' thoughts and actions, it creates a strong value chain. Our human capital is nurtured according to this. This will remain unchanged, but we must continue to consider connecting diverse individual employee strengths to the organization's while simultaneously adapting to changes in the environment. To that end, I would like to introduce Murata's approach to human capital management.

The organizational capabilities that support Murata's growth

A key factor in Murata's growth is our "organizational capabilities." No matter how talented the employee, some things cannot be achieved alone. Yet, the act of employees trusting and collaborating to get the job done is what Murata considers to be "organizational capabilities." To demonstrate this, employees need to have an open environment where they can leverage their talents and act with a growth mindset when taking on challenges or goals.

At Murata, we leverage global job rotation, and the diverse work experiences gained across many workplaces foster mutual understanding and trust among employees. Rotation is also the basis for personnel training and allows for a culture wherein the entire company nurtures employees. This promotes collaboration, prevents the formation of barriers between departments, and leads to increased organizational capabilities.

One of the things that has influenced the creation of organizational capabilities is employees' exposure to management. For example, we have many opportunities for employees to come into direct contact with leaders, which helps deepen their understanding. For example, when Chairman Murata and President Nakajima visited domestic and overseas locations, they regularly held training sessions to talk to employees about their experiences implementing the Murata Philosophy. Cultivated in this way, organizational capabilities

are effective not only when working toward organizational goals but also in building relationships that allow employees to collaborate across organizational and geographical boundaries effectively.

Making a difference through three actions

In order to further strengthen Murata's human capital, we have planned three actions in 2022.

The Source of Value Creation

At Murata, employees around the world respond to the changing business environment, thinking and acting based on the Murata Philosophy as the shared guiding principles. They feel rewarded and continues to grow through their work. They trust and cooperate with each other to demonstrate collective strength, leading to the creation of new innovation.

A company is its people, and it's people who are at the core of value creation.

Sympathy for Murata Philosophy, and Putting it into Practice

to respond to a changing business environment	that is born when employees are motivated and feel they are growing	to sustain and enhance our collective strength
Acquiring and developing human resources	**Employee engagement**	**Leverage diversity in human resource**

As the Global No. 1 Component & Module Supplier, we aim to achieve sustained growth through proactive value creation ("Innovator in Electronics")

Social value targets

	Fiscal 2024 targets	Fiscal 2030 targets
Percentage of overseas indirect employees with experience working at other sites	7%	10%
Positive employee engagement response rate	70% or higher	76% or higher*

* Above average level of global high-performing companies

For more information on our approach to "Murata's human resources", please see here.

To realize Vision 2030, we must continue to utilize the strengths of the human capital that we have thus far cultivated and implement strengthening measures and reforms so that we can respond to changes in the environment. The changes that impact us the most are those in the market, customers, and the diversification of business models. Another significant one is the diversification of the values and lifestyles of Murata employees.

Based on the above, the most important thing for Murata is to continue creating new value by creating an environment that recognizes and respects individual differences and allows every employee to flourish while leveraging their individual talents. The job rotation already mentioned remains an essential method for increasing organizational capabilities. Still, in the future, we will need to add a new system to support the activities of a diverse workforce and foster a culture that recognizes and respects individual differences. Maintaining our existing strengths and creating a flexible environment that can adjust to the changing times will lead to improved

engagement and enable us to acquire new employees who can help us create value to realize Vision 2030.

Another of Murata's strengths is the strong togetherness we have cultivated, equipping employees with a common set of values and knowledge. At the same time, due to the recruitment of experienced people and M&A, we are acquiring more talent with more diverse values than ever before. Because of this, I believe that we must be diligent in explicitly stating what was previously unspoken and engaging in dialogue to understand each other's differences, leading to more innovation.

As Murata continues to grow, we seek more people with diverse experiences and values. Aiming to realize the "continuous cycle of social and economic value" set out as how Murata wants to be in Vision 2030, I will continue to promote human capital management that allows our business and people to grow together and solve new challenges. Thank you for your continued support.

Strengthening human capital

"Leveraging diversity in human resources" to sustain and enhance our collective strength

Basic view

As is : At Murata, we highly value "an environment and climate that allows a diverse workforce to flourish" and "the diverse perspectives held by each employee." We believe that increasing diversity on both fronts allows individuals and organizations to continue to be innovators.

To better utilize our organizational strength, one of Murata's strong points, we are undertaking various initiatives to strengthen and maintain the diversity of our employees, including improving various systems related to personnel management.

To be : In order to promote 3-layer portfolio management, we must seek fresh solutions that are distinctively Murata from values, and ideas that are not constrained by common sense or our past successes, and the active dialogues that emerge from these. Based on the idea that new discoveries can be found in frank, open discussions that respect and cherish diversity, we have in recent years been making more efforts to promote diversity, such as appointing non-Japanese people to executive positions and promoting women's active engagement in the workplace.

In addition to these efforts, we plan to further accelerate the promotion of global rotation and focus on fostering a culture that recognizes and respects individual differences. We will convert the active dialogues that emerge from recognizing and respecting diverse personalities and values into organizational strength, and work on further improving the speed and flexibility with which we can adapt to change.

Workplace with diverse human resources

Murata has set a management goal of increasing the percentage of overseas indirect employees with experience of working at other sites to 10% by fiscal 2030. To foster diverse viewpoints and promote trust and collaboration across departments and locations, we actively provide opportunities for our employees to gain work experience at other locations globally.

The Business Engineering & Information System Group supports our global business by promoting the overall optimization of internal systems and infrastructure in response to the rapidly changing business environment and IT trends.

In this business climate, we are actively engaged in the global exchange of IT personnel to promote mutual understanding and collaboration between domestic and overseas sites. At the Business Engineering & Information System Group in the Nagaoka Division (in Kyoto), employees from several regions, including Southeast and other regions of Asia and Europe, are working together.

Murata will, through cross-border personnel exchanges, motivate its employees with diverse experiences, enable them to recognize their professional growth, and encourage them to flourish at work to trigger the innovation, thereby continuing to provide value that will delight our customers.

■ Voices of employees transferred from overseas

- At first, there was a language barrier, but we began having a lot of communication through work and sometimes private interactions. We now joke around, give each other advice on work, and have a good working relationship.
- By bringing together members with diverse skills and knowledge, our project efficiency and results have been enhanced. As becoming more respectful of different ideas and cultures, I've keenly realized that new perspectives create good ideas and results.
- After returning to my home country, I would like to make use of the personal connections and ways of thinking I've developed in Japan in my work. During my stay in Japan, I noticed what I am struggling with now may be a challenge that someone else has already overcome and that global collaboration is thus worthwhile.
- Working abroad can be a turning point not only in your work, but also in your life. I would like to see more people take up the challenge.

■ Voices of teammates of employees transferred from overseas

Through the personnel exchanges, Japanese members can gain a deeper understanding of the situation in home countries of employees transferred from overseas. At the same time, the employees dispatched can recognize the importance of working from a company-wide and global perspective. In the future, we expect that discussions among members with diverse backgrounds will create synergy and generate completely new ideas.

Discussion in the workplace

Improving the ratio of women in managerial positions

We believe that increasing the ratio of female managers is an issue that should be addressed at the management level. Murata held an online seminar for managers in Japan on the topic of "Diverse Management from the Perspective of Promoting the Participation of Women in the Workplace" in November 2022, with the aim of fostering and raising awareness among managers.

In the first half of the event, President Norio Nakajima and Outside Director Yuko Yasuda held a dialog. During the session, they emphasized on increasing the ratio of women in managerial positions as an important management issue and securing diversity as a vital trigger for innovation, then stating their positive views on the outlook going forward.

In the second half session, a panel discussion was held between Ms. Yasuda and three female managers. The panelists, who have experience both as a person in managerial position and as a female subordinate, discussed questions and concerns raised by other managers, such as "How can I support my female subordinates in their career development?" and "How can I support my subordinates in balancing work and family life?" using specific examples.

Dialog between President Norio Nakajima and Outside Director Yuko Yasuda

■ Voices of participants

- The discussion between President Nakajima and Ms. Yasuda made sense to me as a process of creating new value. In addition, the essential message of how to connect diversity to innovation was also conveyed.
- I think that focusing on the event on women's participation deepened our awareness of diversity management. In order to make the most of diversity, I think it is necessary not only to recognize individuality, but also to build an environment and structure, both in tangible and intangible formats. Moreover, we need to penetrate the objectives and goals that will be brought by such initiatives.

Men's participation in childcare and changes in workplaces

The ratio of men taking childcare leave at Murata Manufacturing alone in fiscal 2022 was 32% (average amount of leave taken: approximately 40 days). At Murata, the ratio of taking childcare leave for female employees has continued to be high. Compared to this, the rate of male employees taking childcare leave is still low, but it is improving year by year. Male employees who have experienced childcare leave are now playing an increasingly active role.

Murata has been expanding its support system for balancing work with life to create a positive synergy between employees' lives and work. We believe that men's participation in childcare can not only enhance individual personal lives, but also can change our values on work styles in the workplace as a whole. We expect that all employees who wish to participate in childcare will be able to do so, and that the perspectives gained through childcare experience will be applied to their work, creating a positive synergy between their professional and personal lives.

■ Voice of a male employee (manager) who took childcare leave

After taking childcare leave, I started working in the alliance team. Although I had often participated in housework and childcare, the childcare leave gave me a chance to feel that housework and childcare cannot be described only in terms of tasks and efficiency. I noticed that, as childcare does not always go as planned, it is important to respond to changes in your child at the time. Since realizing this, I have become less concerned with precise planning. Also at work, while I streamline tasks and make general plans, I am ready to respond to unexpected events whenever they occur. Due to the nature of our business, we are sometimes suddenly busy, so we work with our partners to make adjustments. Sometimes, I go home in the evening, do some household chores, and then work from home for an hour or two.

■ Voice of the supervisor (senior manager) working with him

Working with him, I am reminded that you can devise a variety of ideas if you have the will to do so. Since our work involves a large number of external partners, not everything can be handled solely at our own discretion. I see in him a strong will to communicate well with his partners and to contribute to his family and workplace with a high level of responsibility and leadership. I think his work-life balance enriches his own personality and at the same time contributes to the autonomous work of his team members.

Corporate Strategy Dept.
(Left) Hiroshi Asega, Manager
(Right) Ryuhei Nakai, Senior Manager

"Employee engagement" that is born when employees can enjoy rewarding experience and professional growth

Basic view

As is : At Murata, we believe that engagement is something that is generated when individual employees feel a satisfaction and growth in their work. Using the results of the global survey of all employees as an indicator, we are working to improve engagement while carefully assessing the needs and challenges of each department. For example, we regularly conduct pulse surveys to gauge the awareness and effectiveness of the various initiatives based on the results of the global survey, and use AI to analyze employee comments in the free response section and identify and visualize the challenges faced by each organization. The results of the pulse surveys are reviewed by executives, and also used to facilitate discussions in workshops for all department managers. We also believe that a good understanding of the Murata Philosophy and our management policies leads to satisfaction and growth, and therefore actively promote dialogue between executives and employees. Providing a safe workplace and promoting health and productivity management are also essential in improving engagement. Murata has defined what it wants to be in 2030, and one of those aims is that "each employee can work while feeling that they are healthy in a safe workplace," a goal that we are working toward in earnest.

To be : Even before the term "engagement" became widely used, we prioritized improvements in that same area, from the perspective of achieving "satisfaction and growth." As Murata continues to expand in size and the value systems of our employees diversify, so do the factors that contribute to employees' sense of satisfaction and growth. Therefore, although a good understanding of Murata's management philosophy and the values that we cherish will remain important in the future, it is also essential for employees to interpret them in their own way to adapt to the major changes of the time, and each individual must autonomously consider what should be put into practice and continue to update this over time. We believe that spreading this idea will lead to true satisfaction and growth and continuous growth. Lastly, we will also focus on continuous self-reform utilizing the results of the global survey, based on the keyword, "changing together," bringing about collective change at all levels within the company.

Factory visits by top management—Communication with the front-line manufacturing workers

One of Murata's most important concepts is hands-on approach. As a manufacturing company, we have passed down this spirit of valuing manufacturing sites from our founding to the present day. In order to listen directly to the voices of people in manufacturing, top management frequently visits manufacturing sites in Japan and overseas. Chairman Tsuneo Murata and President Norio Nakajima alone make more than 20 factory visits per year. Over the past 16 years, more than 330 visits were made in total. When direct overseas visits were not possible due to the COVID-19 pandemic, they used online to communicate with people at manufacturing sites.

Through those visits, top management receives explanations of products, production lines, various improvement initiatives, and other topics directly from employees who work in the process on a daily basis. At the same time, this initiative provides a valuable opportunity of dialogue with employees when touring the processes together. Top management places great importance on listening to such real voices from sites. For employees, regular visits of top management provide an opportunity to reconfirm the significance of their work, realizing that top management is interested in and concerned about all initiatives at the site. The Chairman Murata and the President Nakajima themselves send information on factory visits through internal communication tools, introducing the technologies used and products manufactured at the factories as well as sharing their impressions and expectations for the sites. In this way, they encourage the employees working for other than manufacturing sites to grasp what is like on the factory floor.

Factory visits to Murata Electronics Singapore (Pte.) Ltd (upper) and Komatsu Murata Manufacturing in Ishikawa Prefecture (lower)

Safe and secure workplaces created autonomously by employees

■ Enhancement of risk assessment

Murata has introduced since in 2022 new risk assessments that cover more types of risks including unknown risks. The new risk assessment method has the following two features:
① Risks are identified based on 23 risk sources from various perspectives, including ergonomics.
② The same criteria can be used no matter who perform risk assessment.

Taking advantage of these features, we designed a system to enable employees to take actions to create a safe and secure work environment with autonomy and without variation. Furthermore, to make this system sustainable, we are building a training system to assign instructors to each site.

■ Improvement of risk sensitivity

Murata is working to mutually raise safety awareness and build a culture where employees can trust and rely on each other. As an initiative, we conduct an experience-based danger prevention training. This training is focused on enhancing employees' sensitivity to risks and enabling them to autonomously create a safe and secure work environment. Through the training, we aim to create a safety culture by providing employees with a safe way to actually experience danger and enhancing their safety awareness. We are expanding the experience-based danger prevention training primarily at domestic and overseas production sites.

Experience-based danger prevention training at Murata Safety (MS) Center, Fukui Murata Manufacturing

Murata believes that, through these initiatives, employees can autonomously create a safe and secure workplace, and as a result they will feel more comfortable and rewarded in their workplaces, thereby pursuing their professional growth.

Health management to maximize employees' motivation and professional growth

■ Improvement of sleep for shift workers

Shift workers are the backbone of manufacturing at Murata. We are working on improving sleep disruption caused by shift work to help them better enjoy rewarding experiences and professional growth. We invited Mr. Kazuhiro Yagita, a professor at the Kyoto Prefectural University of Medicine and an expert on circadian rhythms and internal body clocks, as an advisor on measures to improve the sleep quality, since September 2021. We are working on sleep improvement efforts utilizing the body clock theory.

Okayama Murata Manufacturing (Okayama Prefecture) began arranging light environments to help shift workers make it easier to adjust their internal body clocks to their shifts. We conducted a trial at a site and verified results, and then confirmed a certain extent of effectiveness. The next step is to take feedback from workers at the site into consideration, and begin renovating all lighting equipment. We will continue to verify the effectiveness of the initiative and make improvements as we go forward. We believe that the implementation of such effective measures will lead to underlying employee satisfaction.
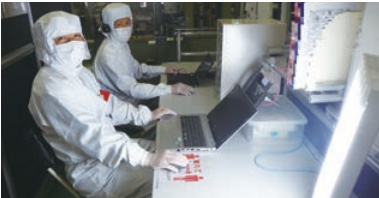
High-illumination phototherapy equipment at the manufacturing site

■ Enhancement of stress management

Murata works on enhancement of stress management from a viewpoint of how employees can overcome significant changes in working practices due to the popularization of remote work. While we have employed online tools to streamline work and realize diverse working practices, some employees are still struggling to adjust themselves to a new environment and build trusting relationships with their co-workers. We thus conducted self-care and stress management training for employees most affected by this change: new graduate employees, mid-career employees, and transferees from Japan and overseas sites. Through this training, participants can learn how to recognize and cope with stress on their own and how to interact with others. We believe that, if participants can learn how to cope with stress caused by their new environment, they will be able to stabilize their minds and bodies and step forward to build new trusting relationships and demonstrate their abilities. Through these efforts, we will continue to support a variety of employees to enjoy rewarding experiences and professional growth.

For more information on activities for a secure and safe workplace and health management, please see here.

Web https://corporate.murata.com/en-global/csr/people/safe_secure

"Acquiring and developing human resources" to respond to an ever-changing business environment

Basic view

As is : "Nurturing together collectively"; this concept is one that we value highly in human capital development. For example, developing future executive candidates is a program that embodies this idea, as it involves not just their managers, but executives as well. In addition, rotation, which is the foundation for development at Murata, not only develops careers through diverse experiences, but also fosters a culture in which employees understand each other's work and support one another when necessary. This approach to human capital development creates a good balance between individual strength and collaboration, thus leading to organizational capabilities.

To be : While the company has rapidly expanded in size and employees have become more diversified, it has become more difficult to create constructive collaboration, due to the fragmentation of work duties.

Furthermore, the expansion of the electronics industry has made customers' issues more complex, requiring solutions that go beyond simply providing components, and are instead directly linked to solving the issue at hand. Therefore, in order quickly adapt to these changes, we will further strengthen our multi-faceted approach to acquiring and developing employees, such as acquiring specialist personnel for new and emerging areas of expertise, reskilling current employees, and developing leaders who can lead the organization toward a difficult-to-predict future, so that we will be prepared for a rapidly changing future.

Next-generation leader development program

Murata has long been vigorously engaged in developing the next generation leaders. We have started a new program, "Make2030," in fiscal 2022 for those who are expected to become future leaders, in addition to the existing programs, the Middle Leadership Program for management level employees and the Global Leadership Program for next generation leaders for global positions. This program provides good opportunities for participant to get experiences earlier in strengthening hypothesis-based thinking to increase sensitivity to environmental changes and in acting while independently considering the future of the company. One of the features of this program is that participants work in teams with members from different organizations and backgrounds. This provides them with an opportunity to appreciate differences and broaden their perspectives through honest discussions while trying hard to understand each other's differences in interests and values.

In addition to promoting horizontal collaboration, the program strengthens vertical relationships because top management and many managers come together to support the growth of participants as instructors, mentors, and dialogue partners.

Round-table discussion with executives

Enhancement of recruitment of women in technical fields

As a company with strength in technology, Murata places great emphasis on producing female leaders in technical positions. To be committed to this, we have set a target of 10% or more women in technical fields for new graduate in career-track hiring, and we continue to achieve this goal. Murata holds various seminars for women in technical fields to foster a positive image of working in technical fields. These seminars explain our efforts to promote women's participation and support systems for balancing work and family life as well as introduce the work and working styles of our female engineers.
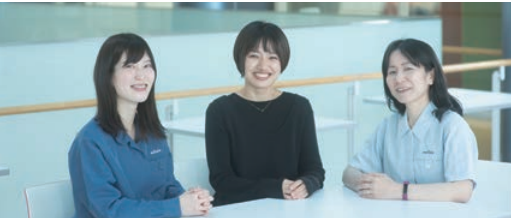
Members of the round-table discussion of female engineers

For more information on the round-table discussion of female engineers, please see here.

Coexistence with local communities

Basic view

Murata has set coexistence with local communities as one of the material issues. In support of Vision 2030, we value communication with local communities and promote problem-solving activities as they align with our founder's philosophy. Specifically, we established five priority areas: "support for the development of the next generation," "local community support," "environmental protection," "cultural support," and "academic support." Following our Activities to Contribute to Society and Local Communities Guidelines, each group company identifies the areas to focus on based on the local need and plans and implements activities to contribute to society and those communities.

Through dialogue with a wide range of stakeholders, including local residents, we will engage in social and community contribution activities to achieve our common goals of realizing a sustainable society and developing local communities.

For the Murata's Basic Policy of Contribution Activities for Society and Community and a list of the Murata Group's major social contribution activities, please see here.

Web https://corporate.murata.com/en-global/csr/people/society

Number of Murata Group employees participating in social contribution activities (Fiscal 2022)	**14,050** (approximately 19% of total group employees)	Murata Group's total expenditure on social/local contribution activities (Fiscal 2022)	**1,056 million yen**

Supporting the development of next-generation talent

Murata Electronics North America, Inc. organized the Major League Science in collaboration with Science from Scientists® as part of its STEAM education program. These types of activities provide children with an opportunity to explore education and career opportunities related to science and technology, thus nurturing future innovators. The event featured interactive demonstrations for children visiting Boston's iconic baseball stadium, where they learned how the eye and brain work together and experienced how Murata's technology can contribute to the future of sports.

Contributing to a rich environment and community safety

In support of SDG 11, "Sustainable cities and communities," Philippine Manufacturing Co. of Murata, Inc. donated 110 solar-powered streetlights since August 2021 on Pantay Bata-Cale Road near the plant, contributing to the safety of the local community. It also helps reduce greenhouse gas emissions because they are solar-powered.

Supporting students learning through community collaboration activities

In collaboration with Kanazawa College of Art, Kanazawa Murata Manufacturing (Ishikawa Prefecture) installed student-designed winter illuminations at our site and opened the exhibit to the local community. While creating the illuminations, students studied the total design and the durability of the materials, compiled them into documents, and made a presentation. After the event, the university shared its appreciation, "With the installation environment and cost limitations we were facing, this afforded us a real experience, not just a design proposal."

Supporting local multiculturalism

Fukui Murata Manufacturing (Fukui Prefecture) supports many Brazilian children of Japanese ancestry in their learning of the Japanese language at elementary and junior high schools, as their parents are engaged in manufacturing at our partner companies. The support includes providing interpreters and donating interpretation equipment to these schools. We will promote support for multiculturalism that allows people to appreciate differences in nationality and culture in cooperation with the local government where our business sites are located and at partner companies.

Respect for human rights

Basic view

To become an innovator by leveraging diverse human resources, it is essential to respect the human rights of individuals. Based on this belief, Murata's Human Rights and Labor Policies specify the commitment of each executive and employee to respect, protect, and not violate the basic human rights of all stakeholders. We aim to reduce risks and improve governance as well as to establish sustainable business foundation by understanding the broadening scope of human rights and respecting human rights throughout the value chain.

To this end, Murata is working to develop human rights policy and establish human rights due diligence and complaint handling mechanisms in accordance with the United Nations Guiding Principles on Business and Human Rights. In addition to the company-wide human rights due diligence, we have established a Human Rights and Labor Management System at each business site. With the system, we run through the PDCA cycle by conducting annual risk assessments for each business site to identify their unique risks; proposing and administering goals and plans; monitoring, evaluating, and making necessary corrections; and conducting management reviews.

Murata's initiatives on human rights

(FY)	
2002	● Established the Corporate Ethics Policy and Code of Conduct
2009	● Established the CSR Charter ● Adopted the RBA Code of Conduct in the Procurement Policy
2012	● Established Human Rights and Labor Policies
2013	● Adopted the Conflict Minerals Reporting Template (CMRT) for survey answers
2015	● Developed a human rights management manual and the Human Rights and Labor Committees began operations
2016	● Implemented self-assessment for existing suppliers
2019	● Renewed the Human Rights and Labor Policies through social requirements and dialogues with stakeholders ● Adopted the Cobalt Reporting Template (CRT) for survey answers
2020	● Conducted company-wide human rights risk assessments ● Enhanced compliance consultation hotlines (added the Harassment Consultation Desk)
2021	● Invited outside experts to provide lectures on human rights to all employees ● Established a risk assessment process for new business partners
2022	● Joined RBA ● Conducted regular audits for existing suppliers ● Performed measures against new minerals such as mica ● Established the Human Rights Committee independent of the CSR Management Committee

Topics

Established the Human Rights Committee

Murata has been promoting various initiatives to respect human rights, including the establishment of the Human Rights and Labor Policies. In recent years, there has been growing international interest in efforts to respect human rights through the corporate value chain. Against this backdrop, to strengthen company-wide efforts, we established the Human Rights Committee in fiscal 2022 as a subordinate committee of the CSR Management Committee, with a member of the Board of Directors and Executive Vice President serving as a person in charge. At the committee, relevant divisions hold discussions to ensure that we can cope with human rights risks in all of our business activities in a timely manner in response to rapidly changing stakeholder demands. Going forward, we will strengthen the system of human rights due diligence, centered on the Human Rights Committee.

Human rights education

Murata provides necessary human rights education according to the risks that are likely to arise for individual countries. In Japan, we regularly check employees' understanding of the Human Rights and Labor Policies. In addition, we focus on harassment education to make employees aware that their own actions can affect human rights so as to prevent such incidents before they occur. We designate December, the month in which the Universal Declaration of Human Rights was proclaimed, as Human Rights Month, so that our employees have an opportunity to understand the impact of our business activities on human rights and to review their own actions.

In addition to human rights education for general employees, we have long provided education for those in charge of human rights management. In June 2023, we held a lecture meeting with outside experts on the theme of "Business and human rights—

Considering the connections between human rights and business/work" for global personnel and managers, including those in charge of human resources, general affairs, procurement, and sustainability promotion departments. A total of 165 participants from domestic and overseas sites learned about recent global trends, promotion of human rights initiatives based on the Guiding Principles, and concepts such as grievance mechanisms. Appreciating the importance of fostering awareness among each and every employee, we will strengthen our education system.

Percentage of people trained in human rights (Fiscal 2022)

	General training	Manager training
Total (Consolidated in Japan)	95.4%	96.4%

Note: Percentage of domestic employees who have taken e-Learning

PDCA in human rights due diligence

Murata runs a PDCA cycle to identify and evaluate negative impacts, prevent and reduce negative impacts, perform monitoring, and disclose information in accordance with UN Guiding Principles on Business and Human Rights.

P Identification and evaluation of negative impact

Murata conducted a company-wide risk assessment in fiscal 2020 to analyze potential human rights risks throughout its business. In order to understand human rights issues to be addressed, we are mapping any risks of potential human rights violations such as forced labor (including issues with child labor, foreign workers, and working hours), gender discrimination, harassment, labor organization rights (freedom of association and collective bargaining rights), our impact on local communities, and the impact of our products on society.

In fiscal 2023, we are further identifying and evaluating negative impacts, deepening our efforts, and verifying the existence of new risks, with the help of outside experts.

D Prevention and mitigation of negative impact

To prevent and mitigate negative impacts, we share human rights risks identified through assessments and stakeholder complaints with relevant internal departments.

Examples of specific initiatives

● We found that an agent recruiting foreign workers for our overseas factories had received deposits from workers to prevent them from canceling their travel. To prevent recurrence of this issue, we urged the agent to stop taking deposits from workers, and at the same time, interviewed the hired workers.

● We conduct regular audits of suppliers and support improvements, and conduct assessments of high-risk minerals such as cobalt in the OECD due diligence process.

*For details on our actions concerning suppliers, please see CSR procurement promotion, on page 83.
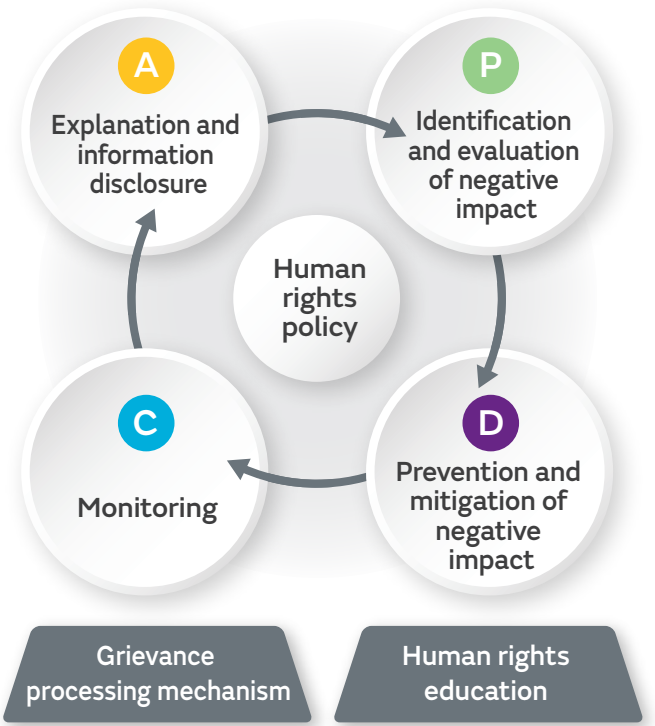
C Monitoring

At Murata, we monitor our work conditions and working hours, exchange opinions with labor unions and other organizations, and conduct employee surveys. We also implement a risk assessment system for suppliers.

A Explanation and information disclosure

Murata discloses information through its website and integrated report (Murata Value Report).

Implementation of a complaint handling mechanism (grievance mechanism)

Murata has established multiple contact points to receive reports and consultations from stakeholders in order to promptly implement appropriate corrective measures in the event of negative human rights impacts. Each contact point accepts reports under real names or anonymously and offers an accessible environment with multiple languages supported. For employees, we have third-party contact points in addition to internal contact points. Furthermore, Murata has established dedicated consultation services for suppliers. Murata also accepts reports and consultations from a wide range of stakeholders, including members of local communities.

*For details on consultation hotlines and the number of reports and consultations, please see Compliance, on page 89.
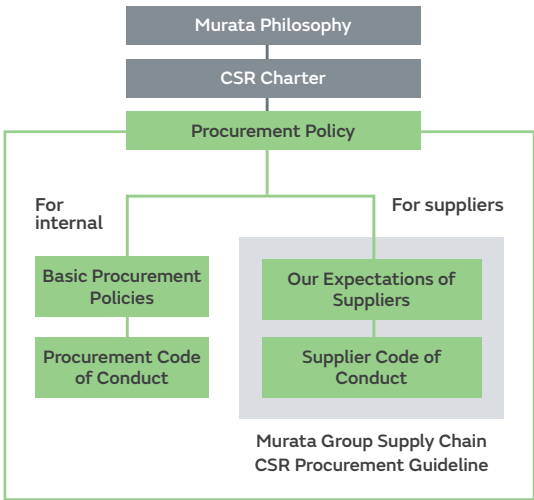
CSR procurement promotion

Basic view

Based on the Procurement Policy underpinned by the principles of honesty, fairness, and sincerity, Murata seeks to generate a continuous cycle of social value and economic value by working on environmental, social, and governance (ESG) issues throughout the supply chain to "contribute to the advancement of society" that it declares as its philosophy.

Following its philosophy, Murata establishes the CSR Charter as rules that all people working for Murata should observe. Based on these higher-level policies, we have established "Procurement Policy" to build strong partnerships with suppliers and cooperative relationships from a long-term perspective and to realize a sustainable society by the whole supply chain. The Procurement Policy consists of the "Basic Procurement Policies" and "Procurement Code of Conduct," both of which present the concept of and action/judgment standards for Murata's procurement activities, as well as "Our Expectations of Suppliers" and "Supplier Code of Conduct," which present the concept of and action/judgment standards for CSR expected of our suppliers.

To ask suppliers to understand the Procurement Policy and comply with each requirement, in 2020, Murata established "Murata Group Supply Chain CSR Procurement Guidelines" (hereinafter, "Guidelines") and distributed them to its suppliers. In 2022, we have issued the second edition of the Guidelines to address international sustainable procurement standards and to meet the needs of our customers. In order to further deepen understanding of the Procurement Policy, we started on-site CSR audits (hereinafter, "CSR audit") of significant suppliers in March 2022. For any risks that are found through CSR audit or self-assessments, Murata requests improvements from the supplier and offers support for such improvements when necessary.

Murata will continue to practice courteous communication with suppliers, aiming to foster mutually beneficial partnerships for building a sustainable society. We work to fulfill our social responsibility across the entire supply chain.
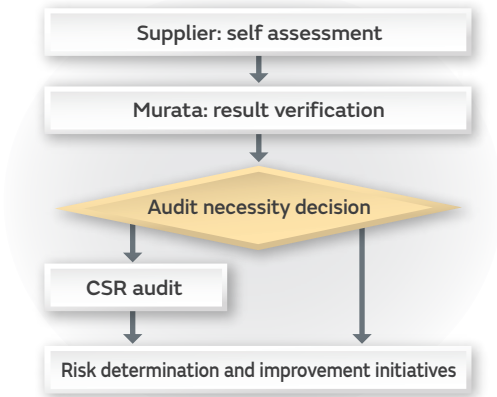
| Murata Philosophy |
| CSR Charter |
| Procurement Policy |

For internal | For suppliers

| Basic Procurement Policies | Our Expectations of Suppliers |
| Procurement Code of Conduct | Supplier Code of Conduct |

Murata Group Supply Chain CSR Procurement Guideline

For details on our responsibility to and actions concerning suppliers (CSR procurement initiative), please see here.

Web https://corporate.murata.com/en-global/csr/people/suppliers

CSR risk evaluation and improvement initiatives

Targets and fiscal 2022 performance

To promote CSR procurement, Murata established targets for fiscal 2022 to 2024 and has been conducting CSR assessment initiatives in line with its procurement policy. All of the target values were generally achieved for fiscal 2022. We will continue to reduce risks for CSR procurement issues in order to achieve the set targets.

KPI	Targets for fiscal 2022 to 2024	FY2022 results
Rate of agreement signed for compliance with the Murata Group Supply Chain CSR Procurement Guidelines (%)	95% on a global basis	96%
CSR evaluation improvement (%)	100% improvement with suppliers needing corrective action	90%
CSR audit execution (%)	95% execution of CSR audits on important suppliers*	100%

In fiscal 2022, we promoted CSR procurement by focusing on verifying our suppliers through CSR audits. This is an opportunity for those in the field to recognize the gap between the actual situation and the RBA requirements, acknowledged as global industry standards. If there are shortcomings, we not only point them out and request improvements but also provide continuous support for improvements during the audit and in follow-up discussions.

This audit has led to an increase in the level of compliance with the RBA Code of Conduct and other codes of conduct that Murata requires of its suppliers, which in turn has led to an increase in awareness of CSR compliance among suppliers and a reduction in CSR risk for Murata.

*For more information on the identification of important suppliers, please see here.

CSR evaluation process

When starting a new transaction with a supplier, Murata concludes a CSR Agreement and requests that the supplier agree to the Guidelines and conduct self-assessments based on the Guidelines using the CSR Compliance Checklist. Even after the start of the transaction, we ensure that the supplier comprehends and incorporates Murata's Procurement Policy and the Guidelines, and conducts self-assessments annually.

Besides self-assessments, we also conduct CSR audits on important suppliers selected based on results of the above assessments and RBA criteria, such as transaction amounts and importance in product functions. These CSR risk evaluation results are managed in a ranking from A to C to prevent risks from arising, especially when a supplier ranks C, which is perceived to be at high risk.

Fiscal 2022 CSR evaluation results

1）Self-assessment

In fiscal 2022, 100 suppliers conducted self-assessments. No fatal risks have been identified thus far. We also continue to conduct CSR audits.

	Scope	Number of suppliers	Number of suppliers that needed improvement	Ratio of suppliers with low risk
FY2020	Significant suppliers	154	2	99%
FY2021		133	5	96%
FY2022		100	3	97%

2）CSR audit

During fiscal 2022, we completed audits for 44 suppliers. CSR audits confirm compliance with the Guidelines. In addition to document checks, we also conduct on-site inspections and interviews with employees to get a more accurate picture of the actual situation.

Additionally, irrespective of the rank from the evaluation results, Murata requests and supports improvements wherever and whenever an issue comes to light. If sufficient improvement is not confirmed, we will enter into discussion regarding the ongoing partnership and business relationship.

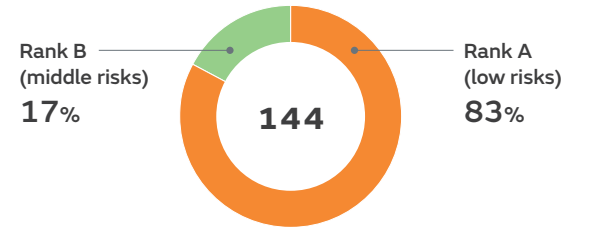| Supplier: self assessment |
| Murata: result verification |
| Audit necessity decision |
| CSR audit |
| Risk determination and improvement initiatives |

While no significant risks have been identified, our suppliers have implemented corrective actions for minor issues. Furthermore, prior to conducting CSR audits, we provided our suppliers with the Guidelines and hold briefings for suppliers on CSR audits. We also provided Q&A before and after the audits and support for improvement initiatives to deepen their understanding of the guidelines and CSR audits.

In this manner, we use opportunities such as CSR audits of suppliers to work with them in strengthening CSR compliance initiatives in each area of labor (human rights), health and safety, environment, ethics, supplier management, and management systems.

Breakdown of fiscal 2022 CSR evaluation results

Rank B (middle risks) **17**%　　144　　Rank A (low risks) **83**%

Initiatives for responsible mineral procurement

Our goal and initiative details

Murata is committed to avoiding minerals in our products that may lead to wrongful acts such as financing of armed groups, forced labor, child labor and other violation of human rights, destruction of the environment, money laundering, and other crimes. This commitment is part of our efforts to fulfill our social responsibilities, including the protection of human rights and the environment in our procurement activities. Specifically, we have established "Responsible mineral procurement response policy" and conduct assessments (due diligence) based on the OECD Due Diligence Guidance to reduce the Annex II risks[1].

In order to identify smelters and refiners in the supply chain, we conduct surveys in compliance with the RMAP*2 industry-standard. The collected survey reports are used not only to verify smelters with RMAP certification but also to assess the risk of their management system, including whether they have a management policy. In addition to the evaluation based on the survey reports, Murata also conducts on-site audits to confirm the results. If the survey reveals that a high-risk smelter/refinery is being used, we communicate the risk details to our suppliers and request them to switch to a RMAP conformant smelter/refinery.

Meanwhile, Murata receives more than 5,000 requests for supply chain information annually from its customers. Based on the results of responses from suppliers, Murata make reports using the CMRT (Conflict Minerals Reporting Template) and the EMRT (Extended Minerals Reporting Template) published by the RMI (Responsible Minerals Initiative).

*1 Material risks that may occur in relation to mining, trading, dealing, and exporting of minerals from CAHRAs (Conflict-Affected and High-Risk Areas).
*2 A program of the RMI for auditing of smelter/refinery.

For more information on our Responsible Minerals Sourcing Policy and efforts for compliance with 5-Step framework of OECD Due Diligence Guidance, please see here. ▶

Survey results and issues

At Murata, we regularly conduct surveys of our suppliers to keep abreast of the latest supply chain information. Previous conflict mineral surveys confirmed that our mainstay products such as multilayer ceramic capacitors, inductors, thermistors, and ceramic resonators are already conflict-free.

In the fiscal 2022 survey of conflict minerals, we carried out a survey of 160 major suppliers for 3TG*3 and achieved a 100% response rate. For cobalt, we surveyed 85 major suppliers for a response rate of 89%.

The above survey found that the overall RMAP conformant smelter and refinery usage rate was 93%. In addition, we took steps to improve the situation of 16 suppliers with inadequate management systems, which were identified during on-site audits. Through this most recent survey, Murata broadly recognizes three issues and believe that it is important to advance initiatives to resolve them.

*3 Tin, tantalum, tungsten and gold

Fiscal 2022 responsible mineral procurement survey results

	Gold	Tin	Tantalum	Tungsten	Cobalt	Total
RMAP conformant smelter and refinery usage (%)	90%	96%	99%	92%	88%	93%

Theme	Challenge	Initiative
①RMAP conformant smelter and refinery usage rate	At the current time, since some suppliers do not use RMAP conformant smelters and refineries, it is difficult to guarantee that all of our products are not contributing to Annex II risks.	Keep requesting the suppliers who are not using RMAP conformant smelters and refineries to use those. Request suppliers that do not appear to be making progress in due diligence within the supply chain to conduct risk assessments and encourage them to improve their situation.
②Initiative to reach a 100% response rate in the cobalt survey	In some cases, suppliers do not cooperate with the survey because the cobalt survey is not a legally required response.	Promote cooperation in the survey among supplier personnel responsible for practical operations, by conducting briefing sessions and distributing explanatory materials to ensure their full understanding of the background and importance of the initiative.
③Implementation of due diligence on conflict minerals by suppliers	In some cases, lack of a solid management system for conflict minerals hinders due diligence throughout the supply chain.	Continue to support suppliers in enhancing their management systems through on-site audits and offering necessary advice for improvement, in addition to written surveys.

Initiative to address issues through industry actions

Murata is a member company of industry organizations such as the JEITA (and its Responsible Minerals Trade Working Group) and RMI. We are proactively working on issues that are difficult to solve as an individual company, such as creating industry-wide frameworks.

An example of our effort includes our participation in the operation of the "Responsible Minerals Sourcing Inquiry

Briefings" hosted by JEITA. Through these briefings, we share the latest information with many companies, aiming to educate and enlighten them so as to deepen their understanding of the importance of this initiative. We are clarifying the problems, proposing mechanisms, and engaging in other active debates at the JEITA working group to make proposals to RMI so that RMAP support may proceed in an efficient manner.

Risk management

Basic view

In order to sustainably improve the enterprise value of the entire Group, Murata has built a risk management system to appropriately manage the various internal and external risks related to its business activities. Moreover, we are engaging in activities to reduce loss when risks are discovered that have a significant impact on our business. Examples of these activities include regularly classifying and evaluating each risk concerning our overall business activities and implementing countermeasures in advance according to the priority.

In understanding risks, the key functional staff departments and the business divisions responsible for implementation, which are responsible for each risk, extract the risks that Murata is currently facing or risks that are expected in the near future. The key functional staff departments prevent oversights in risk identification and working to build a system that can appropriately respond to company-wide risks by correctly recognizing: (1) risks which must be identified as company-wide risks from among those extracted by the business divisions responsible for implementation and (2) risks that the key functional staff departments and business divisions responsible for implementation must share and cooperate for. (Refer to the figure Company-wide risk management system below) Moreover, the extracted risks are comprehensively identified and managed by evaluating the importance based on the frequency of occurrence and impact and then displaying those risks on a risk map.

Promotion structure

Murata established the Risk Management Committee to consider measures for countering company-wide risks. The Risk Management Committee became independent from the CSR Management Committee in April 2023 as a committee under the direct control of the Representative Directors. It comprises the President, who serves as the committee's chairperson,

and Board Members and Vice Presidents, who are committee members. We have also established the Information Security Subcommittee and Business Continuity Management (BCM) Subcommittee as subordinate organizations to study and take measures to address particular risks.

Internal system diagram

Company-wide risk management system
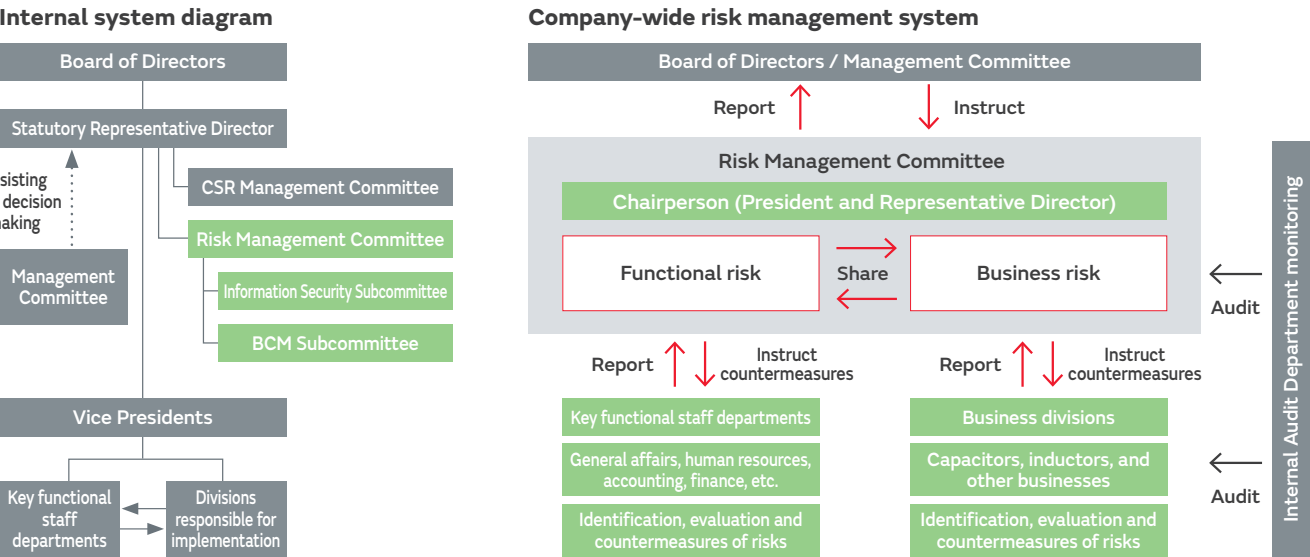
Business and other risks

Risks that may have a material impact on the company are shown on the following page.

The frequency of occurrence and the degree of impact of residual risk remaining after implementing each risk countermeasure are classified into the three categories: High, Medium, and Low. With regard to the degree of impact, an indicator is selected from the five indicators: "Organizational

impact," "Impact on production activities, etc.," "Regulatory/administrative impact," "Impact on business transactions," and "Media/reputational impact." Classification is then made based on the criteria that has been set in advance for each indicator. For more details on each risk and primary response, please refer to the 87th Annual Securities Reports submitted on June 29, 2023.

① External environmental risks		発生頻度	影響度
1	Risks related to global business development	Medium	High
2	Risks related to exchange rate fluctuations	High	High
3	Risks related to financing	Medium	Medium
4	Risks related to fund management	Low	Medium
5	Risks related to environmental regulations	Low	Medium
6	Risks related to climate change	Medium	Medium
7	Risks related to the suspension of business activities due to disasters and infectious diseases, etc.	Low	High

③ Risks related to management foundation		発生頻度	影響度
1	Risks related to information security	High	High
2	Risks related to public regulations and compliance	Low	High
3	Risks related to intellectual property	High大	Medium
4	Risks related to taxation	Medium	Medium
5	Risks related to the hiring and securing of human resources	Medium	Medium

② Strategic risks		発生頻度	影響度
1	Risks related to fluctuations in the demand for our products	Medium	High
2	Risks related to product competitiveness (market share)	Medium	Medium
3	Risks related to dependencies on specific partners and products	Medium	Medium
4	Risks related to M&A, business alliances, and strategic investment	Medium	High

④ Business execution risks		発生頻度	影響度
1	Risks related to the development of new technologies and products	Low	High
2	Risks related to procurement	Medium	Medium
3	Risks related to customer trust	High	Low
4	Risks related to quality	Medium	High

Business Continuity Management (BCM)

Consequently, Murata has devised a Business Continuity Plan (BCP) to ensure that we can fulfill our duty to provide customers with a stable supply of products. We are conducting initiatives to minimize damage and continue business, such as ensuring earthquake resistance and safety for buildings and production facilities, constructing backup frameworks for our communications and information systems, and maintaining supply from product inventory.

Within material procurement, the production locations of material suppliers are stored in a database so that procurement activities are not delayed when a disaster or other risk occurs. We have also formulated an initial response system and a response flow for expected risks to implement a rapid initial response. Furthermore, in order to ensure stable procurement of important materials, we are promoting measures such as implementing a multi-vendor system, confirming the BCP implementation status of our vendors, and ensuring sufficient materials inventory to cover the expected recovery period, if risks materialize.

Additionally, we must promote the establishment of BCM organizations to handle risks that could occur at the global level, prevent risks that could impair Murata's business continuity, and minimize loss if risks should materialize. To this end, Murata is taking measures such as verifying the effectiveness of its BCP through periodic drills at its domestic and overseas offices and plants. We recognize that preparing for the Nankai Trough Earthquake, which would be especially massive and damaging, and geopolitical risks is of utmost importance. We continue to promote measures in order to fulfill our obligations as a components manufacturer to continue supplying products.

Topics Establishment of the Tokyo Logistics Center

In order to prevent shipping operations from being suspended due to events such as recent natural disasters and pandemics caused by infectious disease like COVID-19, Murata established its second logistics center, Tokyo Logistics Center, in Nagareyama City, Chiba Prefecture, in December 2022. Together with the existing Osaka Logistics Center in the Kansai region, the establishment of this new logistics center in the Kanto region means that Murata now has two logistics centers in Japan, which will enable us to ensure the smooth supply of products to customers and stable distribution in the event of a natural disaster or other misfortune.
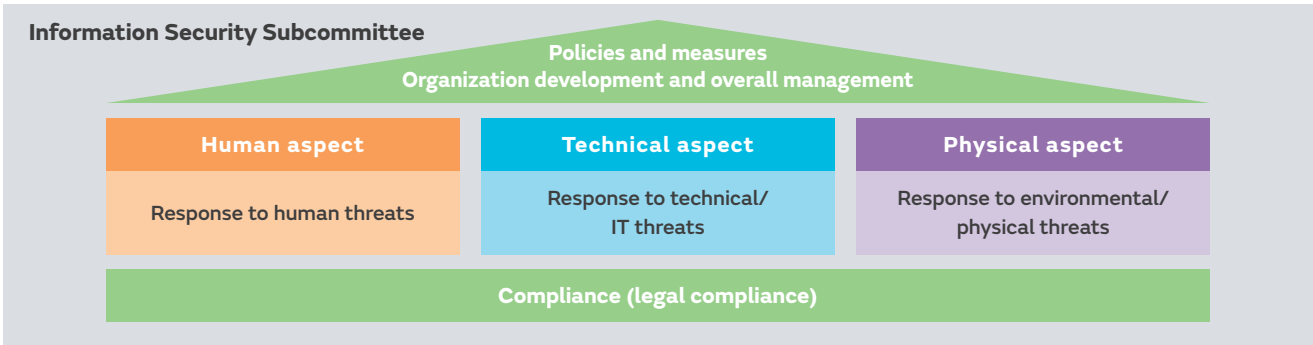
Information security management

Murata recognizes that risks related to information security are matters that may significantly impact its operations, and that it is crucial to protect the company's trade secrets and information provided by its business partners and customers. Risks related to information security, such as information leaks caused by internal fraud targeting information retained by companies and disruptions to business activities caused by cyber attacks, have been increasing in recent years. Hence, Murata incorporates recent risk trends and related guidelines from Japan and overseas based on international standards (ISO 27001) to implement information security management.

Information security system

Murata established the Information Security Subcommittee as a lower branch of the Risk Management Committee. We aim to minimize risks by running through the information security risk management PDCA cycle every day, addressing human, technical, and physical aspects, in order to prevent potentially serious incidents from happening, under the management of officers responsible for information security (executive officers and the Corporate Division ESG/HR Management Department Manager).

Information Security Subcommittee

Policies and measures
Organization development and overall management

Human aspect	Technical aspect	Physical aspect
Response to human threats	Response to technical/IT threats	Response to environmental/physical threats

Compliance (legal compliance)

■ **Human aspect**

Information security related rules are described in employee handbook and the pledge with employees. In addition, the Information Security Guidebook, which explains the rules in an easy-to-understand manner, is written and distributed in Japanese, English, and Chinese so that all officers and employees in Japan and overseas can understand information security and handle information in the proper way. The company also implements annual training for all employees to increase their awareness of information security, phishing email drills, in-house training by employee level (new employees, etc.), and information security training for telecommuting employees.

Global training ratio* for fiscal 2022 = 96%
*Training ratio = (Number of sites that have conducted training) / (Total number of sites)

■ **Technical aspect**

In order to deter leaks of Murata's confidential information and personal information as well as interruptions of business activities due to cyber attacks, we continue to strengthen anti-malware measures, hardware asset management, firewall construction, Internet communication checks, ID management, system access controls, and diagnosis and countermeasures for vulnerabilities in current information systems. Moreover, we are globally collecting and monitoring various logs to construct a system for responding to incidents which may become a security accident. In particular, we continue to strengthen security at the production sites that form the basis of our business activities, and promote responses and countermeasures to constantly changing cyber attacks and risks to maintain a stable and safe production system.

■ **Physical aspect**

To prevent unauthorized intrusions into premises at offices, sites and affiliated companies in Japan and overseas, access control of people and vehicles is carried out at all times. Security zones are established within business sites according to the level of security control, and various measures including access controls using ID cards, etc. are implemented in highly secure zones to prevent unauthorized internal and external intrusions.

Moreover, in order to continuously improve the physical security level, we periodically diagnose and audit the operating conditions from the perspectives of early detection and evidence accumulation measures in addition to restricting people's movements and implementing preventive measures, and we are promoting the construction of a system to horizontally deploy responses to accidents and incidents, which may escalate into accidents, to other offices, sites and affiliated companies.

Topics Achieving TISAX label

In response to the growing importance of information security in the automotive industry, our major domestic and overseas sites (including our headquarters) have achieved Trusted Information Security Assessment Exchange (TISAX) label, an information security evaluation conducted by the German Association of the Automotive Industry. Going forward, we will continue to get more of our sites certified in addition to conducting our usual internal and external audits and examinations, in order to spread awareness and enhance information security management.

For details regarding the status of TISAX label achievement, please see here. ▶

Compliance

Basic view

Based on the Murata Philosophy, which is our management philosophy, Murata engages in fair business activities and hopes to continue to be a company which is trusted by society. We believe that observing compliance, based on legal requirements and a high degree of business ethics, is essential in order to create new forms of value and achieve robust, sustainable growth amidst changing business opportunities while building relationships of trust with stakeholders. Toward getting where Murata wants to be, at Murata, we strive to raise awareness of compliance among all Group officers and employees through comprehensive observance of our Corporate Ethics Policy and Code of Conduct.

We have translated the Corporate Ethics Policy and Code of Conduct from Japanese into, English, Chinese, and other local languages and distributed copies to all Group officers and employees. In addition, the company continuously delivers global messages from the top management and conducts job-grade specific training and education to raise awareness on compliance. Furthermore, with regard to the compliance items articulated in the Corporate Ethics Policy and Code of Conduct, the company implements measures to mitigate risks according to the changes in the environment and its businesses.

Promotion structure

Murata has established a Compliance Promotion Committee underneath the CSR Management Committee. The Compliance Promotion Committee revises the Corporate Ethics Policy and Code of Conduct, plans and implements awareness-raising activities, and deliberates and makes decisions on the basic direction to take in the global promotion of compliance. The matters decided by the Committee are shared with the entire Group by those in charge of promoting compliance appointed at affiliated companies in Japan and overseas. The Compliance Promotion Leader selected for each department also shares and delivers the information provided in the Corporate Ethics Policy and Code of Conduct and at e-learning at their department compliance promotion meetings..

Compliance promotion activities and operation status of the reporting system (i.e. the number and summary of reported cases) are reported to the Board of Directors twice a year and are also audited annually by the internal audit departments to ensure an appropriate level of response. Group companies are also being audited by Responsible Business Alliance (RBA)-approved auditors.

Moreover, Murata has established and is operating a global compliance system led by our Compliance Promotion Committee

to expand our compliance activities globally. Our regional headquarters act as the heads of the activities in their respective regions, taking into account the local laws, regulations, and social systems, and conduct compliance activities in cooperation with our group companies in each region.
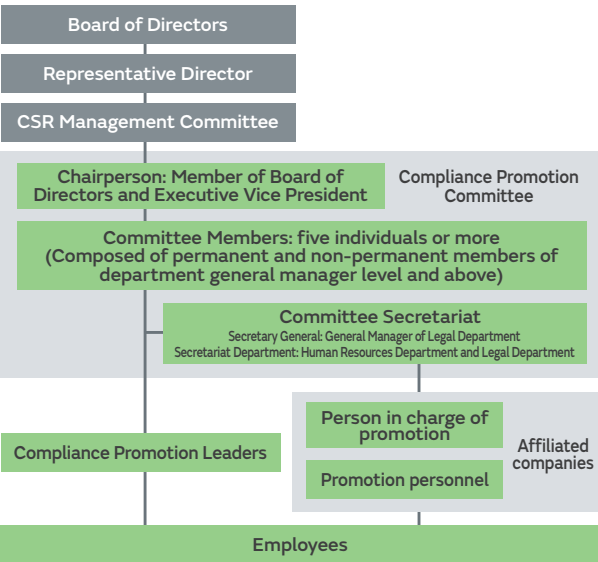
Initiatives to prevent corruption

Murata's CSR Charter and Corporate Ethics Policy and Code of Conduct define how to prevent bribery, antitrust violations, Subcontract Act violations, insider trading, conflicts of interest, and other types of corrupt acts (such as inappropriately providing or receiving benefits). Murata strives to ensure compliance and prevent corruption as the foundation of our

daily business activities and duties. In our training or awareness-raising activities, we require our employees to immediately report any misconduct or violation of laws, regulations, ethics or any actions that may lead to such misconduct or violations to the relevant department or reporting/consultation hotline.

Corruption risk initiatives

In the course of its global operations, Murata has worked to prevent antitrust violations and bribery as corruption risks of particular importance. In 2014, Murata released the Basic Policy for Prevention of Cartels and Bribery (available in Japanese, English and Chinese) as an addendum to the Corporate Ethics Policy and Code of Conduct in order to disseminate Murata's attitude throughout the Group.

In order to effectively mitigate risk of violation of antitrust laws and bribery, Murata has set rules based on the result of

risk surveys conducted globally and disseminated these rules within the company through messages from the President and training. We also conduct annual online training and secure the commitment of each individual officer and employee.

For more detailed information on our initiatives, including preventing corruption, Subcontract Act violation prevention, insider trading prevention, conflicts of interest prevention, and export control compliance, please see here.

## Whistle-blowing system and consultation hotlines

In order to prevent, early detect, and respond to compliance violations, Murata has introduced a whistle-blowing system within Murata Manufacturing Co., Ltd. and its domestic and overseas affiliated companies. In the event that acts such as corruption which violate or may violate ethics, laws and regulations are discovered, the whistle-blower may use their real name or remain anonymous. In addition to establishing internal hotlines as points of contacts for receiving reports and consultation requests, we have established external hotlines which provide support in local or multiple languages in order to prepare an environment which makes it easier to submit reports and seek consultation. In the event that a report or consultation is received, the Compliance Promotion Committee leads the response, coordinating with relevant departments to quickly check and investigate the facts and the relevant laws and rules to the extent possible. On that basis, the existence or nonexistence of a compliance violation is recognized and response measures such as correction and recurrence prevention are taken as necessary. In addition to protecting the anonymity and privacy of

whistle-blowers, we take steps to prevent whistle-blowers from being unfairly disadvantaged due to their reporting, by prohibiting retaliatory actions against whistle-blowers. Feedback on the findings and details of the investigation are given to the whistle-blowers in an appropriate manner.

Compliance assessment and response

During fiscal 2022, approximately 108 reports and consultation requests were received through the domestic compliance hotline. A majority of the reports and consultation requests were related to issues such as harassment, human rights infringement, and labor management. All reports and consultation requests were investigated to determine whether a compliance violation had occurred, and then handled appropriately as required, while taking the wishes of the whistle-blowers. In fiscal 2022, there were no violations required to be disclosed by law, and no fines or settlements were incurred that required disclosure in the audited financial statements.

Number of reports and consultations in FY2022
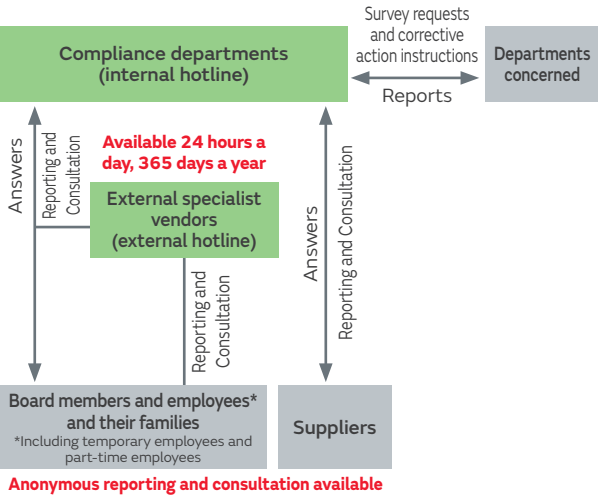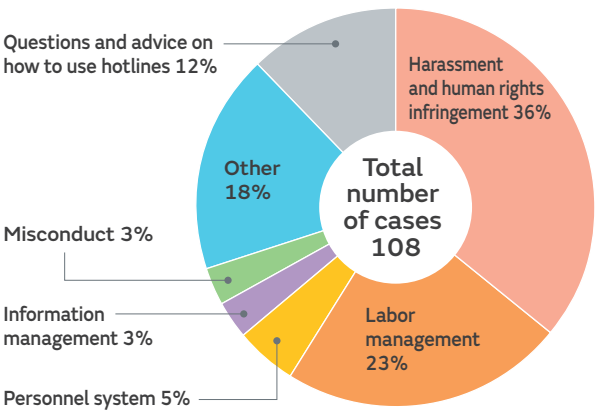
Executives

Board Members

1 Tsuneo Murata

Chairman of the Board
Nomination Advisory Committee Member (Committee Chairperson)
Remuneration Advisory Committee Member

Tsuneo Murata has been involved in the running and management of business and sales divisions in and outside of Japan, accumulating a wealth of experience and a solid record of achievement.

2 Norio Nakajima

President

Norio Nakajima has been involved in technology development and business management, accumulating a wealth of experience and a solid record of achievement.

3 Hiroshi Iwatsubo

Board Members

Hiroshi Iwatsubo has been involved in technology development and business management, planning, and sales, accumulating a wealth of experience and a solid record of achievement.

4 Masanori Minamide

Board Member
Nomination Advisory Committee Member
Remuneration Advisory Committee Member

Masanori Minamide has been involved in accounting, financial and corporate planning duties, and corporate management as a chief officer at a local headquarters company in Southeast Asia, accumulating a wealth of experience and a solid record of achievement.

5 Yuko Yasuda

Outside Director
Nomination Advisory Committee Member
Remuneration Advisory Committee Member (Committee Chairperson)

Yuko Yasuda has engaged in introducing, assessing, and developing CEOs and evaluating the effectiveness of the Board of Directors for many years as a Japan Director at companies that search for corporate executive candidates. She has extensive experience and insight in fields concerning executive personnel assessment, development and corporate governance.

6 Takashi Nishijima

Outside Director
Nomination Advisory Committee Member
Remuneration Advisory Committee Member

Takashi Nishijima has extensive experience and insight as a corporate executive and a board chairman in a company group expanding business related to industrial automation globally.

7 Yoshiro Ozawa

Board Member
Audit and Supervisory Committee Member (Full-time/Committee Chairperson)

Yoshiro Ozawa has been involved in accounting, finance, and personnel affairs in and outside of Japan, and has extensive experience and insight in these fields.

8 Hyo Kambayashi

Outside Director
Audit and Supervisory Committee Member
Remuneration Advisory Committee Member

Hyo Kambayashi has been engaged in affairs concerning financial auditing, internal control advising, risk management, and strengthening governance for many years as a certified public accountant and executive and has extensive experience and insight in corporate accounting, auditing and internal control.

9 Takatoshi Yamamoto

Outside Director
Audit and Supervisory Committee Member
Nomination Advisory Committee Member

Takatoshi Yamamoto has extensive experience of corporate analysis of companies in and outside of Japan as a securities analyst, particularly in regard to the electronics industry, and has specialized insight in finance and accounting, in addition to a wealth of experience related to global corporate management.

10 Naoko Munakata

Outside Director
Audit and Supervisory Committee Member

Naoko Munakata has extensive experience in an insight into the national administrative fields of economics, international trade and intellectual property, among others.
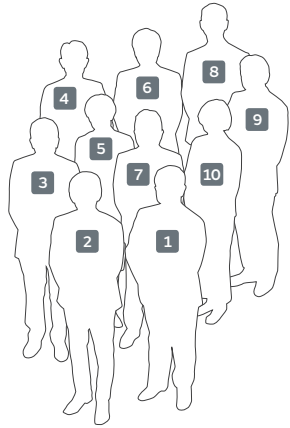
Vice Presidents

27, of whom two concurrently serve as Board Members

Senior Executive Vice President

Hiroshi Iwatsubo

Executive Vice President

Masanori Minamide
Nagato Omori
Ken Tonegawa

Senior Vice President

Yoshihiro Yamada
Eiichi Morimoto

Vice President

Shinji Nomura	Harunobu Sano	Masamichi Ando	Koichi Kawakita	Toshifumi Oida
Takaharu Sakai	Shogo Hashimoto	Takanori Toi	David Kirk	Fumiyuki Suchi
Noriyuki Kubodera	Yoshitaka Tanino	Toshiyuki Sato	Makoto Kawashima	Hiroshi Izumitani
Toshinobu Yamazaki	Kohei Miyao	Shigeki Fukunaga	Atsuyoshi Maeda	Takaki Murata
Tatsuo Bizen				

Message from the Chairman of the Board

Realizing a Board of Directors that demonstrates Murata's unique qualities

Chairman of the Board and Representative Director
Chairman of the Board of Directors
Nomination Advisory Committee Member (Committee Chairperson)
Remuneration Advisory Committee Member

Tsuneo Murata

A philosophy that exhibits what Murata values

At Murata, our philosophy is the backbone of our corporate culture, business processes, and corporate governance. However, how we think about this philosophy and how it resonates with employees have varied over time, and I cannot say that we have always been able to perfectly embody it. This is precisely why the Murata Philosophy describes how we should be and what we should strive for.

We have always factored in social change when using the Murata Philosophy to guide our behavior. However, the thinking towards that philosophy never remains static and can fluctuate like waves. Currently, the awareness of and interest in the Murata Philosophy is higher than ever. I get the distinct impression company-wide that a movement is underway to adapt behavior in a way that is rooted in the philosophy. In my daily work, there has also been an increase in encounters where employees or managers have quoted a line or an idea from the philosophy and given their thoughts on it.

I think one of the reasons the level of awareness and interest concerning the Murata Philosophy is so high is its alignment with our SDG approach that is driving the development of a sustainable society. Considering how Murata can help resolve some of the most pressing social issues is necessary in realizing a sustainable society and the company's associated growth.

If we are to instill the Murata Philosophy at our overseas sites and at those of new Group members acquired through M&A, the key challenges are the difficulty of this task and the sense of distance. Murata has a culture of producing results through mutual gratitude and aid, teamwork, and collaboration with partners. Unfortunately, there have been cases where people have left the company because they were focused on individual results and could not fully embrace the philosophy's framework. Even so, I also feel many people like Murata's way of doing things and are willing to face the challenges head-on and sincerely adapt their behavior to do so. These people are currently revitalizing the company through their mutual understanding and cooperation.

Realizing diversity is not just about gathering a diverse group of people. To truly leverage the advantages of diversity, it is important to have a shared purpose and goals. In the case of our organization, this is the Murata Philosophy.

The concept I think we should value especially within our philosophy is "pioneering spirit." While there is a tendency to focus on the technological aspect of this, I want our employees to adopt a pioneering spirit and put effort into scientific management by applying a variety of management methods. I feel steady progress is being made in this area.

Trends, changes, and outlook regarding Murata's governance

As a company grows, its impact on society also grows. Over the last two to three years, Murata has worked to evolve our governance and revise governance frameworks proactively.

One of these revisions is to strengthen our risk response framework. A strategy we use to achieve this is gathering perspective company-wide. As such, in April 2023, we repositioned the Risk Management Committee. Specifically, its previous charter was as a subcommittee of the CSR Management Committee, but we evolved it into an independent committee under the direct supervision of the Representative Director. Also, its membership is now comprised of Directors and Vice Presidents.

Given the complexity of the risk management issues being addressed, we were aware that there were limits as a CSR Management Committee subcommittee to the extent to which the group could expand its activities. With Outside Directors' backing, we took action to forward this large-scale movement.

Within this function's evolution, we recognize that gauging how much risk Murata can take is an issue to be addressed. We can only boldly take on challenges if we understand our risk tolerance. Our goal is to deepen discussion under the new committee structure and clarify standards for assessing risk tolerance through a scientific approach incorporating a pioneering spirit.

From fiscal 2022 to this year, we also enhanced the initiatives and discussions of the Nomination Advisory and Remuneration Advisory Committees. The groups' achievements include revisions to the definitions and criteria used in the Director skills matrix and strengthening governance concerning remuneration. However, the most significant benefit was convening the two committees and holding joint meetings.

It was necessary to coordinate the division of roles between the two committees, particularly in terms of evaluating the President and Representative Director from each committee's perspective. The concept of joint meetings came while we explored how they should collaborate. However, the results have exceeded our expectations. Within these joint meetings, we exchanged information, aligned recognition regarding shared issues, shared opinions from diverse viewpoints, and sorted out and organized matters for further discussion. The issues that come up in the joint meetings were taken back and discussed at the individual committee level. Those conclusions were then carried into the next joint meeting for a more focused discussion. This

process kept repeating until a resolution was achieved. I want to continue this process and make discussions even more enriching. We built a process for appropriately evaluating the President and Representative Director and linking this to remuneration, selections, and dismissals. I would like to continue discussions for continuing to evolve this with the aim of further enhancing corporate value. I look forward to gleaning more perspective on this topic from Outside Directors based on their own knowledge and experience.

We also transformed the Board of Directors, which I chair. One thing I focused on when chairing Board meetings was to elevate the discussions to cover more strategic and substantive issues. One initiative that has been effective in this regard is the advance briefings given to Outside Directors. Advance briefings provide a deeper dive into related agenda items, particularly those needing to fill knowledge gaps between Inside and Outside Directors. Previously, these were only provided as deemed necessary. Since fiscal 2022, we have been fully committed to this initiative and have made improvements as we refine the process. Questions and concerns that arise during these briefings are organized to identify discussion for the Board meeting, which directly leads to more valuable and substantive discussion in the meeting itself. These advance briefings are not only an opportunity to encourage an understanding of the details of projects among Outside Directors, but they also help clarify the approaches and actions that define Murata as a company.

Finally, if you were to ask me how I approach the Board of Directors and Management Committee meetings in my role as Chairman, I would say that I try to keep my horizons as broad as possible so that I can provide input from an overarching perspective. I also want to ensure that the Board of Directors can appreciate Murata's unique qualities such as our willingness to take on challenges and pioneering spirit.

The executive side is responsible for executing duties and is overseen by the Board of Directors. Going forward, the Board of Directors will monitor whether we are appropriately taking on the risks we should. This monitoring approach will provide the executive side with a safeguard, enabling them to boldly and proactively take these on. This is the monitoring model for the Board of Directors that I aspire to.

Our approaches to management and governance are not goals in themselves. We will continue to stay alert to changes in society and adapt our leadership while staying true to the Murata Philosophy as we strive for sustainable growth.

Corporate Governance

At Murata, we position corporate governance as one of our most important management focuses. Seeking to realize sound corporate growth and development while also considering all our stakeholders, we work constantly to establish and ensure the efficient functioning of optimal management systems.

Corporate governance system
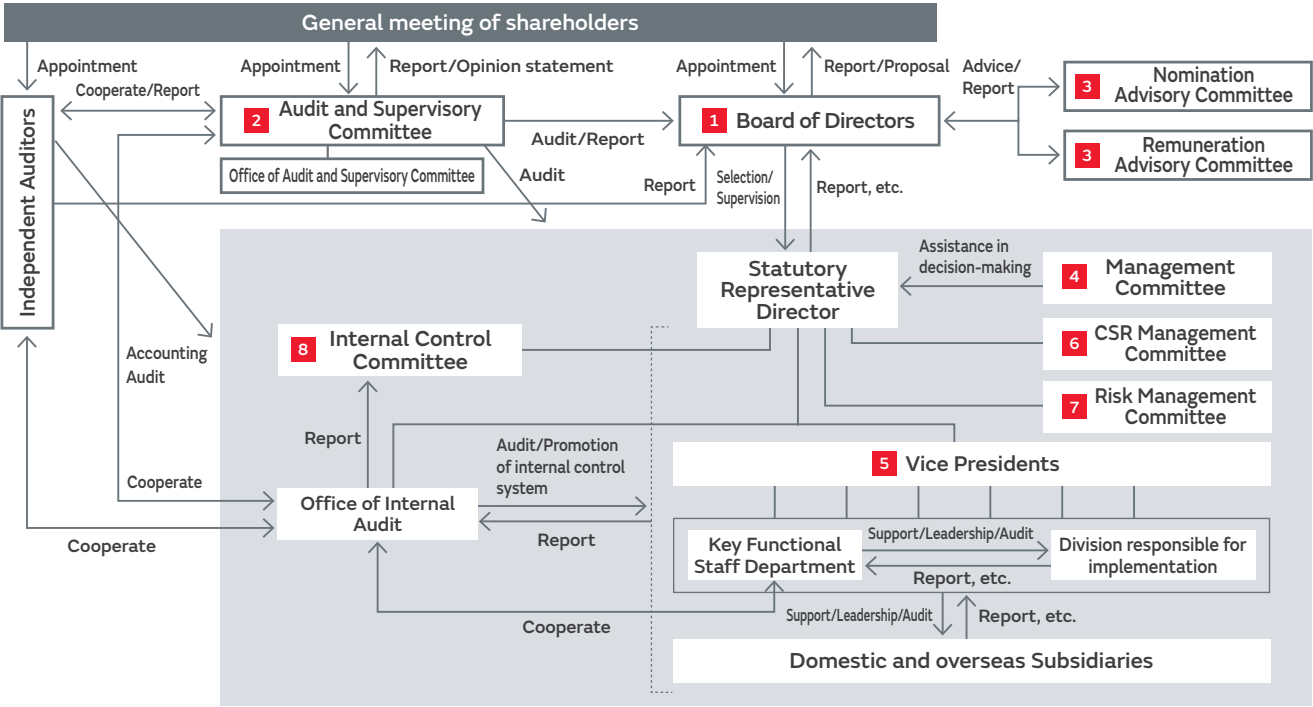
1 Board of Directors*
The Board of Directors decides on our basic management direction and particularly important matters for execution, and supervises duties implemented by Members of the Board of Directors.
　The Company ensures that independent outside directors represent more than one-third of the Board of Directors.

2 Audit and Supervisory Committee*
The Audit and Supervisory Committee establishes auditing guidelines and plans, and based on these, in addition to attending important meetings, audits the legitimacy and appropriateness of duties implemented by the Members of the Board of Directors by conducting surveys of the status of operations and corporate finances with the cooperation of departments involved in the company's internal control system.
　The Committee may state their opinions in relation to appointment and remuneration of the Members of the Board of Directors at General Meetings of Shareholders.

3 Nomination Advisory Committee* / Remuneration Advisory Committee*
▶P.97　▶P.99

These Committees have been established as advisory bodies for the Board of Directors in order to enhance its independence, objectivity, and accountability in relation to the nomination and remuneration of executives.

4 Management Committee
The Management Committee has been established as a deliberative body to assist the Board of Directors and the Representative Director in making decisions. It is made up of Members of the Board of Directors excluding Audit and Supervisory Committee Members and Outside Directors creating a system for deliberation on management issues specified by the Company regulations.

5 Vice Presidents
In order to realize more rapid management judgments and more flexible execution in Board of Directors, a Vice President system has been introduced, and our Vice Presidents execute their duties with authority and responsibilities.

6 CSR Management Committee　▶P.29
The CSR Management Committee has been established to continuously and systematically promote CSR management, including initiatives related to sustainability, and further entrench CSR within the company and serves as a main office to handle issues outside the company. The CSR Management Committee regularly reports to the Board of Directors regarding the status of its activities.

7 Risk Management Committee　▶P.86
The Risk Management Committee discusses company-wide risks that may affect Murata's business activities and corresponding countermeasures. The Risk Management Committee regularly reports to the Board of Directors and the Management Committee regarding the status of its activities.

8 Internal Control Committee
The Internal Control Committee is responsible for the maintenance and continual improvement of the system to secure the appropriateness of the company's operation (the internal control system) and evaluates and examines the status of the maintenance and operation of the system. The Internal Control Committee regularly reports to the Board of Directors regarding the status of its activities.

*For information on the number of meetings and attendance rates of the Board of Directors and each committee, please refer to ▶P.116 ESG Data (Governance).

Recent initiatives

● We redefined the role and positioning of the Risk Management Committee within our governance structure to develop and enhance company-wide risk management.
● We established guidelines for the holding of shares for Executive Directors.
● We enhanced Cooperation between the Nomination Advisory Committee and the Remuneration Advisory Committee.

History of Initiatives to Strengthen Corporate Governance System

Internal control system

The Board of Directors of Murata Manufacturing Co., Ltd. has defined a basic policy regarding the maintenance of a system to secure the appropriateness of company operations (internal control system). Based on this, the company works to maintain and operate the internal control system appropriately.

　The Murata Group shares the Murata Philosophy, which acts as a fundamental management policy, and in order to embody it, we have defined a fundamental compliance policy and code of conduct, which have been distributed across the Group including domestic and overseas subsidiaries. The Group has also established common rules and procedures on decision making which are applicable across the Group. Business operation of subsidiaries is discussed based on these rules and procedures, and information on business operation of Murata is shared. Matters that satisfy specified criteria are submitted to the Management Committee or the Board of Directors for deliberation and discussion.

　Divisions that supervise the various business business functions (general administration, personnel, accounting, etc.) of Murata Group define frameworks, processing procedures, and judgment standards for duties to ensure that duties within the Murata Group are performed appropriately and efficiently, in addition to providing appropriate direction to subsidiaries as required. As an independent body, the Internal Audit Department (Office of Internal Audit) evaluates and monitors whether duties within Murata are conducted appropriately and efficiently, adhering to laws and regulations and the internal regulations, etc. of the company.

Nomination of candidates for Members of the Board of Directors

Nomination policies and procedures

In consideration of the business content, scale, and management environment, etc., of Murata, we nominate personnel with knowledge, experience, and qualities that can contribute to enabling the Board of Directors to function (determination of basic management principles and important business execution, as well as supervision of execution of duties of Members of the Board of Directors) as candidates for Members of the Board of Directors. In nominating the candidates, we take into account the balance and diversity in the expertise, experience, and capabilities of the Board of Directors as a whole.

In nominating candidates for Outside Directors, the company seeks personnel across a wide and diverse range and works to secure candidates who satisfy the independence standards of the Tokyo Stock Exchange and the company. Additionally, under the standards established by the company, we take into consideration the ability of the candidate to perform his/her duties as a director with the expectation that directors will attend at least 75% of Board of Directors meetings.

With regard to candidates for Members of the Board of Directors who will be Audit and Supervisory Committee Members, as noted above, the company nominates personnel with a wealth of knowledge and experience regarding management administration and business operations who have qualities that can contribute to improvement in the soundness and transparency of management and audit the business execution of Members of the Board of Directors from a fair and objective standpoint. At least half of the candidates for Members of the Board of Directors who are Audit and Supervisory Committee Members nominated by the company are Outside Directors.

The Company regularly reviews the skill items that indicate the particular fields in which Members of the Board of Directors should demonstrate their roles, and the knowledge, experience and viewpoints that become preconditions for the above in light of the Company's strategy and situations. Convocation Notice for Annual General Meeting 2023 (murata.com).

The Board of Directors determines the nomination of candidates for Members of the Board of Directors based on the reported findings of the Nomination Advisory Committee. Nominations for candidates for Members of the Board of Directors who will be Audit and Supervisory Committee members are subject to approval by the Audit and Supervisory Committee.

Nomination Advisory Committee

Composition and duties

The Nomination Advisory Committee deliberates on criteria for the selection of candidates for Members of the Board of Directors, independence standards for Independent Outside Directors, nomination of candidates for Members of the Board of Directors, nomination of candidates for Representative Directors and executive Members of the Board of Directors, and succession plans for the President and Representative Director, and reports its findings to the Board of Directors. The committee also considers the skill matrix of Members of the Board of Directors and other key issues from the perspective of human resources so that the Board of Directors can continue to perform its functions, and supervises the appointment of Vice Presidents.

The members of the committee are selected by the Board of Directors from among its Members, and Independent Outside Directors comprise the majority of the committee members in order to ensure the independence of the committees. At the Nomination Advisory Committee, the Chairman of the Board and Representative Director, who embodies Murata Philosophy and engages in management strategy and governance from an overall perspective that is independent from business execution, sets the discussion plans and agenda items in light of the Company's circumstances and situation of individuals, etc., and leads the meeting proceedings as the chairperson of the committee.

Activities

Activities of Nomination Advisory Committee for fiscal 2022 were as follows.

Main contents of discussion	Period
Revision of regulations related to the appointment of directors	September
Review skill matrix, define skills	December and January
Board succession, succession plans for the President and Representative Director	December, January and March
Consideration for collaboration with the Remuneration Advisory Committee	December, January and March
Report on the nomination of candidates for Members of the Board of Directors, Representative Directors and executive Members of the Board of Directors	January and March

● In December, January and March, a joint meeting for the Nomination Advisory Committee and the Remuneration Advisory Committee was held in addition to the meeting of the Nomination Advisory Committee.
● In Consideration of coordination with the Remuneration Advisory Committee, the strengthening of coordination in evaluation on the President and Representative Director and the building of a mechanism for that were considered and implemented.
● The Nomination Advisory Committee's report on the nomination of candidates for Members of the Board of Directors, Representative Directors, and executive Members of the Board of Directors was based on the results of the aforementioned evaluation on the President and Representative Director.

Composition of the Board of Directors and Skill Matrix

Positions in the Company / Name	Nomination Advisory Committee	Remuneration Advisory Committee	Corporate and business management	Finance and accounting, and capital policy	HR, personnel affairs, and human resource development	Governance, risk management, and compliance	Insight into industry and market strategy	Technology and R&D	Internationality and global experience	Industrial and trade policy
Chairman of the Board and Representative Director **Tsuneo Murata** — Chairman of the Board of Directors	Committee Chairperson	●	●			●	●	●	●	
President and Representative Director **Norio Nakajima**			●				●	●	●	
Member of the Board of Directors Senior Executive Vice President **Hiroshi Iwatsubo**			●				●	●	●	
Member of the Board of Directors Executive Vice President **Masanori Minamide**	●	●	●	●		●				●
Outside Director **Yuko Yasuda** — Independent	●	Committee Chairperson	●		●	●				
Outside Director **Takashi Nishijima** — Independent	●		●			●	Solution business	●		
Member of the Board of Directors who is an Audit and Supervisory Committee Member (Full-time) **Yoshiro Ozawa** — Chairperson of the Audit and Supervisory Committee				●	●	●			●	
Outside Director who is an Audit and Supervisory Committee Member **Hyo Kambayashi** — Independent		●	●	●		●			●	
Outside Director who is an Audit and Supervisory Committee Member **Takatoshi Yamamoto** — Independent	●		●	●		●			●	
Outside Director who is an Audit and Supervisory Committee Member **Naoko Munakata**						●	●	●	●	

* Not all skills, experience, knowledge are listed. The skill matrix is based on the members' past position experience, current positions, qualifications, etc.
* `Independent` indicates an independent outside director.

Perspective on The Bord of Directors' Required Skills

Name of Skill	Reasons for Requirement
Corporate business management	To plan, build and oversee management strategy that enables Murata as a corporation to enhance its corporate value sustainably.
Finance and accounting, and capital policy	To plan, execute and oversee accounting, tax affairs, financial strategy, capital policy and IR activity in line with management strategy, taking into account requests from the capital market to Murata as a listed company.
HR, personnel affairs, and human resource development	To perform management of human capital that Murata positions as one of the key management capitals and realize and oversee Employee Satisfaction, which is one of the values that Murata cherishes.
Governance, risk management, and compliance	To plan, build, and oversee strategies regarding governance, risk control and compliance that will be the foundation for Murata to perform management that creates a continuous cycle of social value and economic value and realize sustainability.

Name of Skill	Reasons for Requirement
Insight into industry and market strategy	Because these skills will become the preconditions for planning, executing and overseeing Murata's management strategy and market strategy from a bird's eye view.
Technology and R&D	To plan, execute and oversee strategies, whereby Murata enriches and utilizes intellectual and technological capital to ensure Murata keeps providing unique products into the future as Innovator in Electronics.
Internationality and global experience	To plan, execute and oversee strategies from a global perspective as Murata, whose overseas sales ratio exceeds 90% and whose subsidiaries and affiliates overseas outnumber its domestic ones, is aiming to be Global No. 1 component manufacturer.
Industrial and trade policy	To plan, execute and oversee strategies flexibly and effectively amid geopolitical risks mounting as Murata is pursuing the fields of communications, mobility, the environment and wellness as business opportunities and such fields involve large volumes of cross border transactions and strongly reflect each country's industry polices.

*For the definition of each skill, please see here.

Web https://corporate.murata.com/en-global/company/corporate_governance/organization

Composition of the Board of Directors

Inside/ Outside composition

Inside **5** persons Outside **5** persons

Years in office

15+ years **1** person
10-14 years **1** person
5-9 years **4** persons
0-4 years **4** persons

Gender

2 women
8 men
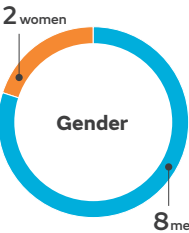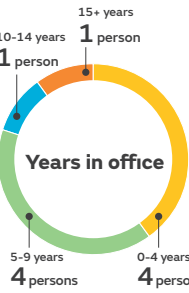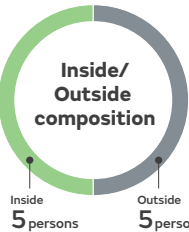
Remuneration for Members of the Board of Directors

Policies regarding remuneration and procedures for determining remuneration

With respect to remuneration for Members of the Board of Directors, the Company makes it a basic policy to provide a system and level of remuneration that is considered suitable for executive-level managers of a globally competitive electronic equipment and component manufacturer in order to ensure recruitment of human talent considered to be excellent based on a comparison with same-industry competitors, to raise the morale and motivation to improve financial results, and to contribute to the maximization of corporate value.

Remuneration for Members of the Board of Directors who are not Audit and Supervisory Committee Members is made up of (i) monthly remuneration, (ii) bonus with the aim of giving a short-term incentive, and (iii) share-based remuneration (non-monetary remuneration) with the aim of making them further share values with our shareholders by giving a medium- to long-term incentive.

The remuneration paid to Outside Directors who are not Audit and Supervisory Committee Members or members of the Board of Directors who are Audit and Supervisory Committee Members is only monthly remuneration.

Each standard and composition ratio of monthly remuneration, bonus, and share-based remuneration is based on the "Executive Compensation Database" operated by the external consultant Willis Towers Watson (WTW) and will be determined by performing benchmarks on corporations similar to the Company's type of industry and scale and verifying the validity.

Furthermore, the composition ratio of remuneration elements of remuneration of the President and Representative Director is largely as illustrated on the right. The composition of remuneration elements for other inside Members of the Board of Directors who are not Audit and Supervisory Committee Members is set so that the ratio of bonuses and share-based remuneration is higher for upper ranking positions according to the responsibilities, etc. of each position.

The Company aims to enhance objectivity and transparency regarding the amount of compensation, etc., of Directors of the Company and decision policy on individual compensation, etc., concerned with determination of calculation methods and the Board of Directors makes decisions based on reports from the Remuneration Advisory Committee, which was established to improve corporate governance.

Remuneration Advisory Committee

Composition and duties

The Remuneration Advisory Committee deliberates on the remuneration system and levels for Members of the Board of Directors and reports its findings to the Board of Directors, and is entrusted from the Board of Directors to decide on the amounts of individual remuneration. The members of the committee are selected by the Board of Directors from among its Members, and Independent Outside Directors comprise the majority of the committee members in order to ensure the independence of the committees. The chairperson is selected by resolution of the Board of Directors among members who are Independent Outside Directors.
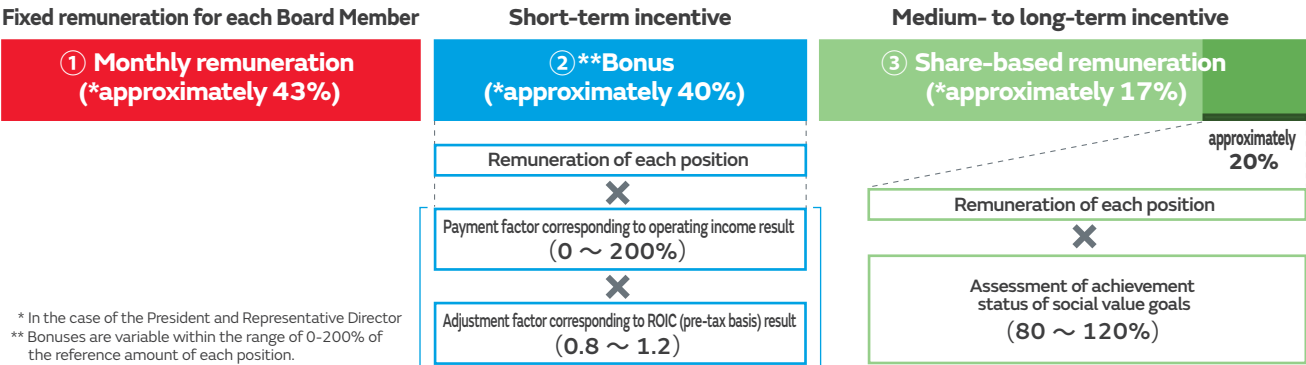
Activities

Activities of Remuneration Advisory Committee for fiscal 2022 are as follows.

Main contents of discussion	Period
Consideration and reporting of the reference amount of Director remuneration for the 87th fiscal term	April
Reporting of decision policy of Director remuneration for the 87th fiscal term	May
Reporting of targets for bonus and share-based remuneration for the 87th fiscal term	May
Consideration and determination of the individual reference amount for Directors, etc. for the 87th fiscal year	June and July
Determination of activity plans for the Committee for the 87th fiscal year	July
Verification of the latest trends surrounding Director remuneration	October
Consideration for cooperation with the Nomination Advisory Committee	November, December, January, February and March
Consideration of reference amount of Director remuneration for the 88th fiscal year	February and March

The 87th term for Director remuneration refers to the period from June 30, 2022 to June 29, 2023 while the 88th term refers to the period from June 30, 2023 to June 27, 2024.

● In December, January, and March, a joint meeting for the Nomination Advisory Committee and the Remuneration Advisory Committee was held in addition to the meeting of the Remuneration Advisory Committee.
● In Consideration of coordination with the Nomination Advisory Committee, the strengthening of coordination in evaluation on the President and Representative Director and the building of a mechanism for that were considered and implemented.

Composition of who are not Audit and Supervisory Committee Members Remuneration for Members of the Board of Directors

Fixed remuneration for each Board Member

① Monthly remuneration (*approximately 43%)

Short-term incentive

②**Bonus (*approximately 40%)

Remuneration of each position
✕
Payment factor corresponding to operating income result (0 ~ 200%)
✕
Adjustment factor corresponding to ROIC (pre-tax basis) result (0.8 ~ 1.2)

Medium- to long-term incentive

③ Share-based remuneration (*approximately 17%)

approximately 20%

Remuneration of each position
✕
Assessment of achievement status of social value goals (80 ~ 120%)

* In the case of the President and Representative Director
** Bonuses are variable within the range of 0-200% of the reference amount of each position.

① Monthly remuneration
The monthly remuneration is a fixed remuneration of an amount individually decided for each Member of the Board of Directors based on a fixed amount for service as Member of the Board of Directors, and an amount that is decided based on consideration of the level of importance of each Member of the Board of Directors' business execution allocation and responsibility. Payment is made on a monthly basis.

② Bonus
The bonus is cash remuneration that is provided as an incentive to create economic value in each fiscal year and, in principle, is paid in June after the end of the fiscal year. The amount is calculated by multiplying a reference amount for each position by a factor (variable within a range of 0% to 200%) according to the level of achievement of the targets for the performance evaluation indicators. The performance evaluation indicators are consolidated operating income and ROIC (pre-tax basis), which are indicators related to the Group-wide management targets for economic value in the Medium-term Direction 2024. The Company selected these indicators in order to provide an incentive to increase net sales, which are associated with profit margins that the Company emphasizes, and efficiently generate profits from invested capital.

③ Share-based remuneration
The Company's share-based remuneration aims to motivate Members of the Board of Directors to share values with shareholders over a long term and to contribute to the continuous enhancement of corporate value. According to the reference amount set for each position of each Member of the Board of Directors, restricted shares will be allotted every July. Furthermore, because a portion of the share-based remuneration (approximately 20% of the total share-based remuneration) is based on an evaluation of initiatives related to the creation of medium- to long-term social value and ESG, every fiscal year the Remuneration Advisory Committee evaluates the progress of the initiatives for achieving the Group-wide management targets related to social value (Environment, Diversity, Employee Satisfaction) in the Medium-term Direction 2024 and adjusts the amount of such portion within a range of ±20% of the reference amount set for each position. In addition, restrictions of the allotted restricted shares will be lifted when Eligible Members of the Board of Directors' term of both positions as Member of the Board of Directors and Vice President expires, or retires due to the compulsory retirement age or resigns.

Guidelines for the holding of shares

From the perspective of strengthening value co-creation with shareholders, Murata has established guidelines for the holding of shares, which specifically set targets for holding its shares. In the guidelines, Murata has recommended shareholdings of its shares for Executive Directors (excluding Outside Directors and Members of the Board who are Audit and Supervisory Committee Members), as described at right.

President and Representative Director: His or her target shall be to hold shares equivalent to 2.0 times fixed remuneration, within five years of being appointed to the relevant position

Other Executive Directors: Their target shall be to hold shares equivalent to 1.5 times fixed remuneration, within five years of being appointed to the relevant position

Note: Shares held by the President and Representative Director as of March 31, 2023 are equivalent to 2.2 times his fixed remuneration

Repayment of remuneration, etc. (malus and clawback provision)

In order to ensure soundness of the remuneration system for Members of the Board of Directors, the Company has established a provision (a so-called malus and clawback provision) whereby, based on the decision of the Board of Directors following deliberations by the Remuneration Advisory Committee, the right to receive a bonus before it is paid and share-based remuneration before the transfer restri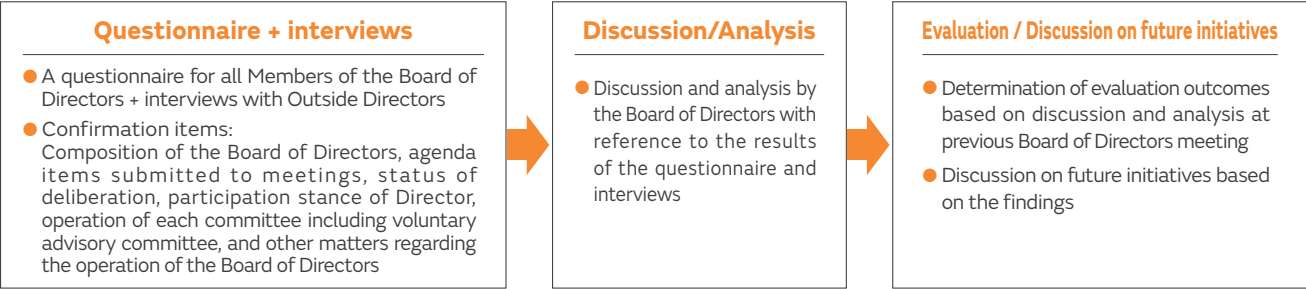ctions are lifted are fully or partially forfeited under certain circumstances, such as misconduct or retrospective adjustments to financial statements due to fraudulent accounting. This provision applies to bonuses to be paid and share-based remuneration to be allotted after the 86th Ordinary General Meeting of Shareholders held in June 2022 and will remain in effect for all periods thereafter.

Analysis and evaluation of effectiveness of the Board of Directors

The company endeavors to improve the effectiveness of the Board of Directors by conducting an analysis and evaluation of the effectiveness of the Board of Directors as a whole once a year and discloses an overview of the procedure and results. Based on the following analysis and evaluation process, the Board of Directors of the Company has been assessed to be functioning with sufficient overall effectiveness in consideration of its duties and obligations. (Please refer to Analysis and evaluation of effectiveness of the Board of Directors for the fiscal 2022.)

We will continue working to further improve the effectiveness of the Board of Directors in 2023 as well.

Process of the analysis and evaluation

Questionnaire + interviews
- A questionnaire for all Members of the Board of Directors + interviews with Outside Directors
- Confirmation items:
  Composition of the Board of Directors, agenda items submitted to meetings, status of deliberation, participation stance of Director, operation of each committee including voluntary advisory committee, and other matters regarding the operation of the Board of Directors

Discussion/Analysis
- Discussion and analysis by the Board of Directors with reference to the results of the questionnaire and interviews

Evaluation / Discussion on future initiatives
- Determination of evaluation outcomes based on discussion and analysis at previous Board of Directors meeting
- Discussion on future initiatives based on the findings

*Questionnaire and interviews were carried out by a third party.

Fiscal 2023 and beyond

Initiatives in fiscal 2023
- Execution of discussions among directors regarding the ideal form of the Board of Directors
- Further maturing the management of pre-meeting explanations, including the realization of the identification of issues to be discussed at the Board of Directors meetings
- Creating an environment for the timely and appropriate acquisition of company information by Outside Directors
- Further enhancing the Management Committee, etc. and strengthening cooperation with the Board of Directors
- Strengthening cooperation between organizations in charge of agenda items and the Secretariat of the Board of Directors, particularly with regard to themes requiring enhanced discussions

Fiscal 2022

Through FY2021

Challenges and problems for fiscal 2021
- Measures to examine the desired direction of the Board of Directors and further enhance and energize discussions
  With the aim of allocating more time for strategic discussions and discussions from a wider perspective, revise the balance between decision-making functions, supervisory functions and advisory functions.
- Necessity to further enhance communications among Directors
  Aiming to eliminate the information gap between Inside Directors and Outside Directors, and facilitate smooth communications among Directors, the Company is conducting various initiatives by providing meeting opportunities outside of the Board of Directors meetings, including providing explanations and company information to Outside Directors in advance, holding meetings between the Outside Directors and top management, and holding meetings for only the Outside Directors as meeting opportunities outside of the Board of Directors meetings. By arranging opportunities for such meetings, strive for more effective utilization of these initiatives.

Challenges and problems identified in the past, and initiatives taken to rectify them
- Improvement in the selection of agenda items and allocation of time
  ⇒We revised agenda criteria to the Board of Directors and allocation of time for deliberation during the Board of Directors meetings, and added agenda items related to medium- to long-term strategies.
- Strengthening of risk management and elevation of discussions on risk approach
  ⇒We separated reporting on risk management as one agenda item and made it a regular one.
- Improvement and enhancement of reporting on ESG initiatives
  ⇒We worked on enhancing and refining our fundamental sustainability policies, and expanded and strengthened reporting and discussions on disclosure.
- Improvement of the quality of discussions
  ⇒We provided advanced explanations of important proposals and related matters to the Outside Directors.
- Improvement of reporting and discussions on internal control systems, and expansion of discussion time

Initiatives in fiscal 2022
- Examination of schemes to strike balance between the decision making function, oversight function and advisory function and to improve the effectiveness of the respective functions
- Based on the above examination, organizing the roles expected of Outside Directors and the positioning of meetings outside the Board of Directors (pre-meeting explanations, provision of company information, Board of Outside Directors Meetings, etc.)
- Measures to conduct more strategic discussions and discussions from a wider perspective
  – Improvement of operation of pre-meeting explanations
  – Review of agenda items and agenda criteria for Board of Directors meetings
- Strengthening the PDCA cycle to improve the operations of the Board of Directors
  – Setting a time for Directors to review Board of Directors meetings immediately after the meetings
  – Strengthening cooperation between the Chairperson and other inside directors and the Secretariat of the Board of Directors

Analysis and evaluation results of the Board of Directors' effectiveness for fiscal 2022

The Board of Directors of the Company has been assessed to be functioning with sufficient overall effectiveness in consideration of its duties and obligations.

- The number of Directors and their diversity, etc., composition of Board of Directors, as well as the selection of agenda items are generally appropriate.
- Under the appropriate leadership of the Chairperson, each member demonstrates his or her skills, experience, and knowledge, and an atmosphere that enables Directors to speak out freely and openly is being cultivated and broadminded and constructive discussions and exchanges of opinion are taking place.
- Outside Directors actively provide advice from their expert perspectives and ask effective questions. In addition, there is adequate communication with Inside Directors.
- With the support of the Secretariat of the Board of Directors, appropriate agenda items have been set, plans for deliberations have been formulated, and the information necessary for deliberations has been provided, leading to enhanced discussions.
- The Nomination Advisory Committee and Remuneration Advisory Committee are functioning effectively, and collaboration between committees and with the Board of Directors has been steadily strengthened.
- Substantial improvements have been made in points identified as challenges in the previous evaluation of effectiveness, with sufficient discussion on how to address them and monitoring of improvements.

Recognition of challenges for FY2022
- Concretizing and clarifying a common understanding among the directors regarding the vision of the Company's Board of Directors (balancing execution and oversight, etc.)
- Further development of discussions from a wider perspective and strategic discussions
  – Maturing the content of reports
  – Deepening Outside Directors' knowledge and understanding of the Company
- Improving monitoring functions
  – Enhancing discussions from a risk perspective and promoting group-wide risk management
  – Enhancing discussions on the executive side (Management Committee, etc.)
- Enhancing discussions on individual themes
  – Ensuring diversity of core human resources
  – Operational condition of the internal control system

Round-table discussion with Outside Directors

Evolving Murata and leaping forward to enhance corporate value

Outside Director
Audit and Supervisory Committee Member
Remuneration Advisory Committee Member

Hyo Kambayashi

Outside Director
Audit and Supervisory Committee Member

Naoko Munakata

Outside Director
Audit and Supervisory Committee Member
Nomination Advisory Committee Member

Takatoshi Yamamoto

Outside Director
Nomination Advisory Committee Member
Remuneration Advisory Committee Member (Committee Chairperson)

Yuko Yasuda

Outside Director
Nomination Advisory Committee Member
Remuneration Advisory Committee Member

Takashi Nishijima

The Board of Directors has further evolved over the past year

Nishijima A year has passed since I was appointed as an Outside Director, and I think that the Murata Board of Directors engages in open, dynamic discussions that contain high levels of expertise from a diverse group of members.

Sometimes the opinions stated are critical, but the management members address them with open-mindedness and speak candidly when they disagree. I think these discussions are constructive.

Also, as individual employees take pride in Murata's strong technological capabilities, their technical explanation was tended to be detailed accordingly, time tended to be devoted to technical discussions in spite of the limited time of Board of Directors meetings.

However, this has improved due to the efforts of the Board of Directors secretariat and feedback based on our opinions. I feel that over the last year, meetings have changed into venues for discussing substantive, strategic, long-term management issues.

Kambayashi Improvements were made in the content and delivery of advanced briefings when compared to where we were before. As we attend meetings with a better understanding of the details the executive committee wants us to know, we can contribute in a more focused way.

Time for review has been arranged for after the meetings, which did not happen before. This provides a platform to speak freely about the issues we noted during the meetings and to receive additional explanations, which help deepen our understanding.

Additionally, Board of Outside Directors meetings provide an excellent opportunity to share our perspectives and reconfirm our understanding of matters, such as responses and planned direction, before the next Board of Directors meeting. However, it is a shame we always seem stretched for time. If we had more flexibility during meetings, I expect we would be able to further enhance Board of Directors meetings.

Munakata As Mr. Kambayashi said, I think the advance briefings are a vast improvement. They are provided more often and explain the discussion points ahead of the meeting, which makes it easier to move these conversations forward.

Also, as Mr. Nishijima mentioned, it feels like the overall agenda for Board of Directors meetings and the allocated time for each item have been improved, which has made the meetings more efficient.

Yamamoto The increase in the number of advance briefings means more time is required. Since each agenda item incorporates the perspective of the business divisions and key functional staff departments, we must understand this and communicate with a sense of urgency to objectively identify issues and a path forward.

Concerning the changes over the last year, the Board of Directors has developed a strong recognition of material issues. With that, we are mindful of allotting time to discuss and share information about matters such as corporate governance or reports from the CSR Management and Risk Management Committees to facilitate the establishment of a global risk management structure and promote sustainability. This has improved the effectiveness of the Board.

I also feel that the Chairman (Chairman of the Board and Representative Director Tsuneo Murata) has been eager to steer discussions in a broader and more strategic direction, particularly during the last year. He is facilitating the discussions skillfully, such as consciously giving Inside Directors opportunities to speak, which is leading to richer discussions.

Fiscal 2022 was a turning point for Murata due to factors such as the two downward revisions of business results pegged to yen depreciation. There were dramatic changes in the external environment, including the maturing demand for smartphones, semiconductor shortages, the rapid escalation of the situation in Ukraine, and a rise in tensions between the U.S. and China. Affected by these changes, there was a slump in orders for our main products and a prolonged struggle in the acquired businesses. In other words, I think it was a year where we got a clearer view of the challenge of realizing continuous growth in Murata's corporate value over the medium to long term. With this in mind, we had to address how much progress we made on substantive discussion toward medium- to long-term growth in the future. Regarding challenges like this, we were able to share them at Board of Directors meetings and discuss what direction we should take. In this sense, I think it was an extremely significant year..

Yasuda I also felt it was a year that was lacking in good news, but as President Nakajima said when explaining the one-year plan at the start of the year, we needed to maintain a solid footing and strive for substantive discussions in a demanding situation. Within this, we should engage in discussion based on regular self-examination, including whether we, as Outside Directors, have asked questions and provided advice that gets to the heart of a matter, and whether we have fulfilled our responsibilities. However, I think the ability to move forward with a positive attitude, even when there is little good news to be had, is one of Murata's strong points.

Another change I have noticed is how the company uses Outside Directors has improved. One of the characteristics of this group is that we all have subject matter expertise. The Board of Directors now operates in a way that encourages its five Outside Directors, who each possess specialist knowledge in different fields, to add to discussions and provide counsel. Also, since the start of 2023, we held Advisory Meetings on topics such as value creation processes and gathered feedback on the annual securities and integrated reports. This shows that the Outside Directors are well-leveraged. It is one way in which Murata demonstrates its operational excellence.

A governance approach for enhancing corporate value

Nishijima   During the Board of Directors meetings, we discussed our vision for the group's future, which was a worthy conversation. Each Board Member was engaged in sharing their perspectives, and we identified areas where our opinions differed, shared points, and what directions we wanted to take. If we continue and deepen this discussion, I think it will provide us with ideas for further raising the level of governance of Murata's Board of Directors.

Kambayashi   Both Chairman Murata and President Nakajima have spoken about steering the Murata Board of Directors towards a monitoring model, but I feel this needs to be combined with advisory functions as well.

At meetings, Chairman Murata often starts discussions that test the quality of management. I think he is asking Outside Directors questions on the most critical thing for Murata's management, or in other words, what is the most important thing we could do to support value creation. Regarding Chairman Murata's vision for the Board of Directors, I have realized that Chairman Murata believes that we should discuss on not only just interprets of legal obligations or social norms, but also what the Board should look like in the context of management in thinking of the vision for the Board of Directors.

I think that for Outside Directors, a monitoring model for the Board means asking appropriate questions. Rather than, "Why don't you do it like this?" It is essential to ask questions like "Why do you do it like that?" This is the approach I have tried to take in Board meetings. However, it would be better if Outside Directors are more proactive in suggesting how things should be done. In future meetings, I would like to discuss how the Board should be operated, including how we could incorporate an advisory function.

Yamamoto   Value can be gained from organizing and clarifying discussions about how the Board of Directors should be. In other words, we must dynamically change the Board to align with Murata's objectives. This will require linking discussions about how the Board of Directors should be to the management strategy and the enhancement of corporate value and changing the Board according to what Murata needs. However, raising the effectiveness of governance will require us to make the Board of Directors more dynamic and ensure appropriate and high-quality discussion and decision-making is practiced at Management Committee meetings. I think we need to pursue these two points persistently. I would like to see more ideas applied toward discussions, the sharing of materials, and other aspects of Management Committee meetings.

Munakata   The business environment is changing rapidly, so I feel that the company has become very focused about how the Board of Directors can be leveraged.

Various challenges need to be addressed, and I think we should organize and clarify which issues truly need to be discussed by the Board. Then we can have focused discussions on them. We would gain a clearer focus of the direction we want to emphasize as a company. This clarification would also make it easier for people with differing recognition or ideas to express their opinions.

Nishijima   If we raise the level of governance of Murata's Board of Directors, another point we need to tackle is linking the company's overall strategy and direction to individual strategies and management issues. When discussing individual strategies and management issues, it is sometimes a challenge to see how they fit into the overall blueprint for the company. These connections might be intuitive to senior management members, but if we could clarify these links, discuss them in the context of the big picture, and monitor them, then I think we can take the governance of the Board to the next level.

Yasuda   Currently, time is fairly limited during Board of Outside Directors meetings, and some people feel it is difficult to have in-depth discussions. Making the Board of Outside Directors a venue that allows for all members to engage in comprehensive conversations would also be beneficial to enhancing the effectiveness of the Board of Directors. I think there is room for improving the way Board of Outside Directors meetings are operated, including establishing what should be on the agenda and what outcomes we are aiming for.

Changing the nature of the Board of Outside Directors

Yasuda   From my perspective, how Outside Directors should participate in the Board of Directors is a matter of role allotment.

If we recognize that we, as Outside Directors, are expected to make discussions more efficient and sophisticated through observations and counsel, then we will be mindful of what we should be saying and can contribute in a more useful manner.

Munakata   There have been significant changes in the external environment, so I am focusing on geopolitics, cybersecurity, and supply chain risk management. Also, recently, how we incorporate global environmental conservation, resource-saving, and recycling into corporate activities has become important from a sustainability perspective. Within this situation, while I will also consider customers and other matters, we need to emphasize discussing the correct way to think about the major trends occurring in the world. I want to continue contributing from this perspective.

Yamamoto   It is important to ask questions from a different viewpoint rather than only approaching a topic from your own expertise. If each of us asks questions that suddenly come to us from outside of our specializations, it might add a new dimension to discussions and lead to new realizations.

When asking questions, I try to question whether things that have been assumed up to now are true and test things that might be considered common knowledge. I think that now, due to changes in the external environment, it is especially important that we fully utilize our wisdom and hold discussions that dig into the assumptions we have held up to today and question whether they still hold true.

Nishijima   This is also a time for questioning whether things are true. Murata's organization and its employees are both highly capable. Since the values centered on the company motto are shared, the matrix organization functions well, which naturally leads to optimal overall management. In addition, each employee has a high awareness of self-discipline. Our achievements to date have also produced high levels of self-esteem. However, when the times change, we must question whether these statements still hold true. As a flipside to this self-esteem, I think now is truly the time for both management and employees to adopt a crisis mentality. To achieve this, I believe asking questions from that kind of perspective is essential.

I have been on the executive side, so I fully understand how difficult it can be to respond when questioned. For example, I mentioned earlier about wanting to see an overall blueprint for the company, but I also understand that this is difficult. This asking of questions that I would find difficult to answer shows how I have evolved since becoming an Outside Director.

Kambayashi   I have tried to contribute from a perspective that questions whether the current company framework is enough to manage a matter or whether something new is needed. When risk presents, I check what structure is in place and whether an appropriate process has been established. For example, a team reports back to the Board of Directors, the executive side takes action, and details of the execution and results are all reported back to the Board, which then takes follow-up action. I feel there is not enough follow-up regarding the agenda items discussed at Board meetings. We need to organize and

strengthen follow-up systems and reconsider the framework for implementing PDCA cycles. Also, I think we should reconsider how roles are divided between the Board of Directors and the Audit and Supervisory Committee, what the functions of the Audit and Supervisory Committee are, and what its operating structure needs to be.

Munakata I also think we should delineate the functions of the Audit and Supervisory Committee in comparison to the Board of Directors. In addition, we should continue discussing the relationship and functions between the Audit and Supervisory Committee and the Office of Internal Audit.

Yamamoto I agree. We must also build a framework to improve collaboration between these three organizations. In 2016, we switched to an Audit and Supervisory Committee, so we should reconfirm the role required by Audit and Supervisory Committee Members and deepen the discussion of what they should be doing.

Cooperation through joint meetings of the Nomination and Remuneration Advisory Committees

Yasuda A notable change made in fiscal 2022 regarding the Nomination Advisory Committee and Remuneration Advisory Committee was holding joint meetings between the two. The most important achievement of this initiative was the collaborative discussion regarding the evaluation, appointment, and dismissal of the President and Representative Director.

Nishijima I participate in both committees, and they are highly transparent and have atmospheres that facilitate objective discussion. They both play a vital role in raising the effectiveness of the Board of Directors, and I think both are functioning well. One thing that left an impression is that, as Ms. Yasuda mentioned, they have established and implemented a framework for evaluating the President and Representative Director. Without a thorough evaluation, remuneration cannot be decided, and we cannot deliberate on nominations and reappointments. In this way, the joint meetings were highly significant. This coordination between evaluation, remuneration, and reappointment was also a first for President Nakajima, and I think he appreciated it. While I believe we can make further improvements on the implementation of PDCA cycles, this initiative sets excellent precedence in setting the selection criteria for the next President and Representative Director.

Yamamoto I think holding joint committee meetings is one of the most impressive new initiatives trialed at Murata. Combining evaluations of the President and Representative Director with self-evaluations provides a multifaceted approach that is highly objective and transparent. I believe it will lead to improvements in management quality. I am confident the initiative will further raise the level of both committees. This issue holds great interest for stakeholders, and I expect it will result in constructive dialogue in the medium to long term.

Kambayashi It was extremely positive that the two committees shared information and established a base for making judgments on nominations and remuneration. Regarding the remuneration process, there is still room for further discussion on individual bonuses, but it now truly fits well with Murata's "Value for Fee," reflecting what the company values now and for the future. I think we have reached a level that is higher than most Japanese companies. We should create a framework to explain this to global stakeholders, and hopefully, it will further raise the motivation of employees, including future recruits.

Yasuda I think this has been a year of improvement for the Remuneration Advisory Committee in terms of both the number and content of meetings. Our main activities included discussing an action plan, values for executive remuneration, social value target coefficients, and collaborating with the Nomination Advisory Committee. This has been the first year since the adoption of our new executive remuneration system, so I feel there are still matters to be discussed regarding its operation. On the other hand, we had high-level, constructive discussions with the executives about issues to further consider about operating under the current framework. We discussed topics such as whether it is right only to have short-term targets like operating income and ROIC (pre-tax basis), how we can operate a remuneration system that is unique to Murata and that unifies employees, and what would be the best indicators for a framework that encourages long-term value co-creation with shareholders. I would also like to see these reflected in the agenda going forward.

Hurdles to be overcome to drive Murata further forward

Kambayashi The Murata Philosophy includes, "creating innovative products and solutions." I feel that we need to deepen the discussion on research and development. We need to more clearly define whether the current framework is sufficient and its impact on the third-layer business.

Munakata As the external environment is harsher than ever before, I think the most essential challenge is how to raise earning power.

The first layer is driving our earning power, but we need to consider what to do if commoditization makes it impossible to maintain those profit margins. On the other hand, the profitability of second-layer products is low, so we urgently need to find ways to raise the vitality of this layer. Further, we must determine how to acquire the resources we require for our third-layer business. On that, I think a fuller discussion on evolving our business portfolio is warranted.

Yamamoto As the global No. 1 component and module supplier, raising corporate value is a key management issue. First, it is instrumental in recruiting and developing diverse talent worldwide and creating opportunities for these human resources to take on challenges. This will lead to the establishment of information security, quality and safety, compliance frameworks, technological innovation, and the development of third-layer businesses.

Other issues include raising profitability by strengthening our new products and materials capabilities and correcting our dependence on capacitors for profits and rare resources. I also want to monitor the contribution level of differentiating technologies acquired through M&A to new product development and the decision-making process for exiting unprofitable lines of business.

Yasuda Diversity is a prominent issue. In a panel discussion with women in managerial positions last year, it was clear how insightful and capable Murata's women managers are. What surprised me further was that employees were fully receptive to diversity. There is a world of knowledge within Murata, but I want to communicate this and visualize initiatives that turn communication and messaging abilities into concrete action. I think this will be one of Murata's challenges going forward.

Nishijima I think innovation creation is an issue. As mentioned previously, Murata has a culture of focus, drive, and discipline.

Going deeper into this, I think we should be bolder in incorporating people from diverse backgrounds and outside corporate cultures. Maintaining the knowledge and experience we have accumulated to date while also adding new, unique Murata qualities may be a fast way to generate innovation.

This is my opinion, but I plan to share it on a regular basis.

11-year consolidated financial summary (US-GAAP)

(FY)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Business results											
Net sales (Millions of yen)	681,021	846,716	1,043,542	1,210,841	1,135,524	1,371,842	1,575,026	1,534,045	1,630,193	1,812,521	**1,686,796**
Operating income (Millions of yen)	58,636	125,891	214,535	275,406	201,215	163,254	266,807	253,247	313,240	424,060	**297,887**
Operating income / net sales (%)	8.6	14.9	20.6	22.7	17.7	11.8	16.9	16.5	19.2	23.4	**17.7**
Income before income taxes (Millions of yen)	59,534	132,336	238,400	279,173	200,418	167,801	267,316	254,032	316,417	432,702	**314,895**
Net income attributable to Murata Corporation (Millions of yen)	42,386	93,191	167,711	203,776	156,060	146,086	206,930	183,012	237,057	314,124	**253,690**
Shareholders' equity (Millions of yen)	860,963	955,760	1,123,090	1,229,159	1,354,819	1,456,600	1,603,976	1,694,104	1,920,805	2,263,596	**2,402,511**
Total assets (Millions of yen)	1,087,144	1,243,687	1,431,303	1,517,784	1,634,999	1,797,013	2,048,893	2,250,230	2,462,261	2,809,171	**2,872,763**
Net cash provided by operating activities (Millions of yen)	88,537	185,751	259,936	252,451	243,920	225,249	279,842	350,334	373,571	421,458	**276,278**
Net cash used in investing activities (Millions of yen)	(56,173)	(117,150)	(91,379)	(205,316)	(202,697)	(194,165)	(303,741)	(284,431)	(150,275)	(212,300)	**(157,850)**
Net cash provided by (used in) financing activities (Millions of yen)	(9,655)	(40,899)	(66,966)	(56,614)	(11,729)	(83,585)	51,546	17,650	(118,189)	(117,505)	**(173,708)**
Cash and cash equivalents at end of year (Millions of yen)	90,068	118,884	212,936	212,570	239,184	187,910	217,805	302,320	407,699	512,072	**469,406**
Average exchange rate (Yen/U.S. dollar)	83.11	100.24	109.94	120.14	108.42	110.86	110.91	108.75	106.06	112.38	**135.48**
Indices											
ROIC (pre-tax basis)* (%)	9.6	18.1	26.8	30.9	21.2	14.4	18.9	16.1	18.5	22.6	**14.6**
Shareholders' equity ratio (%)	79.2	76.8	78.5	81.0	82.9	81.1	78.3	75.3	78.0	80.6	**83.6**
Basic earnings attributable to Murata Corporation per share (yen)	66.94	146.88	264.06	320.85	244.62	228.62	323.45	286.05	370.51	490.95	**401.33**
Return on equity (ROE) (%)	5.1	10.3	16.1	17.3	12.1	10.4	13.5	11.1	13.1	15.0	**10.9**
Shareholders' equity per share (yen)	1,359.65	1,504.84	1,768.33	1,935.35	2,122.83	2,276.82	2,507.11	2,647.88	3,002.12	3,537.80	**3,815.18**
Cash dividends per share (yen)	33	43	60	70	73	87	93	97	115	130	**150**
Capital expenditures (Millions of yen)	77,662	68,197	101,184	172,540	158,579	306,608	291,581	281,599	196,660	152,786	**208,111**
Depreciation and amortization (Millions of yen)	72,323	76,884	84,935	99,105	113,523	141,625	124,419	140,267	143,074	155,583	**161,276**
Research and development expenses (Millions of yen)	48,766	54,649	64,990	77,982	81,809	94,181	101,589	102,486	101,727	111,297	**124,239**

The company implemented a three-for-one common stock split, effective April 1, 2019. Information per share was calculated on the assumption that the relevant stock split had been implemented at the beginning of fiscal 2012.

* ROIC (pre-tax basis) = Operating income / Invested capital (Property, plant and equipment + Inventories + Trade accounts receivable - Trade accounts payable)

Consolidated Balance Sheets

(Millions of yen)

	End of FY2021 March 31, 2022	End of FY2022 March 31, 2023
Assets		
Current assets	1,435,206	1,408,090
Cash	370,388	318,557
Short-term investments	174,074	162,456
Marketable securities	23,979	12,240
Trade notes receivable	0	—
Trade accounts receivable	360,517	272,894
Allowance for doubtful notes and accounts	(2,207)	(2,276)
Inventories	464,723	575,026
Prepaid expenses and other	43,732	69,193
Property, plant and equipment	1,116,602	1,188,198
Land	81,213	85,649
Buildings	789,142	846,923
Machinery, and equipment, tools, dies, furniture and autos and trucks	1,530,121	1,609,043
Construction in progress	89,723	135,966
Accumulated depreciation	(1,405,460)	(1,529,644)
Operating lease right-of-use assets	31,863	40,261
Investments and other assets	257,363	276,475
Investments	34,618	30,365
Intangible assets	47,141	44,387
Goodwill	118,014	126,839
Deferred income taxes	26,562	31,885
Other	31,028	42,999
Total assets	2,809,171	2,872,763
Liabilities		
Current liabilities	321,258	303,597
Trade accounts payable	93,842	65,597
Current portion of bonds	—	59,981
Accrued payroll and bonuses	63,997	54,984
Income taxes payable	59,228	14,184
Accrued expenses and other	97,816	101,922
Current operating lease liabilities	6,375	6,929
Long-term liabilities	224,001	166,690
Bonds	109,901	49,968
Long-term debt	1,078	1,496
Termination and retirement benefits	64,566	63,261
Deferred income taxes	13,233	10,601
Noncurrent operating lease liabilities	25,627	32,626
Other	9,596	8,738
Total liabilities	545,259	470,287
Equity		
Murata Corporation's Shareholders' equity	2,263,596	2,402,511
Common stock	69,444	69,444
Capital surplus	121,004	121,116
Retained earnings	2,024,368	2,186,040
Accumulated other comprehensive income (loss)	102,318	159,405
Unrealized gains on securities	(43)	(49)
Pension liability adjustments	(1,963)	2,267
Foreign currency translation adjustments	104,324	157,187
Treasury stock, at cost	(53,538)	(133,494)
Noncontrolling interests	316	(35)
Total equity	2,263,912	2,402,476
Total liabilities and equity	2,809,171	2,872,763

Consolidated Statements of Income

(Millions of yen)

	FY2021 April 1, 2021 - March 31, 2022	FY2022 April 1, 2022 - March 31, 2023
Net sales	1,812,521	1,686,796
Cost of sales	1,044,292	1,010,948
Selling, general and administrative expenses	232,872	253,722
Research and development	111,297	124,239
Operating income	424,060	297,887
Interest and dividend income	1,193	6,512
Interest expense	(318)	(335)
Foreign currency exchange gain (loss)	263	992
Other - net	7,504	9,839
Income before income taxes	432,702	314,895
Income taxes	118,823	61,500
<Current income tax>	<116,610>	<71,932>
<Deferred income tax>	<2,213>	<(10,432)>
Net income	313,879	253,395
Less: Net income (loss) attributable to noncontrolling interests	(245)	(295)
Net income attributable to shareholders of the company	314,124	253,690

Consolidated Statements of Comprehensive Income

(Millions of yen)

	FY2021 April 1, 2021 - March 31, 2022	FY2022 April 1, 2022 - March 31, 2023
Net income	313,879	253,395
Other comprehensive income (loss), net of tax		
Unrealized gains on securities	(11)	(6)
Pension liability adjustments	12,851	4,230
Foreign currency translation adjustments	92,224	52,873
Other comprehensive income (loss)	105,064	57,097
Comprehensive income	418,943	310,492
Less: Comprehensive income (loss) attributable to noncontrolling interests	(126)	(285)
Comprehensive income attributable to Murata Corporation	419,069	310,777

Consolidated Statements of Cash Flows

(Millions of yen)

	FY2021 April 1, 2021 - March 31, 2022	FY2022 April 1, 2022 - March 31, 2023
Operating activities		
Net income	313,879	253,395
Adjustments to reconcile net income to net cash provided by operating activities		
Depreciation and amortization	155,583	161,276
Losses on sales and disposals of property, plant and equipment	911	2,219
Impairment losses on long-lived assets	2,526	579
Provision for termination and retirement benefits, less payments	(5,059)	(5,277)
Deferred income taxes	2,213	(10,432)
Changes in assets and liabilities		
(Increase) decrease in trade notes and accounts receivable	11,637	103,877
(Increase) decrease in inventories	(81,363)	(101,368)
(Increase) decrease in prepaid expenses and other	(9,857)	(25,249)
Increase (decrease) in trade notes and accounts payable	3,507	(30,027)
Increase (decrease) in accrued payroll and bonuses	9,081	(9,731)
Increase (decrease) in income taxes payable	16,601	(45,285)
Increase (decrease) in accrued expenses and other	914	(14,871)
Other - net	885	(2,828)
Net cash provided by operating activities	421,458	276,278
Investing activities		
Payment for purchases of property, plant and equipment	(150,531)	(189,951)
Payment for purchases of marketable securities, investments, and other	(38,941)	(38,567)
Maturities and sales of marketable securities, investments, and other	34,335	44,081
Increase in long-term deposits and loans	(81)	(13)
Decrease in long-term deposits and loans	5,476	0
(Increase) decrease in short-term investments	(16,689)	22,595
Acquisition of businesses, net of cash ac-quired	(48,802)	—
Other - net	2,933	4,005
Net cash used in investing activities	(212,300)	(157,850)
Financing activities		
Net increase (decrease) in short-term borrowing	(91)	5
Proceeds from long-term debt	357	879
Repayment of long-term debt	(6)	(6)
Repayment of bonds	(40,000)	—
Dividends paid	(76,779)	(92,018)
Purchase of treasury shares	(13)	(80,009)
Other - net	(973)	(2,559)
Net cash used in financing activities	(117,505)	(173,708)
Effect of exchange rate changes on cash and cash equivalents	12,720	12,614
Net increase (decrease) in cash and cash equivalents	104,373	(42,666)
Cash and cash equivalents at beginning of year	407,699	512,072
Cash and cash equivalents at end of year	512,072	469,406
Additional operating activities information		
1. Interest paid	302	328
2. Income taxes paid	96,271	128,930
Additional information on non-cash investing activities		
Obligations related to acquisition of property, plant and equipment	15,290	33,450
Additional cash and cash equivalents information		
Cash	370,388	318,557
Short-term investments	174,074	162,456
Short-term investments with the original maturities over three months	(32,390)	(11,607)
Cash and cash equivalents at end of year	512,072	469,406

Analysis of financial position

Sales by product or business

(Billion yen)

	FY2021 results	FY2022 results	Increase/ decrease	Reasons for increase/decrease
Capacitors	788.5	738.8	-49.7 (-6.3%)	Sales decreased year on year, as sales of multilayer ceramic capacitors decreased for computers and smartphone despite an increase for mobility.
Inductors/ EMI filters	195.8	175.3	-20.4 (-10.4%)	Sales decreased year on year, as sales of inductors decreased for computers and smartphone despite increases in sales of EMI suppression filters and inductors for mobility.
High frequency devices and communications modules	528.2	453.6	-74.6 (-14.1%)	Sales decreased year on year, as sales of multilayer resin substrates increased but sales of SAW filters, RF modules, and connectivity modules decreased for smartphone.
Battery and power supply	180.4	214.6	34.1 (+18.9%)	Sales increased year on year, as sales of lithium-ion secondary batteries for power tools increased.
Functional devices	106.4	92.8	-13.6 (-12.8%)	Sales decreased year on year, as sales of sensors and timing devices decreased for computers despite an increase in sales of sensors for mobility.

Sales by application

(Billion yen)

	FY2021 results	FY2022 results	Increase/ decrease	Reasons for increase/decrease
Communication	779.2	659.2	-120.0 (-15.4%)	Sales decreased year on year, as sales of multilayer resin substrates for smartphones increased but sales of RF modules, connectivity modules, SAW filters, and multilayer ceramic capacitors decreased.
Mobility	336.3	390.2	53.9 (+16.0%)	Sales increased year on year thanks to increases in sales of multilayer ceramic capacitors and EMI suppression filters due in part to effects of the weak yen and recovery in automobile production.
Computers	297.5	224.7	-72.8 (-24.5%)	Sales decreased year on year, as sales of multilayer ceramic capacitors and inductors for PCs decreased significantly.
Home appliances	183.2	197.8	14.6 (+8.0%)	Sales increased year on year, as sales of lithium-ion secondary batteries for power tools increased.
Industry and others	216.3	214.8	-1.5 (-0.7%)	Sales decreased year on year, as sales for distributors decreased despite increases in sales for healthcare and industrial equipment.

Overview of financial conditions

(Billion yen)

	FY2021 results	FY2022 results	Increase/ decrease	Reasons for increase/decrease
Assets	2,809.2	2,872.8	63.6 (+2.3%)	Assets increased from the end of the previous fiscal year, due to an increase in inventories, despite decreases in trade accounts receivable and cash.
Liabilities	545.3	470.3	-75.0 (-13.7%)	Liabilities decreased from the end of the previous fiscal year due to decreases in income taxes payable and trade accounts payable.
Equity	2,263.9	2,402.5	138.6 (+6.1%)	Equity increased from the end of the previous fiscal year, mainly due to an increase in retained earnings.

Cash flows

(Billion yen)

	FY2021 results	FY2022 results	Increase/ decrease	Reasons for increase/decrease
Net cash provided by operating activities	421.5	276.3	-145.2 (-34.4%)	Net cash provided by operating activities was 276.3 billion yen, mainly due to an increase of 101.4 billion yen in inventories, 253.4 billion yen of net income, which is a source of cash flows, and 161.3 billion yen of depreciation and amortization.
Net cash used in investing activities	-212.3	-157.9	54.5 (-)	Net cash used in investing activities was 157.9 billion yen. There were cash outflows of 190.0 billion yen in payment for purchases of property, plant and equipment aimed at boosting production capacity and 38.6 billion yen in payment for purchases of marketable securities, investments and other, despite maturities and sales of marketable securities, investments and other of 44.1 billion yen.
Net cash used in financing activities	-117.5	-173.7	- 56.2 (-)	Net cash used in financing activities was 173.7 billion yen. There were cash outflows due to dividend payment of 92.0 billion yen and 80.0 billion yen in purchase of treasury shares.

ESG data

Included range　Consolidated: the Murata Manufacturing Group as a whole　Non-consolidated: Murata Manufacturing as a standalone company

Environment

		Unit	FY2018	FY2019	FY2020	FY2021	FY2022	Included range
GHG emissions	Total GHG emissions*1	t-CO_2e	6,074,000	6,081,000	5,609,000	5,762,000	5,552,000	Consolidated
	Scope1	t-CO_2e	312,000	293,000	278,000	260,000	264,000	Consolidated
	Scope2*2	t-CO_2	1,320,000	1,311,000	1,157,000	1,140,000	1,077,000	Consolidated
	Scope3	t-CO_2	4,442,000	4,477,000	4,174,000	4,362,000	4,211,000	Consolidated
	Purchased goods and services	t-CO_2	3,380,000	2,481,000	2,292,000	2,530,000	2,514,000	Consolidated
	Capital goods	t-CO_2	717,000	825,000	678,000	519,000	717,000	Consolidated
	Fuel-and-energy-related activities not included in Scope 1 or Scope 2	t-CO_2	95,000	38,000	219,000	229,000	243,000	Consolidated
	Upstream transportation and distribution	t-CO_2	163,000	347,000	273,000	382,000	256,000	Consolidated
	Waste generated in operations	t-CO_2	42,000	20,000	48,000	22,000	37,000	Consolidated
	Business travel	t-CO_2	10,000	20,000	11,000	20,000	6,000	Consolidated
	Employee commuting	t-CO_2	35,000	35,000	35,000	36,000	34,000	Consolidated
	Upstream leased assets	t-CO_2	–	400	400	500	700	Consolidated
	Processing of sold products	t-CO_2	–	148,000	64,000	77,000	66,000	Consolidated
	Use of sold products	t-CO_2	–	546,000	498,000	523,000	314,000	Consolidated
	End-of-life treatment of sold products	t-CO_2	350	7,000	8,000	9,000	7,000	Consolidated
	Investments	t-CO_2	–	10,000	49,000	14,000	17,000	Consolidated
	Percentage of GHG emissions by region							
	Japan	%	68	66	77	75	73	Consolidated
	China	%	21	21	9	17	16	Consolidated
	Asia	%	11	12	13	7	10	Consolidated
	Europe	%	0	1	1	1	1	Consolidated
	Total energy consumption*3	TWh	7.72	7.81	8.07	8.65	7.39	Consolidated
	Non-renewable fuel consumption (fossil fuel, coal, oil, natural gas, etc.) (A)	MWh	919,000	916,000	985,000	867,000	794,000	Consolidated
	Non-renewable energy consumption (Steam, heat, cooling) (B)	MWh	168,000	164,000	208,000	248,000	239,000	Consolidated
	Non-renewable electricity consumption (C)	MWh	2,443,000	2,321,000	2,168,000	2,194,000	2,033,000	Consolidated
	Total consumption of non-renewable energy (A+B+C)	MWh	3,530,000	3,401,000	3,361,000	3,309,000	3,065,000	Consolidated
	Renewable electricity consumption (wind, solar, biomass, hydraulic, geothermal, etc.) (D)	MWh	23,000	35,000	396,000	593,000	632,000	Consolidated
	Total electricity consumption (C+D)	MWh	2,466,000	2,356,000	2,564,000	2,786,000	2,665,000	Consolidated
	Renewable energy ratio (D/(C+D))	%	0.9	1.5	15.4	21.3	23.7	Consolidated
Chemical substance management	20 specified Volatile Organic Compounds (VOCs) for which measures have been taken to reduce their volume of discharge since 2000							
	Volume of use	t	27,800	23,100	27,200	32,400	27,700	Consolidated (domestic)
	Volume of discharge	t	1,100	1,240	1,150	1,320	1,000	Consolidated (domestic)
	Percentage discharged to atmosphere	%	3.9	5.4	4.2	4.1	3.6	Consolidated (domestic)
Waste management	Total emissions volume	t	132,000	108,000	105,000	102,000	86,000	Consolidated
	Recycling rate	%	92	95	98	96	97	Consolidated
	Recycled volume*4	t	122,000	104,000	102,100	98,200	84,200	Consolidated
	Hazardous waste volume*5	t	62,000	52,000	43,000	33,000	26,000	Consolidated
Water resource management	Water intake volume	1,000 m³	19,400	18,500	17,900	18,400	17,100	Consolidated
	Municipal water supply (or from other water supply facilities)	1,000 m³	13,100	12,400	12,800	13,400	12,700	Consolidated
	Freshwater and groundwater	1,000 m³	6,300	6,100	5,100	4,900	4,300	Consolidated
	Wastewater discharge	1,000 m³	15,000	14,800	15,600	15,300	13,600	Consolidated
	Volume consumed*6	1,000 m³	4,400	3,600	2,300	3,000	3,400	Consolidated
	Recycling rate*7	%	20	20	21	21	19	Consolidated
Environmental violations	Number of accidents	cases	0	0	0	0	0	Consolidated
Related to environmental accounting	Environmental and energy investments	million yen	4,000	4,000	1,900	1,800	3,800	Consolidated (domestic)
	Environmental and energy business expenditures	million yen	6,000	6,100	7,200	8,600	9,500	Consolidated (domestic)
	Economic effects per year due to environmental burden reductions	million yen	690	650	430	1,110	3,150	Consolidated (domestic)
ISO 14001 acquisition	Certification rate (Targets are headquarters and production site)	%	95	95	96	100	100	Consolidated

Amounts less than the specified unit are rounded off, so the breakdown and total may not match.
*1 GHG emissions in fiscal 2019 and fiscal 2020 were recalculated in accordance with the calculation standards set by SBT.
*2 Market-based method of CO_2 calculation was adopted in place of location-based method in fiscal 2019.
*3 The total amount of purchased power converted into primary energy
*4 Disposal by landfill is excluded.
*5 Waste as defined by the laws of each country. In Japan, it refers to specially controlled industrial waste.
*6 Calculated by deducting wastewater discharge from water intake volume.
*7 Calculated by dividing recycled volume by the sum of recycled volume and water intake volume.

Society (left table)

		Unit	FY2018	FY2019	FY2020	FY2021	FY2022	Included range
Attracting and cultivating human resources	General employee education (number of e-learning registrants)	persons	30,783	32,962	33,975	35,116	37,648	Consolidated (domestic)
	Training results by class	persons	4,332	5,245	4,590	6,690	10,794	Consolidated (domestic)
	Employee education expenses	million yen	1,476	1,463	1,012	1,363	1,740	Consolidated (domestic)
	Total overseas local employees using the deployment system to affiliated companies in Japan and other countries	persons	737	876	958	998	1,162	Consolidated
Diversity & Inclusion	Number of employees	persons	77,571	74,109	75,184	77,581	73,164	Consolidated
	Ratio of women among all employees	%	49.2	47.6	47.8	47.4	45.2	Consolidated
	Number of management staff*1	persons	625	656	712	749	800	Non-consolidated
	Ratio of female management staff	%	0.8	1.5	1.8	2.4	3.5	Non-consolidated
	Ratio of employees with disabilities	%	1.88	2.32	2.33	2.37	2.38	Non-consolidated

Society (right table)

		Unit	FY2018	FY2019	FY2020	FY2021	FY2022	Included range
Diversity & Inclusion	Number of recent graduate hires*2	persons	341	399	447	335	349	Non-consolidated
	Ratio of women	%	30.2	36.6	36.9	36.1	36.4	Non-consolidated
	Number of mid-career hires*3	persons	428	224	121	168	318	Non-consolidated
	Ratio of women	%	9.1	9.8	12.4	19.0	19.5	Non-consolidated
	Ratio of mid-career hires among all hires	%	55.7	36.0	21.3	33.4	47.7	Non-consolidated
	Average number of years continuously employed	year	14.1	14.9	14.7	14.3	14.1	Non-consolidated
	Men	year	14.4	15.2	15.1	14.7	14.6	Non-consolidated
	Women	year	13.0	14.0	13.2	12.7	12.5	Non-consolidated
	Voluntary turnover rate*4	%	1.6	1.3	1.5	1.5	1.8	Consolidated (domestic)
	Average age	age	40.0	41.0	40.1	40.1	40.1	Non-consolidated
	Men	age	40.8	41.8	41.1	41.2	41.2	Non-consolidated
	Women	age	36.6	37.7	36.5	36.5	36.5	Non-consolidated
	Paid leave utilization rate*5	%	69.2	73.3	74.4	67.1	71.1	Non-consolidated
Work safety and hygiene	Lost Time Injury Frequency Rate (LTIFR)*6	–	–	0.42	0.30	0.35	0.37	Consolidated
	Number of serious incidents*7	cases	0	0	0	0	0	Consolidated
	Number of industrial accidents resulting in lost workdaysa	cases	–	58	48	56	58	Consolidated
	Industrial accident rate per 1,000 workers*8 — All employees	–	2.58	2.12	1.56	1.70	1.44	Consolidated
	Industrial accident rate per 1,000 workers*8 — Full-time employee, temporary employee	–	2.56	2.06	1.31	1.59	1.35	Consolidated
	Industrial accident rate per 1,000 workers*8 — Contract employee	–	2.89	2.87	4.22	2.85	2.71	Consolidated
	ISO 45001 certification rate (Targets are headquarters and production site)	%	66	64	82	82	83	Consolidated
Contributions to society/Community	Total social contribution expense	million yen	–	167	215	295	688	Non-consolidated
Social contribution activities	Total number of volunteering employees	persons	–	17,088	8,027	14,288	14,050	Consolidated
	Support for the development of the next generation	cases	–	–	146	254	345	Consolidated
	Local community support	cases	–	–	270	400	567	Consolidated
	Environmental protection	cases	–	–	22	60	64	Consolidated
	Cultural support (sports, arts, and traditional industries)	cases	–	–	13	59	108	Consolidated
	The visiting class to experiential programming	cases	–	–	16	74	37	Consolidated
	Others	cases	–	–	24	69	83	Consolidated

*1 Includes expert managerial positions from fiscal 2020.
*2 Recalculated from fiscal 2016 due to the inclusion of global and other hires in the number of recent graduate hires.
*3 Recalculated from fiscal 2016 due to the revision of the definition.
*4 The definition of voluntary turnover rate was revised in fiscal 2022.
*5 The calculation period was revised in fiscal 2022.
*6 The number of injuries and fatalities per million cumulative hours worked. Represents the frequency of accidents. The included range has been consolidated since fiscal 2019.
*7 Represents the number of serious industrial accidents that led to death or after-effects.
*8 This rate is managed per 1,000 workers including both accidents that require time off from work and those that do not.

Governance

		Unit	As of June 29, 2023
Composition of the Board of Directors	Number of members	persons	10
	Outside Directors	persons	5
	Outside Directors appointed as Independent Directors	persons	5
	Inside Directors	persons	5
	Ratio of Outside Directors	%	50.0
	Female Directors	persons	2
	Ratio of female Directors	%	20.0
Composition of Audit and Supervisory Committee	Number of members	persons	4
	Outside Directors	persons	3
	Committee Chairperson	–	Inside Director
Composition of Nomination Advisory Committee	Number of members	persons	5
	Outside Directors	persons	3
	Inside Director	–	Outside Director
Composition of Remuneration Advisory Committee	Number of members	persons	5
	Outside Directors	persons	3

		Unit	FY2022
Number of meetings, etc	Number of meetings of the Board of Directors	times	12
	Board of Directors meeting attendance rate	%	100.0
	Board of Directors meeting attendance rate for Outside Directors	%	100.0
	Number of meetings of the Audit and Supervisory Committee	times	10
	Audit and Supervisory Committee meeting attendance rate	%	100.0
	Number of meetings of the Nomination Advisory Committee*	times	7
	Nomination Advisory Committee meeting attendance rate	%	100.0
	Number of meetings of the Remuneration Advisory Committee*	times	14
	Remuneration Advisory Committee meeting attendance rate	%	100.0

*The numbers of meetings of the Nomination Advisory Committee and the Remuneration Advisory Committee in fiscal 2022 each include the three joint meetings of the two committees.

CSR-related policy list

CSR Charter/Corporate Ethics Policy and Code of Conduct/Human Rights and Labor Policies/EHS Disaster Prevention Policy/Procurement Policy/Quality Policy/Disclosure Policy/Basic Policy for Activities to Contribute to Society and Local Communities/Basic Policy for Prevention of Cartels and Bribery/Global Tax Policy

For other data, please see:

ESG data collection	https://corporate.murata.com/en-global/csr/esg_data
GRI Standards reference table	https://corporate.murata.com/en-global/csr/gri
SASB reference table	https://corporate.murata.com/en-global/csr/sasb

External evaluations

Incorporation into ESG indexes

- Included in the MSCI Japan ESG Select Leaders Index since fiscal 2017.
- Included in the MSCI Japan Empowering Women Index (WIN) since fiscal 2020.
- Included in the FTSE4Good Index Series since fiscal 2019.
- Included in the FTSE Blossom Japan Index since fiscal 2019.
- Selected for the FTSE Blossom Japan Sector Relative Index since fiscal 2022.
- Included in the S&P/JPX Carbon Efficient Index since fiscal 2018.
- Included in the Morningstar Japan ex-REIT Gender Diversity Tilt Index since fiscal 2023.
- Included in the SOMPO Sustainability Index since fiscal 2022.
- Selected for the iSTOXX MUTB Japan Platinum Career 150 Index since fiscal 2023.

2023 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX

THE INCLUSION OF Murata Manufacturing Co., Ltd. IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HEREIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF Murata Manufacturing Co., Ltd. BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.

2023 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)

THE INCLUSION OF Murata Manufacturing Co., Ltd. IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HEREIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF Murata Manufacturing Co., Ltd. BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.

FTSE4Good

FTSE Blossom Japan

FTSE Blossom Japan Sector Relative Index

S&P/JPX Carbon Efficient Index

STOXX Indices by Qontigo — Member 2023/2024 Platinum Career Index

Evaluation concerning sustainability from external sources

- Selected as a "Winner Company" in the Corporate Governance of the Year 2022.
- Awarded the "Gold Medal" in the EcoVadis sustainability assessment in fiscal 2022.
- Given the score of A- in the CDP's Climate Change in fiscal 2022.
- Selected as Supplier Engagement Leaderboard since fiscal 2020, the title given to the highest rated companies in CDP's Supplier Engagement Rating.
- Selected as Health & Productivity Management Outstanding Organizations Recognition program, White 500 since fiscal 2017.
- Rated as a low-risk company in Sustainalytics ESG Risk Ratings.

Corporate Governance of The Year

CDP SUPPLIER ENGAGEMENT LEADER 2022

2023 健康経営優良法人 Health and productivity ホワイト500

Rated — MORNINGSTAR SUSTAINALYTICS

Other major external awards

- Awarded the second prize at the 2nd Annual Nikkei Integrated Report Awards
- Awarded the "IR Special Award" in the Japan Investor Relations Association 2022 IR Award.
- Selected as a "company with significant improvement in disclosure" in the 2022 Awards for Excellence in Corporate Disclosure organized by the Securities Analysts Association of Japan.
- Given the 5-star rating, the highest ranking in the 6th NIKKEI Smart Work Management Survey.
- Selected as a Clarivate Top 100 Global Innovator 2023 for 2nd year in a row, setting it apart as one of the world's most innovative companies.
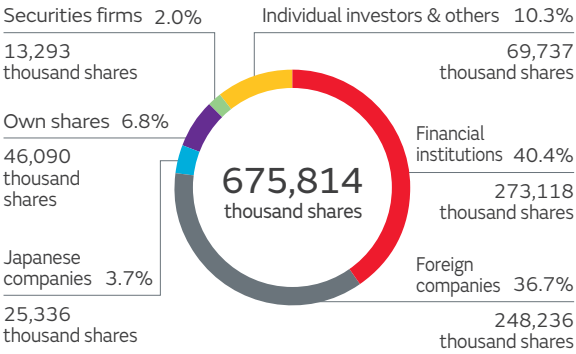
NIKKEI Integrated Report Award

2022 iR 優良企業特別賞 member of Japan Investor Relations Association

NIKKEI Smart Work ★★★★★ 2023　Best 24

Top 100 Global Innovator 2023　Clarivate

Company and stock information (As of March 31, 2023)

Company overview

|			
Trade name	Murata Manufacturing Co., Ltd.	Subsidiaries in Japan	30 companies
Date of incorporation	December 23, 1950 (established in October 1944)	Subsidiaries outside of Japan	57 companies
Common stock	69,444 million yen	Stock exchange listing	Tokyo Stock Exchange Prime Market Singapore Exchange
Location	10-1, Higashikotari 1-chome, Nagaokakyo-shi, Kyoto 617-8555	Number of shares outstanding	675,814 thousand shares
		Number of shareholders	133,124 persons

Ownership breakdown

Securities firms 2.0%　13,293 thousand shares

Individual investors & others 10.3%　69,737 thousand shares

Own shares 6.8%　46,090 thousand shares

Financial institutions 40.4%　273,118 thousand shares

675,814 thousand shares

Japanese companies 3.7%　25,336 thousand shares

Foreign companies 36.7%　248,236 thousand shares

Major shareholders

Name	Number of shares (unit: one thousand)	Ownership (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	109,062	17.3
Custody Bank of Japan, Ltd. (Trust Account)	42,782	6.8
SSBTC CLIENT OMNIBUS ACCOUNT	17,418	2.8
Nippon Life Insurance Company	16,562	2.6
The Bank of Kyoto, Ltd.	15,780	2.5
Meiji Yasuda Life Insurance Company	15,722	2.5
STATE STREET BANK WEST CLIENT-TREATY 505234	10,226	1.6
THE BANK OF NEW YORK MELLON 140042	8,937	1.4
Mizuho Bank, Ltd.	8,297	1.3
THE SHIGA BANK, LTD.	7,653	1.2

(Note) The Company holds 46,090 thousand shares of its own stock. As these shares do not confer voting rights, they are excluded from the above table.

Trends in stock price and trading volume
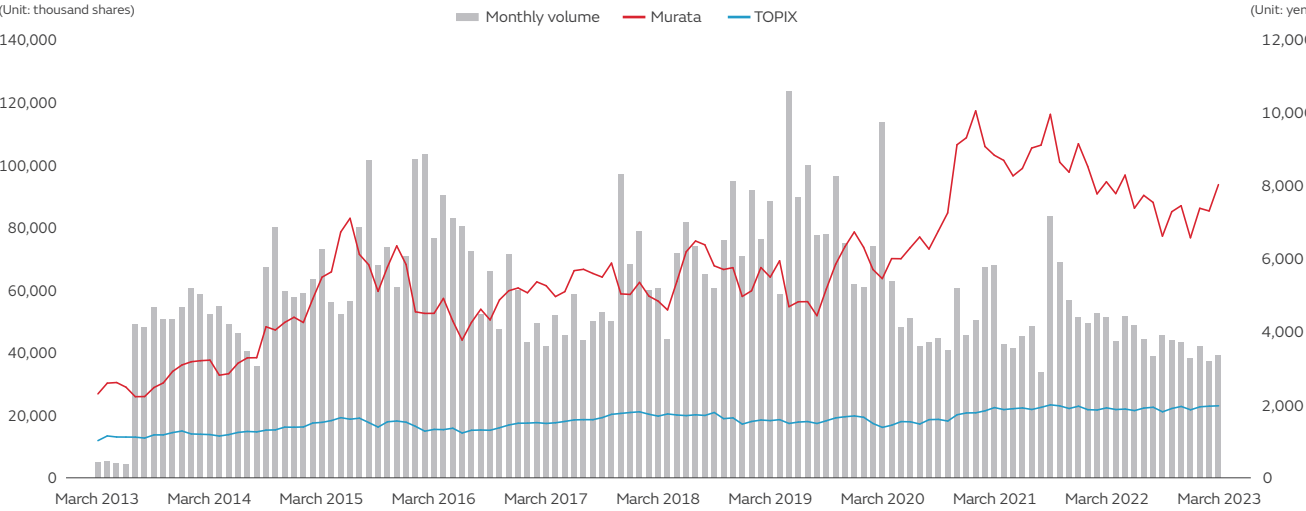
(Unit: thousand shares)　　Monthly volume　— Murata　— TOPIX　　(Unit: yen)

*The Company implemented a three-for-one common stock split, effective April 1, 2019. Information per share was calculated on the assumption that the relevant stock split had been implemented at the beginning of fiscal 2012.

Total Shareholders Return (TSR*)

Holding period	3 years	5 years	10 years
Murata	154.1%	177.6%	385.6%
TOPIX	153.4%	131.8%	242.1%

*Total Shareholders Return (TSR): TSR represents a ratio of return from equity investment consisting of capital gain and dividend. TSR for each period as of the end of fiscal 2022 is calculated referring to the calculation formula stipulated in the Cabinet Office Order. The stock prices at the start of investment used as the basis of calculation are the closing prices as of March 31, 2020 for three years, March 31, 2018 for five years, and March 31, 2013 for 10 years.