INFORMATION MEETING 2023

Murata’s Initiatives for Increasing Corporate Value

Murata Manufacturing Co., Ltd.
Key Messages

- Our outlook for expanding business opportunities through 2030 has not changed significantly despite the difficult business environment.

- We will promote 3-layer portfolio management for future growth and take on the challenge of market creation.

- Our objective is to strengthen management capital, the source of our ability to generate cash, to become a company that continually and sustainably creates economic and social value.
Introduction
Vision 2030

Vision 2030 sets out in detail what we must do in the future to realize the mission set out in the Murata Philosophy. The key concepts in implementing this vision are a “Continuous cycle of social and economic value” and “Co-creating value with stakeholders.”

**Murata Philosophy**

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.
Process of Value Creation

Innovator in Electronics

Reinforcement of corporate governance system

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  Social value

Murata’s core competencies

The power to give shape to needs

The power to deliver value

The power to read the future

Murata’s core competencies

Human capital
Organizational capital
Monozukuri capital

Management capital that we have cultivated by implementing the Murata Philosophy

Management capital that we have cultivated by implementing the Murata Philosophy

Human capital
Organizational capital
Monozukuri capital

Murata Philosophy
(management philosophy)

Deepen core businesses and promote evolution of business models

Three-layer portfolio

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

Deepen core businesses and promote evolution of business models

Four business opportunities

Communications
Mobility
Environment
Wellness

Deepen core businesses and promote evolution of business models

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)

Manage issues (materialities) originating with social issues

Key issues (materialities) originating with social issues

Strengthen management foundations

Recognizing the environment (opportunities and risks)
Continuous Cycle of Social and Economic Value

- Produce a continuous cycle of social and economic value by co-creating value with stakeholders
- Actively work to resolve social issues, in this way improving our business competitiveness

Creating a sustainable society and enhancing corporate value

Social value
- ESG initiatives

Continuous cycle

Economic value
- Sustained, long-term profit generation

Co-creating value with stakeholders
Medium-term Direction 2024 review
Vision 2030 and Medium-Term Direction 2024

- To continuously increase corporate value, we established Vision 2030 to indicate our long-term direction.
- Medium-Term Direction 2024 covers three years that are vitally important to creating sustained growth for 2030 and beyond.
- Make steady preparations by backcasting from environmental changes viewed from a long-term perspective.

**Medium-Term Direction 2024**

<table>
<thead>
<tr>
<th>Business opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
</tr>
<tr>
<td>Mobility</td>
</tr>
<tr>
<td>Environment</td>
</tr>
<tr>
<td>Wellness</td>
</tr>
</tbody>
</table>

**Medium-term management issues**

- Management transformation
- Portfolio management (higher level)
- Form a lean management base
- Preparation for 2030

**Management targets**

- Economic value
- Social value: environment, diversity, ES

**First phase to achieve Vision 2030**

**Vision 2030**

**Growth strategy**

Deepen core businesses and promote evolution of business models

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

**Innovator in Electronics**

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

**Medium-Term Direction 2024**

Business opportunities

- Communications
- Mobility
- Environment
- Wellness

Medium-term management issues

- Management transformation
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Management targets

- Economic value
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First phase to achieve Vision 2030

**Vision 2030**

**Growth strategy**

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

**Innovator in Electronics**

Murai will innovate to create a continuous cycle of social and economic value and contribute to the enrichment of society.
Medium-Term Management Issues and Key Initiatives of Medium-Term Direction 2024

Management transformation
- Use the hypothetical thinking in the business plan management process as a mechanism to ensure an autonomous and decentralized organization, then review the processes for formulating budgets and medium-term business plans as well as evaluate business viability.
- Formulate a vision for what Murata wants to be (ideal state) through DX and a document for proof of concept (PoC).
- Introduce a system for promoting investments for sustainability.

Portfolio Management (Higher Level)
- Promote 3-layer portfolio management by resolving issues related to each layer.

Form a Lean Management Base
- Consider and implement measures to strengthen human capital
- Implement training programs for management candidates
- Strengthen governance for quality assurance

Preparation for 2030
- Eliminate waste and introduce technology at production sites, and proactively develop innovative technologies.
- Enhance the development of human resources for manufacturing by structuring global systems to strengthen training.
- Improve sales strengths by enhancing job-specific, specialized programs for human resource (HR) development.
- Begin considering future intellectual property strategies by creating an R&D portfolio and exploring new technologies.
## Progress on Economic Value Goals

### Medium-term Direction 2021 - 2024

<table>
<thead>
<tr>
<th></th>
<th>FY2021</th>
<th>FY2022</th>
<th>FY2023 (Forecast as of Oct. 2023)</th>
<th>FY2024 (Targets)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net sales (JPY)</strong></td>
<td>1,812.5 billion</td>
<td>1,686.8 billion</td>
<td>1,620.0 billion</td>
<td>2,000.0 billion</td>
</tr>
<tr>
<td><strong>Operating income ratio</strong></td>
<td>23.4%</td>
<td>17.7%</td>
<td>16.7%</td>
<td>20% or higher</td>
</tr>
<tr>
<td><strong>ROIC (pre-tax basis)</strong></td>
<td>22.6%</td>
<td>14.4%</td>
<td>12.3%</td>
<td>20% or higher</td>
</tr>
</tbody>
</table>

### Notes:
1. ROIC (pre-tax basis) = Operating income / Average invested capital at the beginning and end of the period (=Property, plant and equipment + right-of-use assets + goodwill + intangible assets + inventories + trade receivable - trade payables)
2. FY2022 results have been reclassified from U.S. GAAP to IFRS.

### ROIC (pre-tax basis)* (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>FY2020</th>
<th>FY2021</th>
<th>FY2022</th>
<th>FY2023 (Forecast)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18.5</td>
<td>22.6</td>
<td>14.4</td>
<td>12.3</td>
</tr>
</tbody>
</table>

### Gross Profit Margin, S&A Expenses and R&D Expenses (Unit: billion yen, %)

<table>
<thead>
<tr>
<th>Year</th>
<th>FY2020</th>
<th>FY2021</th>
<th>FY2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S&amp;A</td>
<td>R&amp;D</td>
<td>Gross profit margin</td>
</tr>
<tr>
<td></td>
<td>204</td>
<td>102</td>
<td>38.2%</td>
</tr>
<tr>
<td></td>
<td>233</td>
<td>111</td>
<td>42.4%</td>
</tr>
<tr>
<td></td>
<td>254</td>
<td>124</td>
<td>39.9%</td>
</tr>
<tr>
<td></td>
<td>250</td>
<td>130</td>
<td>40.5%</td>
</tr>
</tbody>
</table>

### Invested Capital1 & Capital Turnover Ratio2 (Unit: billion yen, times)

<table>
<thead>
<tr>
<th>Year</th>
<th>FY2020</th>
<th>FY2021</th>
<th>FY2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Invested capital (PP&amp;E)</td>
<td>Invested capital (Inventories and Others)</td>
<td>Capital turnover ratio</td>
</tr>
<tr>
<td></td>
<td>1,692.4</td>
<td>1,875.1</td>
<td>2,041.4</td>
</tr>
</tbody>
</table>

### Notes:
1. Average at the beginning and end of the period
2. Capital turnover ratio = Sales ÷ Invested capital

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- Increase investment in DX and new business creation for future growth. Accelerate cost reductions and improving utilization rates to get higher (or target) profit margins.
- Demand for electronic components is currently sluggish, while ongoing upfront investment is depressing capital turnover. Optimize invested capital by reducing inventory.
# Progress toward Social Value Goals

## Environment

<table>
<thead>
<tr>
<th></th>
<th>FY2021</th>
<th>FY2022</th>
<th>FY2024 (Target)</th>
<th>FY2030 (Target)</th>
<th>Long-term Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG emissions reduction rate vs.</td>
<td>12.7%</td>
<td>16.4%</td>
<td>20%</td>
<td>46%</td>
<td>Carbon neutral</td>
</tr>
<tr>
<td>fiscal 2019 Scopes 1 + 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewable energy implementation rate</td>
<td>21.3%</td>
<td>23.7%</td>
<td>25%</td>
<td>50%</td>
<td>100% (2050)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>FY2021(^3)</th>
<th>FY2022(^2)</th>
<th>FY2024 (Target)</th>
<th>FY2030 (Target)</th>
<th>FY2050 (Target)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of sustainable resources (%)(^1)</td>
<td>—</td>
<td>—</td>
<td>1% improvement over FY2021 results</td>
<td>25%</td>
<td>100%</td>
</tr>
<tr>
<td>Resource recycling (%)(^2)</td>
<td>—</td>
<td>—</td>
<td>5% improvement over FY2021 results</td>
<td>50%</td>
<td>100%</td>
</tr>
</tbody>
</table>

1. Resources at low risk of depletion, which Murata can use continually into the future by taking steps such as building recycling schemes (Potentially depletable resources: Ag, Ni, etc.).
2. Percentage of Murata’s waste and useful outputs (emissions) recycled as resource.
3. Currently being tabulated.

## Diversity

<table>
<thead>
<tr>
<th></th>
<th>FY2021</th>
<th>FY2022</th>
<th>FY2024 (Target)</th>
<th>FY2030 (Target)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of overseas indirect</td>
<td>3%</td>
<td>5.3%</td>
<td>7%</td>
<td>10%</td>
</tr>
<tr>
<td>employees* with experience working</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at other sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

## ES

<table>
<thead>
<tr>
<th></th>
<th>FY2021</th>
<th>FY2023</th>
<th>2024 (Target)</th>
<th>FY2030 (Target)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive employee engagement response (%)</td>
<td>68%</td>
<td>Currently being tabulated</td>
<td>70% or higher</td>
<td>76% or higher</td>
</tr>
</tbody>
</table>
Medium-Term Direction 2024 Capital Allocation Policy

<table>
<thead>
<tr>
<th>FY2022-FY2024 cumulative (Unit: JPY billions)</th>
<th>FY2022 Results</th>
<th>FY2023 Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>In</td>
<td>Out</td>
<td></td>
</tr>
<tr>
<td>Operating cash flows 1,250.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital investment 640.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(land, buildings 100.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic investment 230.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shareholder returns 270.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redemption of bonds 110.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental investment</td>
<td>Approx. JPY 4.0 billion*</td>
<td>Approx. JPY 30.0 billion*</td>
</tr>
<tr>
<td>M&amp;A and other growth investments</td>
<td>Approx. JPY 4.0 billion</td>
<td>(However, forecast does not include M&amp;As and other growth investments.)</td>
</tr>
<tr>
<td>Other (IT infrastructure improvement, etc.)</td>
<td>Approx. JPY 16.0 billion</td>
<td></td>
</tr>
<tr>
<td>Strategic investment total</td>
<td>JPY 23.6 billion</td>
<td></td>
</tr>
</tbody>
</table>

* Environmental investment is included in capex for FY2022 in the FY2023 forecast.

Our basic policy for shareholder returns:

- **Dividends:**
  Our basic policy is to steadily raise dividends by increasing profit per share, aiming to realize dividends on equity (DOE) of 4% or higher with a target payout of about 30% over the medium term.

- **Repurchase of own shares (stock buyback):**
  To improve capital efficiency, we use this approach for returning profits to shareholders, when necessary.

Considerations for increasing shareholder returns:

- 2.5 to 3.5 months of liquidity and immediate funding requirements
- Availability of opportunities to increase growth and strategic investments
- Cash flow projections and current share price
03

Key Strategies for Increasing Corporate Value
Vision for Increasing Murata’s Corporate Value

Targeting increased corporate value within a continuous cycle of social value and economic value

Corporate Value

\[
\text{Corporate Value} = \frac{\text{Free cash flow (FCF)}}{\text{Weighted average cost of capital (WACC)}} \times \frac{\text{Growth rate}}{\text{Net Sales}}
\]

Economic Value
- Net Sales
- Operating income ratio
- ROIC

Social Value
- Environment
- Diversity
- ES
- Material Issues

Reduce capital costs by improving the sustainability of economic value creation

Generate sustainable cash flow

Continuous cycle

Competencies and Management Capital
Our projection that the use of electronics and our business opportunities will both grow through 2030 has not changed, but the opportunities and risks associated with our business opportunities have changed since we formulated our medium-term direction.

**Vision 2030 Medium-to Long-term Recognition of Environment**

- **Expansion of the Usage of Electronics**
  - Proliferation of 5G and IoT and diversification of devices
  - Automobile electrification and autonomous driving

- **Transition to a Sustainable Society**
  - Increasing awareness of environmental measures and stricter environmental regulations
  - Concurrent pursuit of social and economic value

- **Advancement of Digitalization**
  - Business innovation through the use of big data, 5G, etc.
  - Diversifying channels for external communications

- **Increasing Geopolitical Risks**
  - Trends in US-China relations
  - New regulations resulting from the interrelationship among global trends such as environmental and human rights issues and local economic policies.

- **Changes in Demographic Structure and Power Balance**
  - Structural change in global demographics
  - Developed countries facing the challenges associated with aging populations. The value of health increases.

- **Addressing Post-pandemic Society**
  - Combinations of in-person and online communications
  - Corporate activities ranging from purchasing and production to logistics, are becoming more diverse and decentralized

**Material Changes in the Business Environment since the Formulation of Medium-term Direction 2024**

1. Slowing growth in number of smartphones and polarization at the device level
2. Acceleration of CASE in the automobile industry
3. Rapid proliferation of AI
4. Accelerated pivot to multiple supply chains
5. Increased opportunities for dialogues with stakeholders on sustainability
Evolving as an Innovator in Electronics

1980s 1990s 2000s 2010s 2020s 2030s
Product Out Market In Market Out

Technological Innovation Centered on Consumer Electronics
Consumer Electronics + Social Infrastructure

Layer 1: Providing cutting-edge electronic components that contribute to the evolution of hardware
Layer 2: Specific application proposals optimized with customers
Layer 3: Providing value not only through hardware, but also by combining software with solutions

Financial Results

Net Sales (JPY billion) Operating Income Ratio

Net Sales
Operating Income Ratio

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Innovator during the Electronics Wave

- Achieve growth that empowers Layer 1 + Layer 2 sales that exceed semiconductor market sales
- Targeting Layer 1 + Layer 2 + Layer 3 business growth along with expansion of electronics field

Source: Estimated by Murata, based on Gartner’s research data
Initiatives through 2030

Worldview in 2030

Cyber space

Physical Space

Analysis

Feedback optimized information

Big Data

Four Business Opportunities

Communications
Mobility
Environment
Wellness

Our Challenges as an “Innovator in Electronics”

Strengthen the 3-layer portfolio

Develop and create new markets and applications

Strengthen management capital to support competencies

Business Opportunity Key Words

Edge AI Devices
- Light, thin, short & small
- Modularization

Combining Software & Hardware
- Wireless communications technologies
- Sensing technologies

Infrastructure that Supports Large-scale Computation
- High power compatibility
- High efficiency & reliability

Evolution of Communication Standards
Communication Resilience
- High-frequency technologies

Innovator in Electronics
Strengthening Layer 1

**In-vehicle MLCCs market forecast** (quantity basis)
- Trend of automotive electrification remains unchanged. Large-capacity components especially are increasing rapidly.

![Graph showing trends in automotive electrification](image)

**In-vehicle Inductors/EMI filters** (quantity basis)
- Driven by automotive electrification and 5G related

![Graph showing trends in automotive electrification and 5G related](image)

**Initiatives to Improve Our Position in the Automotive Market**
The ongoing electrification of automobiles has increased the number of installed DC-to-DC converters, and has increased the need for smaller power inductors with excellent electrical characteristics.

- Strengthen supply capacity and accelerate new product development

**Strengthen supply capacity in anticipation of the expansion of the communications and mobility market**

Established a joint venture company with Ishihara Sangyo Kaisha, Ltd. and Fuji Titanium Industry Co., Ltd. to have a system for the consistent supply for the material for MLCCs.

New facility in Thailand

Enhanced metal power inductors

New facility in Vietnam

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Strengthening Layer 2: High-Frequency Devices, Communication Modules, and Functional Devices

Preparing for the evolution of wireless communication technology

Use M&As to improve technology that differentiates us from our competitors

Renesas Electronics Corporation
- Power amp business
- Semiconductor RF components
- Digital ET technology
- Connectivity modules & high-frequency components

Participation in international communication standardization projects

- As a member of projects, including ITU-R\(^1\) and 3GPP\(^2\), we contribute to formulating new communication standards and the practical application of wireless communication.
- By encouraging collaboration with external organizations and companies, we are improving material R&D and production processes over the medium to long term, with an eye to the evolution of communication network systems and next-generation communication technology trends.
- We are exploring new business opportunities in response to changes in customer needs and diversification of applications as communications become social infrastructure.

Product improvements: functional devices

Sensor initiatives for the autonomous driving market

- Developed and mass-produced a water-resistant ultrasonic sensor for advanced driver assistance systems (ADAS) that achieves short-distance detection of 15 cm
- MEMS inertial sensors for autonomous driving are selling well. To build a stable supply system, we will also increase production capacity at locations in Japan. We already have this type of location in Finland.

Change of net sales for automotive applications in the sensor business sector

Trend of net sales

Sales composition ratio

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Notes:
1. International Telecommunication Union, Radiocommunication Sector
2. The 3rd Generation Partnership Project
Strengthening Layer 2: Battery and Power Supplies

Building a solid operating foundation for the battery business sector
Targeting higher growth in the long-service-life and high-output fields where we can capitalize on our strengths

Capturing business opportunities for power supply modules by contributing to energy savings
Expanding business in growing markets, such as data centers and servers

Current Business Opportunities
• Trend toward cordless and electric power tools and cleaning tools
• Use of natural energy, self-consumption, backup in case of power outages

Future Directions
• Standardize production processes and materials
• Build flexible production systems based on demand forecasts
• Differentiate our technology in the long-service-life and high-output fields
• Promote in-house renewable energy and energy savings plus contribute to environmental protection

Cylindrical lithium-ion secondary batteries
Battery modules with olivine-type lithium iron phosphate ion secondary batteries (FORTELION)

Current Business Opportunities
• Increasing energy conservation requirements due to higher power consumption is accompanying the increase in data volume from the growth of 5G, generative AI, and the use of big data

Future Directions
• Concentrate resources on the low-power and high-power fields
• Use our strengths in high efficiency, low noise, and high power density for energy savings in network infrastructure and electronic devices

Products for low-power fields
DC-DC converter products

Products for high-power fields
AC-DC converter products
Initiatives for Layer 3

KUMIHIMO Tech Camp with Murata

- Mechanisms that proactively create opportunities for innovation
- By promoting knowledge collaboration with different industries, we aim to create innovative services and solutions, then develop and create new markets and new applications.

Partner companies
- Provision of hardware and intellectual property
- Prototype production support
- Business commercialization support

Business ideas

Services and solutions

Kanazu Murata Manufacturing Clean Energy Park

- Energy storage system using in-house cells
- Effinos control software

Features a system that combines solar panels, storage batteries, and control software

Our goal is to create economic value through ongoing in-house demonstrations that lead to commercialization

PIECLEX

- Developed by combining Murata’s electronics expertise with Teijin Frontier’s expertise in fibers. The movement of the fibers generates a weak electrical current that is antibacterial.
- Clothing is compostable because the plant-derived polylactic acid (PLA) raw material is biodegradable.
Portfolio Management

Features of Murata’s business management systems

- Management accounting system that applies an internal interest rate that is higher than the cost of capital (WACC)
- Investment economics evaluation that considers return on investment and the payback period
- Strong awareness of onsite profit and loss management
- Transparent accountability system (clarifying the responsibilities and authorities of business divisions, financially independent subsidiary system)

Business Feasibility Assessment System

- We created a product portfolio map that employs market growth rate, ROIC, and operating income charged with internal interest rate as indicators.
- The internal interest rate on the vertical axis is the assessment threshold. Leading businesses have an ROIC that exceeds the internal interest rate, while problematic businesses do not.
- Use hypothetical thinking to assess the viability of problematic businesses.

System Summary

- Profitable businesses
- Leading businesses
- Underperforming businesses
- Problematic businesses

Product portfolio map

Market growth rate (CAGR)

ROIC

Threshold

Competitive advantage

Particularly problematic businesses

Consider downsizing or withdrawal

Market attractiveness

Small

Big
Murata has generated growth by using advanced *monozukuri* to create solutions that markets and customers really want.

Electronic components required by the expansion of the electronics field are also becoming more sophisticated. Having difficult manufacturing and technology that is not easily manipulated is a competitive advantage.

**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**

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**Murata’s Monozukuri Strengths**

- Our vertically integrated production system includes manufacturing technologies, production technologies, and management systems that are highly integrated from materials to final products.
- A kaizen mindset and quality awareness that comes from taking responsibility for profitability.
- Sophisticated coordination of product development, material development, production technology, and manufacturing.
Initiatives to Strengthen Monozukuri Capital and Monozukuri Human Resources

Making both stronger is the starting point for achieving strong on-site capabilities (monozukuri capabilities)

Training of improvement facilitators
• Emphasis on training improvement facilitators who make on-site improvements using technologies that support the competitiveness of manufacturing

Number of Improvement Facilitators (Consolidated; FY))

<table>
<thead>
<tr>
<th>Year</th>
<th>Improvement facilitators</th>
<th>% overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>1,074</td>
<td>9.5%</td>
</tr>
<tr>
<td>2019</td>
<td>1,290</td>
<td>11.0%</td>
</tr>
<tr>
<td>2020</td>
<td>1,501</td>
<td>14.5%</td>
</tr>
<tr>
<td>2021</td>
<td>1,716</td>
<td>18.8%</td>
</tr>
<tr>
<td>2022</td>
<td>1,861</td>
<td>17.1%</td>
</tr>
</tbody>
</table>

On-site Capabilities (Monozukuri strength)

Training of maintenance engineers
• In Murata’s equipment-oriented processes, maintenance engineers are important on-site personnel who support monozukuri
• Improve human resource development at major overseas production sites to strengthen monozukuri overseas

Maintenance Engineers (Consolidated)

<table>
<thead>
<tr>
<th>Region</th>
<th>FY2022</th>
<th>Japan</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overseas</td>
<td>3,009</td>
<td>5,190</td>
<td>2,181</td>
</tr>
</tbody>
</table>

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Initiatives to Improve *Monozukuri* Capital and the Progress of *Monozukuri* DX (Digital Transformation)

**Murata’s Features and the Progress of DX**

Vertically integrated manufacturing and variable-mix, variable-volume production

↓

Increasing *monozukuri* complexity

Extensive frontline manufacturing experience, understanding, and knowledge

↓

Using digital technology to transform frontline knowledge into explicit knowledge

Deploying a broad array of data from equipment and people to innovate manufacturing and create smart factories.

**Murata’s Vision for Manufacturing DX**

- Transition to manufacturing systems that use IoT, AI, and control technology.
- Transform the functions and purposes of organizations and individuals using the power of digital technology.

Strengthen organizational competencies within autonomous and decentralized organizational management.

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Enhancing *Monozukuri* Capital: Komoro Murata Manufacturing Co., Ltd. Case Study

- Komoro Murata Manufacturing (Nagano Prefecture) uses in-house products to promote smart factory initiatives
- Using digital technology to bring out the strengths of *monozukuri* capital and human capital

### Point ① Frontline-focused DX

- Formed a DX team within the equipment maintenance organization

### Point ② Use of in-house products

- **JIGlet®**
  - Wireless sensing solutions

- **m-FLIP™**
  - Wireless sensing solutions
  - *Uses m-FLIP™ internal version system

Introduce local 5G and conduct demonstration experiments at factory. Stimulated demand for Layer 2 and Layer 3 products by showing use case examples.

### Point ③ Organizational reforms through digitalization

- Improved productivity
- Reduced environmental loading
- Boosted engagement

### Point ④ Introduced an energy management system

- Optimized air conditioning and reduced equipment standby power by visualizing energy use

**GHG emissions from the entire factory: 2.2% reduction**
Enhancing Our Foundation for Quality

Quality Management System (M-QMS)

Current State of Quality Control

- Addressing a wide array of business models as business scale grows
- Increasing quality requirements in the mobility business segment
- Increasing social responsibility including compliance with environmental regulations

Core Initiatives

1. Improve governance for quality
   - Strengthen internal controls and oversight by the Board of Directors
   - Enhance quality risk management
   - Address environment-related material issues (materiality)

2. Strengthen human resources base
   - Quality education and awareness activities for all employees
   - Developing human resources outside Japan

3. Structure quality assurance and quality control systems specifically for each layer of our 3-layer portfolio
   - Developing a QMS to maintain and improve the business models and strengths of each layer
   - Structuring quality assurance and quality control systems and strengthening quality risk management for third-layer businesses

Features of Murata’s Quality Management

- Our quality governance system is implemented by an organizational matrix of the head office, divisions, and sites
- Systems and culture that promote collaboration between development and manufacturing
- Quality control technology and quality management systems that extend back to the origin
Based on the knowledge we have acquired through integrated production, we will strengthening core technologies that are particularly competitive as well as promote innovation in our businesses by standardizing elemental technologies for entire processes as basic technologies.

By refining core technologies that differ for each product, we are able to create products that have strong competitive advantages and are differentiated from the products of other companies.

<table>
<thead>
<tr>
<th>Murata Technologies</th>
<th>Materials technology</th>
<th>Manufacturing technology</th>
<th>Device and product design technology</th>
<th>Analytical technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Materials design</td>
<td>Laminating &amp; stacking</td>
<td>Passive devices design</td>
<td>Materials characterization</td>
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<td></td>
<td>Materials processing</td>
<td>Printing</td>
<td>Semiconductor and MEMS device design</td>
<td>Failure analysis</td>
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<td>Sintering</td>
<td>High frequency design RF device design</td>
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<td>Surface treatment</td>
<td>Circuit design</td>
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<td>Precision processing</td>
<td>Simulation</td>
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<td>Fine processing</td>
<td>Modeling</td>
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<td>Packaging</td>
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<td>Measurement &amp; testing</td>
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<td>Equipment design</td>
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<td>Automation</td>
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<td>Industrial engineering</td>
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Murata’s intellectual property activities

**Organization**

- **Corporate IP Department**: Planning and execution of intellectual property strategies closely related to the frontline businesses and development.
- **IP Planning Department**: Planning and execution of intellectual property strategies from a company-wide perspective.

**The Function of Intellectual Property in Core Businesses**

<table>
<thead>
<tr>
<th>Role of intellectual property function</th>
<th>Direction of intellectual property strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st layer Components</td>
<td>Control the rise of rival companies and the risk of Technological imitation</td>
</tr>
<tr>
<td>- Thorough protection of rights for platform technologies and core technologies</td>
<td></td>
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<tr>
<td>- Determination and execution of obtaining patent rights or keeping them confidential</td>
<td></td>
</tr>
<tr>
<td>2nd layer Devices/modules</td>
<td>Improve business profitability by securing competitive Advantage for intellectual property</td>
</tr>
<tr>
<td>- Identification of technologies that differentiate us from rival companies and protection of our rights in focused areas</td>
<td></td>
</tr>
<tr>
<td>- Strategic use of intellectual property in accordance with the business Environment</td>
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</tbody>
</table>

**Link between Management Strategy and Intellectual Property Strategy**

- Optimize intellectual property portfolio in line with 3-layer portfolio management and market needs.
- Leverage the IP landscape to create new businesses.

**Formulating overall strategy in line with the situation of each business**

1. Analysis of current business conditions
2. SWOT Analysis

**Goals of intellectual property**

<table>
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<tr>
<th>Opportunity</th>
<th>Threat</th>
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</thead>
<tbody>
<tr>
<td>Maximize strengths</td>
<td>Addressing threats</td>
</tr>
</tbody>
</table>

**Complementing Weaknesses | Minimizing Weaknesses**

**Reviewing intellectual property activities through dialogue with business divisions**

1. Review of overall strategy
2. Action plan
3. Consideration of methods for measuring effectiveness

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

**Intangible asset management list**

<table>
<thead>
<tr>
<th>Category</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business X</td>
<td>Murata's average of Business X</td>
</tr>
<tr>
<td>Business Y</td>
<td>Murata's average of Business Y</td>
</tr>
</tbody>
</table>

**Balance of power with competitors**

**Visualizing intellectual property portfolio and identifying issues**

**Action**

- Plan
- Do
- Check
Customer and Business Partner Capital

Our strengths include multiple products with high market share, a global customer and partner network, and the close relationships we have built with customers, suppliers, and partner companies around the world.

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- **Broad Product Lineup**
  - MLCC: 40%
  - RF inductors: 60%
  - SAW filters: 50%

- **Close Relationships with Customers**
  - Americas: 13 companies
  - Europe: 9 companies
  - Greater China: 20 companies
  - Asia and others: 15 companies
  - Japan: 31 companies

- **Global Customer and Partner Network**

Obtaining wealth and multi-perspective information enables us to proactively predict customer demand and market trends.

- Roadmap of the market
- Roadmap of customer needs
- Roadmap of products
- Roadmap of technologies

Proactive product development & products with high market share
Initiatives to Enhance Customer & Business Partner Capital: DX for the Sales Process

**Initiative 1: Digital Promotion**

Expand touchpoints with a wide range of customers by strengthening digital channels and content.

**Initiative 2: Selection of Services by Customers**

Structure a customer support system in collaboration with agencies and other partners.

**Initiative 3: Strengthen Digital Customer Service**

Provide services that include samples, exclusive content and community.

**Initiative 4: Improve Digital Operations**

Centralize management and visualization of related data. Reallocate resources by standardizing and automating operations and improving productivity.

Support increased sales by providing maximum value to customers that emphasizes speed and efficiency.
Fundamental Approach to Human Capital

- Murata’s human capital: “A company is its people, and it’s people who are at the core of value creation.”
- We emphasize that employees, with which the Murata Philosophy resonates, can achieve satisfaction and continuing growth, then build trust and cooperate with others to demonstrate collective strength, in this way creating new innovations.

Murata Philosophy

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.

Murata’s human capital strengths developed over years of practicing the Murata Philosophy

Global penetration of Murata Philosophy

Employees who sympathize with the Murata Philosophy and sincerely practice it CS* and ES* as key values

An organizational culture that maximizes potential of diverse individuals and helps their collaboration

A corporate culture that values innovation

* CS (customer satisfaction): Continuing to create and provide value that is recognized by the customer.
* ES (employee satisfaction): Every employee achieves satisfaction and continuing growth through their work.
**Initiatives to Enhance Human Capital**

- Aiming to realize a continuous cycle of social value and economic value, we will promote human capital management that empowers people to grow in tandem with the business and helps to resolve new issues.
- We will foster a culture that accommodates diversity and further bolster the organizational strengths that are a competitive advantage for Murata, while emphasizing a sense of organizational unity by instilling our management philosophy.

### Actions vs. KPI

<table>
<thead>
<tr>
<th>Actions</th>
<th>KPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Promote global rotation</td>
<td>1. Percentage of overseas indirect employees with experience working at other sites</td>
</tr>
<tr>
<td>2. Acquire diverse personnel with a variety of experience and leverage the diversity</td>
<td>2. Number of employees who were medium-career hires (including those from M&amp;A), percentage of employees with management responsibilities who were medium-career hires (including those from M&amp;A)</td>
</tr>
<tr>
<td>3. Provide a variety of career paths</td>
<td>3. Number of appointments to specialized managerial positions</td>
</tr>
<tr>
<td>4. Promote women’s participation</td>
<td>4. Percentage of women with management responsibilities, percentage of women among new hires, percentage of men taking childcare leave</td>
</tr>
<tr>
<td><strong>Leverage diversity in human resources</strong></td>
<td><strong>Employee engagement</strong></td>
</tr>
<tr>
<td><strong>to sustain and enhance our collective strength</strong></td>
<td>1. Employee engagement positive response rate</td>
</tr>
<tr>
<td><strong>Employee engagement</strong> that is born when employees are motivated and feel they are growing</td>
<td>2. Number of training sessions by executives, number of participants at the sessions</td>
</tr>
<tr>
<td><strong>Acquiring and developing human resources</strong> to respond to a changing business environment</td>
<td>3. Employee turnover rate</td>
</tr>
<tr>
<td></td>
<td>4. Occupational accidents per 1,000 employees, self-rated health, others</td>
</tr>
<tr>
<td>1. Use global surveys to improve the organizational culture</td>
<td><strong>Acquiring and developing human resources</strong></td>
</tr>
<tr>
<td>2. Encourage conversation between top management and employees</td>
<td>1. Attracting and acquiring human resources</td>
</tr>
<tr>
<td>3. Establish employee-friendly work environments and systems</td>
<td>2. Developing human resources</td>
</tr>
<tr>
<td>4. Safe and secure workplaces and health management</td>
<td>3. Continual training of candidates for next generation of management</td>
</tr>
<tr>
<td><strong>Attending and developing human resources</strong></td>
<td>4. Acquiring and training DX human resources</td>
</tr>
<tr>
<td>1. Attracting and acquiring human resources</td>
<td>1. Number of persons hired (planned fulfillment rate), turnover rate within three years</td>
</tr>
<tr>
<td>2. Developing human resources</td>
<td>2. Cost of investment in human resource development</td>
</tr>
<tr>
<td>3. Continual training of candidates for next generation of management</td>
<td>3. Percentage of persons taking selective training who are promoted to senior management, succession position fulfillment rate</td>
</tr>
<tr>
<td>4. Acquiring and training DX human resources</td>
<td>4. DX human resources hiring plan fulfillment rate, number of persons taking DX training</td>
</tr>
</tbody>
</table>
Progress on DX

**Murata Definition of DX**
Enabling people and organizations (business processes) both inside and outside Murata to connect digitally and freely, then make processes **shorter, faster, and more visible**, in this way **continually driving** dramatic increases in customer value and competitiveness.

**Murata DX Policy**
*Increase per-hour productivity* by continually investing in digital infrastructure and making full use of digital technologies. Encourage use of data, *connect business processes, and create new value*. Also contribute to Layer 3 portfolio domain. By executing and practicing these things, we will foster a corporate culture of ongoing transformation.

Create new value

**Digital infrastructure**
- **Invest strategically in DX human resources and IT platform**
- **Develop IT platform**

Create value by connecting data and connecting business processes

**Rationalize & shorten time**
- **Increase per-hour productivity by implementing digital**
- **Make full use of existing tools**
- **Automate routine business processes**
- **Enhance quality of communication**
Move forward with DX to generate increased corporate value by deepening and accelerating the value creation process.
Overview of Using DX for Human Resource Development

- Strengthen DX human resources by leveraging Murata’s strength in frontline execution
- Initiating DX themes across the Company enables us to identify needed changes centered on digitalization, then steadily drive this transformation with action.
Cautionary Statement on Forward looking Statements

This report contains forward looking statements concerning Murata Manufacturing Co., Ltd. and its group companies' projections, plans, policies, strategies, schedules, and decisions. These forward looking statements are not historical facts; rather, they represent the assumptions of the Murata Group (the “Group”) based on information currently available and certain assumptions we deem as reasonable. Actual results may differ materially from expectations due to various risks and uncertainties. Readers are therefore requested not to rely on these forward looking statements as the sole basis for evaluating the Group. The Company has no obligation to revise any of the forward looking statements as a result of new information, future events or otherwise.

Risks and uncertainties that may affect actual results include, but are not limited to, the following:

1. Economic conditions of the Company’s business environment, and trends, supply demand balance, and price fluctuations in the markets for electronic devices and components
2. Price fluctuations and insufficient supply of raw materials
3. Exchange rate fluctuations
4. The Group’s ability to provide a stable supply of new products that are compatible with the rapid technical innovation of the electronic components market and to continue to design and develop products and services that satisfy customers
5. Changes in the market value of the Group’s financial assets
6. Drastic legal, political, and social changes in the Group’s business environment
7. Other uncertainties and contingencies.

The Company undertakes no obligation to publicly update any forward looking statements included in this report.