

***muRata***  
INNOVATOR IN ELECTRONICS

# INFORMATION MEETING 2022

Murata Manufacturing Co., Ltd.

2022.11.30

# Key Messages

- We are anticipating the growth of business opportunities toward 2030, led by communications and mobilities. To prepare for this market expansion, we will steadily implement Medium-Term Direction 2024.
- To look to the future and create wide-ranging innovations, we will strive to take our 3-layer portfolio management to a higher level.
- Forming a lean management base through strengthening human capital.

# 01

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## Expansion of the Usage of Electronics and 3-Layer Portfolio

## Expansion of the Usage of Electronics

### 2030s 6G

Expansion of sea, air, and space communications coverage.  
Creating a world where even more people and things are connected

Digitalization of all types of measurable information through evolutionary advances in sensors

Widespread use of cyber-physical systems where AI processes and handles digitalized big data

### 2020s 5G

IoT = Connection of all types of devices to the Internet

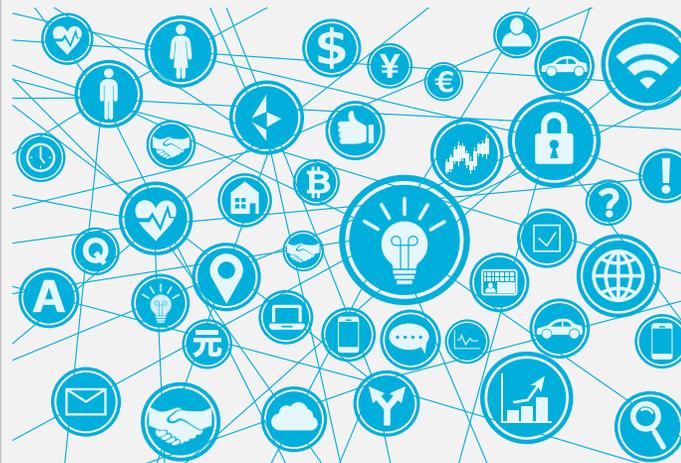
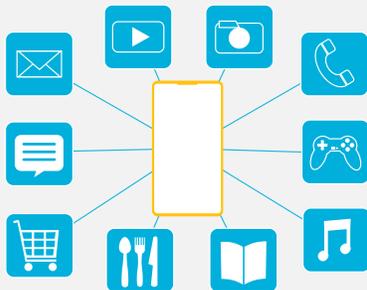
Communication becomes part of society's infrastructure

Widespread adoption of local 5G, as well as smart factories and offices.

### 2010s 4G

Smartphone-centric

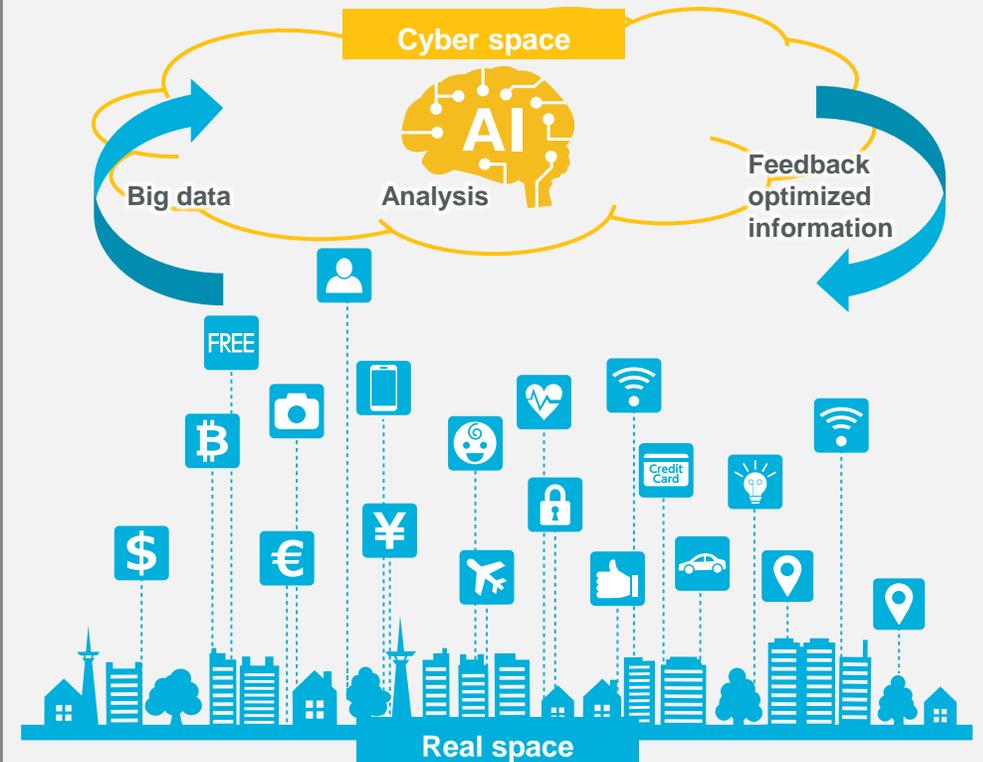
Communication is primarily between people



### Toward a better life and solutions to social issues

#### 6G keywords

- Digital twins
- Holograms
- Automatic charging
- Communication robots
- Healthcare using biological information
- Completely autonomous vehicles
- Flying cars (eVTOL)



## Network side

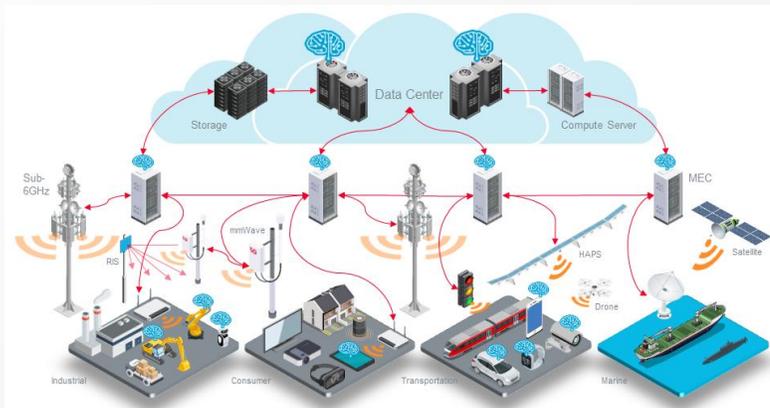
### 6th Generation Mobile Communication System (6G) is available

#### Market technology trends

- Appearance of high-capacity optical communications that support ultra-high-speed communications and largescale 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

### Increasing shift toward wearable and implanted devices

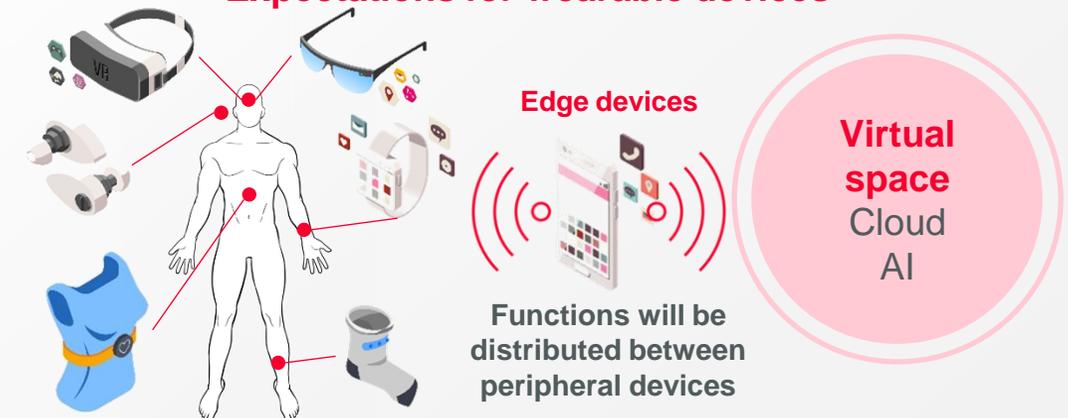
#### Market technology trends

- 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
- Rise in technical requirements in relation to reducing power consumption and increasing efficiency
- Added value will shift to hardware + software/solutions

### Expectations for wearable devices



# Initiatives in the Communications Market

**New value will be created by “converting everything into data and connecting them together”**

There will be major business opportunities for Murata, with our deep understanding of hardware and extensive knowledge of wireless communications technologies

## Miniaturization initiatives

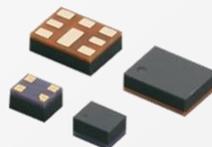
Devices will continue to become more compact, creating a rising need for miniaturization of components



Multilayer ceramic capacitor



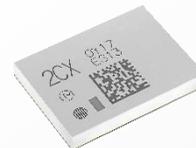
Inductor



SAW filter

## Modularization initiatives

The value that customers demand will shift from providing single-function components to modularized proposals for concrete applications



Wi-Fi 7-compatible module



UWB module



Edge AI module

## Low power consumption, low loss initiatives

Growing communications volume will create a demand for lower power consumption and low loss characteristics



Digital ET technology



Multi-layer LCP Product



XBAR technology

## Sensing technology initiatives

The range of data that can be acquired by sensors will grow, as will the range of data applications



Soil sensor



CO<sub>2</sub> sensor



NAONA

## Inside the Vehicle

- In addition to xEVs, autonomous driving technology is evolving

### High-performance components

Sensors, capacitors, etc.

### Software

Vehicle OS, etc.

### Hardware processing power

Key points of  
Autonomous-driving  
technology

### Communications

OTA technology, V2X, etc.

More importance for ECUs due to more data processing and increasing complexity of controls

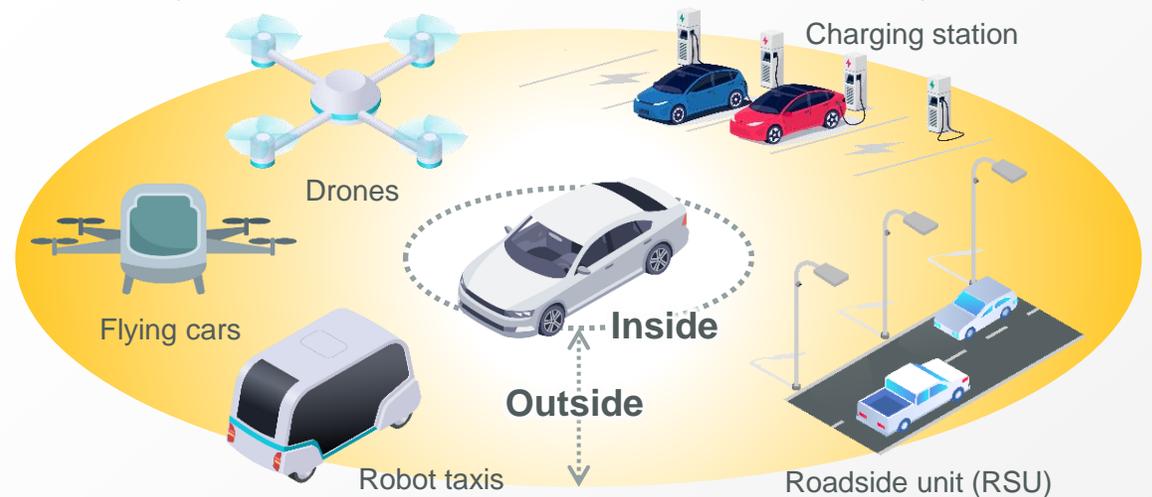
### Higher demand for electronic components

(e.g., number of in-vehicle MLCCs used)

(pcs)	ICE	Mild HV	Strong HV	PHEV	BEV
Powertrain	300 to 500	1,000 to 1,200	1,200 to 1,600	1,500 to 2,000	2,000 to 2,500
ADAS (Lv3/4/5)			3,000 to 5,000		
Safety			300 to 1,000		
Infotainment			500 to 2,500		
Other (non-safety)			500 to 2,500		

## Outside the Vehicle

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



- As vehicles connect to society through communications technology, services based on vehicles, such as MaaS, will continue to grow.
- Robot taxis, micro-mobility and flying cars (eVTOLs) are emerging as new modes of transportation

### Initiatives

- We will use our knowledge gained from the communication field to provide new value, including software and solutions.
- Search for opportunities outside of vehicles.

# Initiatives in the Mobility Market

## Demands of the mobility market

- High-quality, highly reliable products that can withstand harsh environments
- From single-function components to proposing specific applications using modules
- Provide software and solutions

## Murata's value-creating strengths

- Technological capability to create highly reliable and high-performing products
- Supply capacity to mass-produce products with uniform quality
- Problem-solving capabilities, made possible by optimizing modularization technologies with our customers
- Deep knowledge of the communications field

## Expanded product lineup

### Electrification



Multilayer ceramic capacitors (MLCCs)



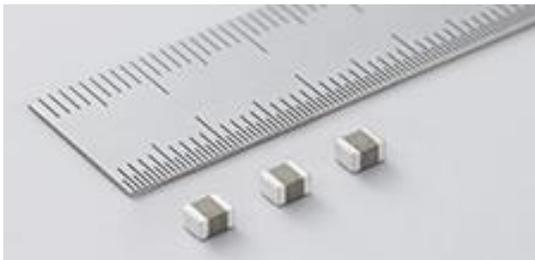
High Temperature Film Capacitor for Automotive

### Autonomous

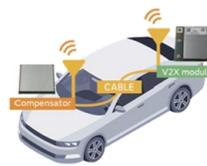


6-DOF XYZ-Axis MEMS inertial sensors

### Connected



Metal power inductors



V2X modules

## Understanding market technology trends

### Using our global sales network and customer/partner capital

- Predicting needs based on the solid relationships with our customers
- Building relationships with a wide range of customers, such as OEMs and IC manufacturers

### Vehicle disassembly activities

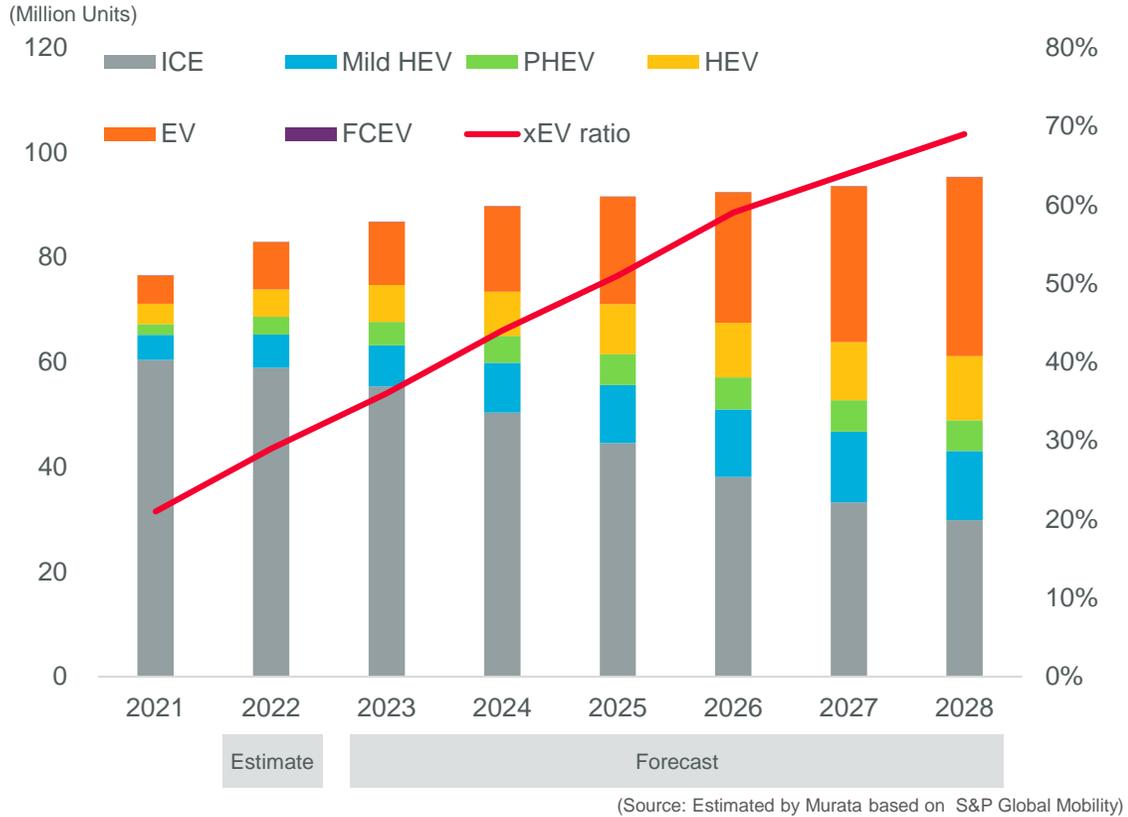
Vehicle disassembly: component demand, design concept  
Driving evaluation: required technology and level

- Feedback to R&D
- Improved demand forecast accuracy
- Enhanced proposal ability for customers



## Automobile Volume Forecast

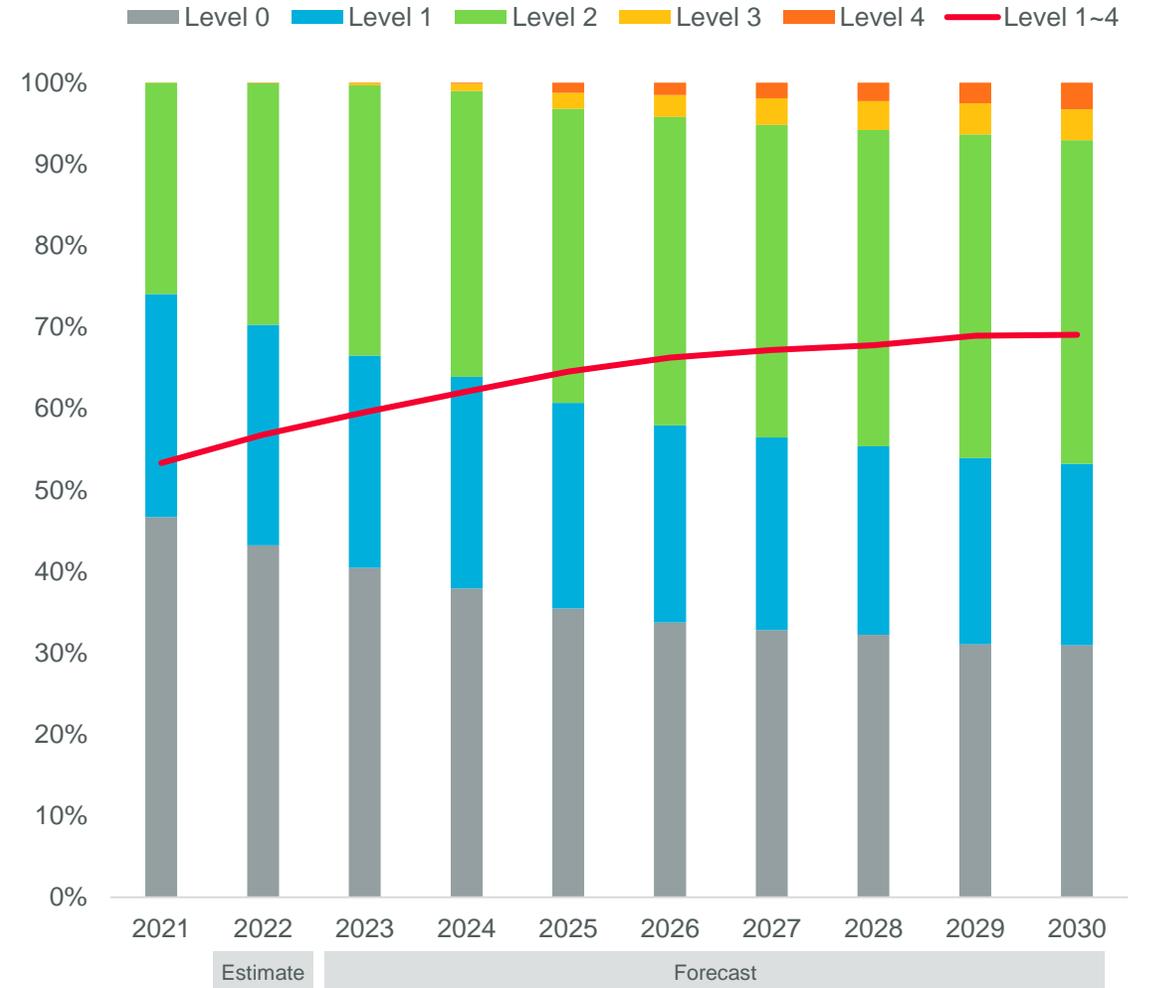
### Vehicle Production Volume Forecast by Powertrain



### MLCCs (pcs/by our research)



### Autonomy Level Forecast, Share of Total



## The Environment

### Murata's contributions

- Contributing to the decarbonization of society through the battery and power supply business
- Realizing environmental monitoring using modules and sensors
- Developing production knowhow for energy savings and renewable energy

### Examples of initiatives

Internal verification testing in preparation providing systems that combine solar panels + storage batteries + control software



control software  
“efinnos”

Instability of power system  
due to the increase in  
distributed power supply



Storage batteries and control  
are becoming indispensable

Strengths of our control software, which is based on our knowledge cultivated in the battery and power supply business. Prepare for external sales.

## Wellness

### Murata's contributions

- Providing compact, high-quality electronic components
- Providing solutions that combine Murata's technologies and ideas
- Producing innovation by pursuing safety, efficiency, and convenience through the use of the fundamental technologies that Murata has cultivated

### Examples of initiatives

Development of distinctively Murata-like medical and healthcare devices



Murata CPAP MX



Auto control cuff pressure  
“SmartCuff”

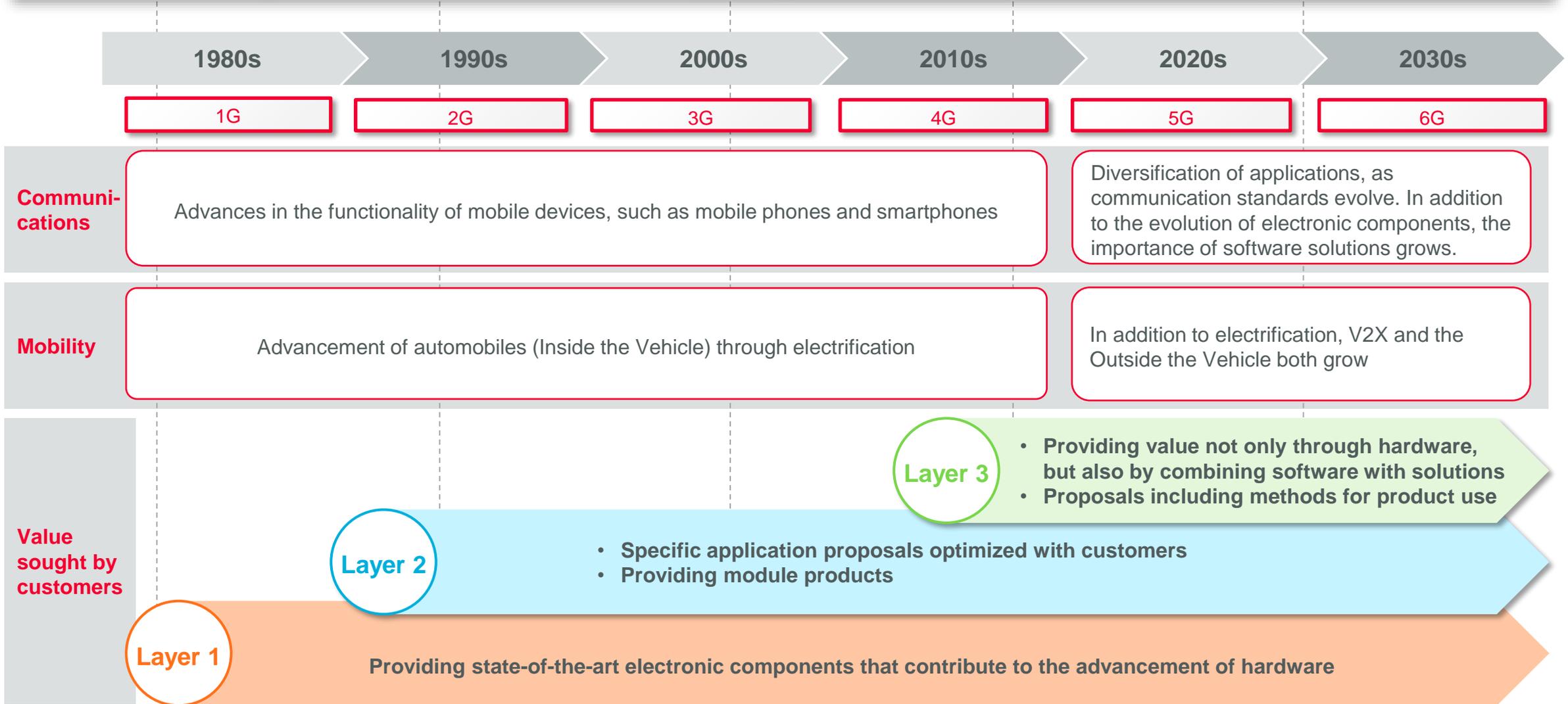
※ These medical devices are approved and available in Japan only.

**Creating a system for providing the solutions needed in medical environments**

Reached an agreement with Social Medical Corporation Seikoukai on a cooperative framework to develop equipment that addresses the needs of medical environments

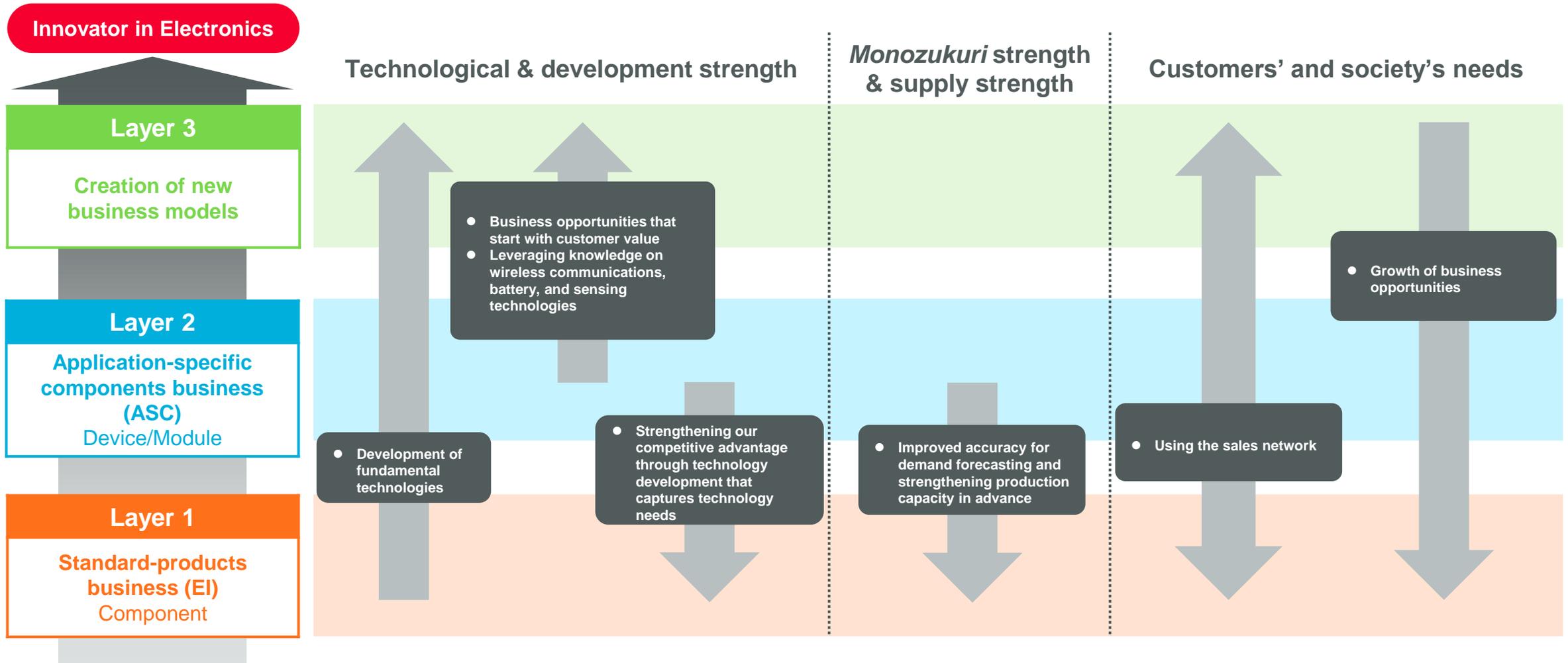
## Reason for Working on the 3-Layer Portfolio

Transforming our business model in line with changes in customer needs and technological innovation



# Synergy among the 3-Layer Portfolio

- Until now, 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.
- An organizational culture that values coordination and cooperation will support the synergy among the 3-layer portfolio. Strengthening our human capital will be also essential.



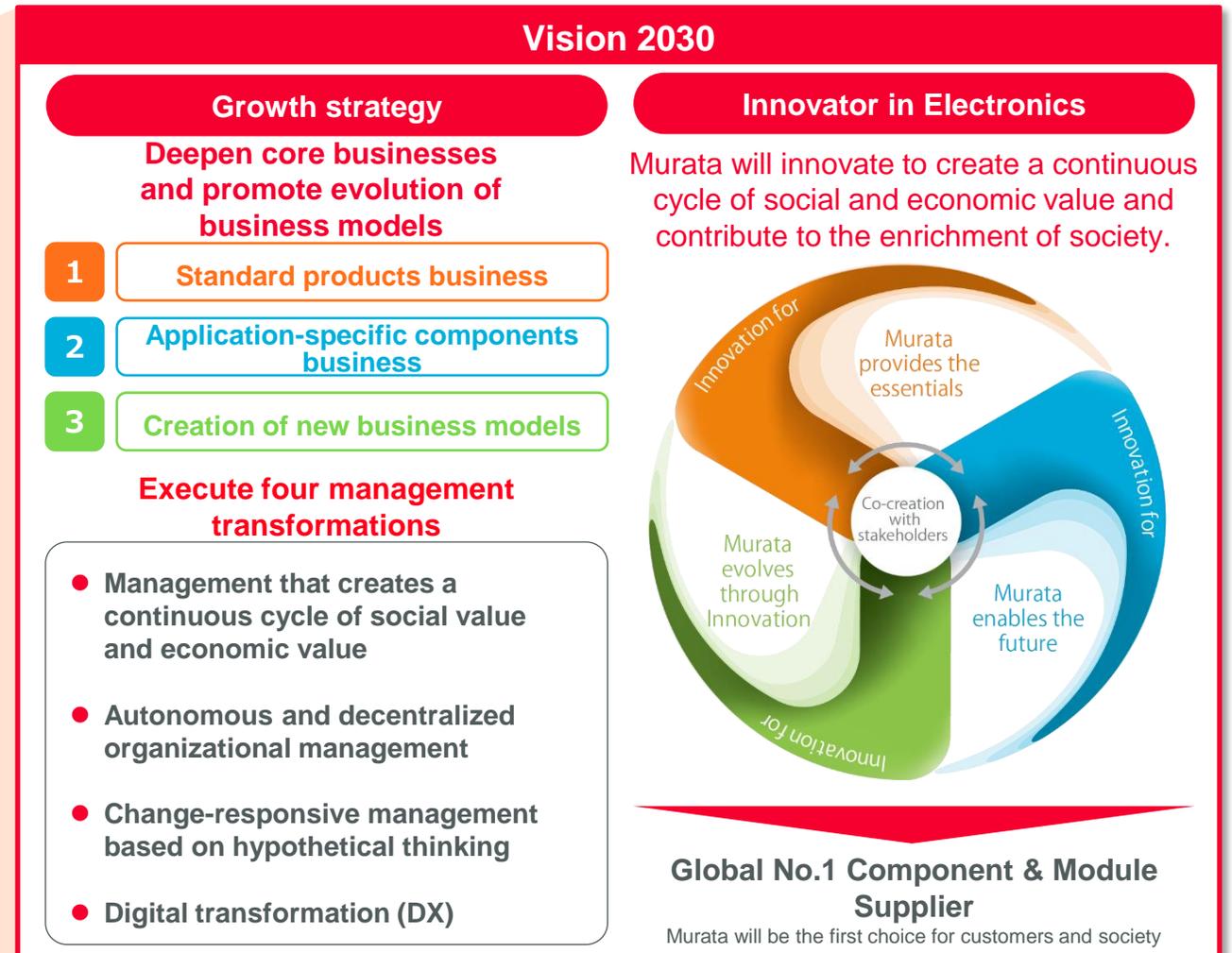
# 02

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## Vision 2030 and Medium-Term Direction 2024

# Vision 2030 and Medium-Term Direction 2024

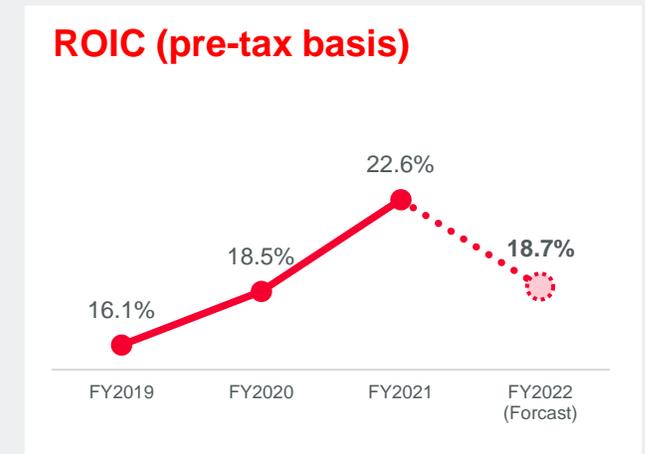
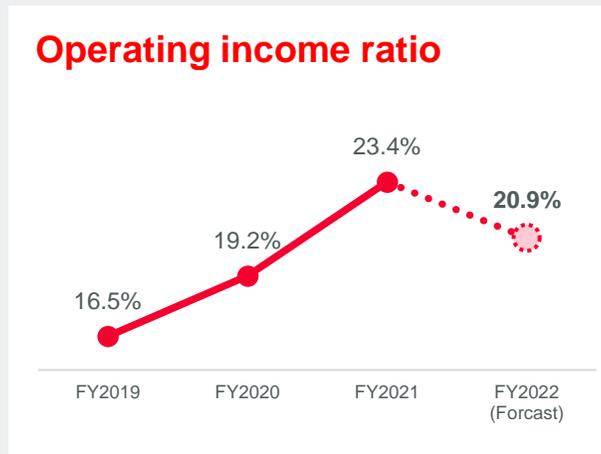
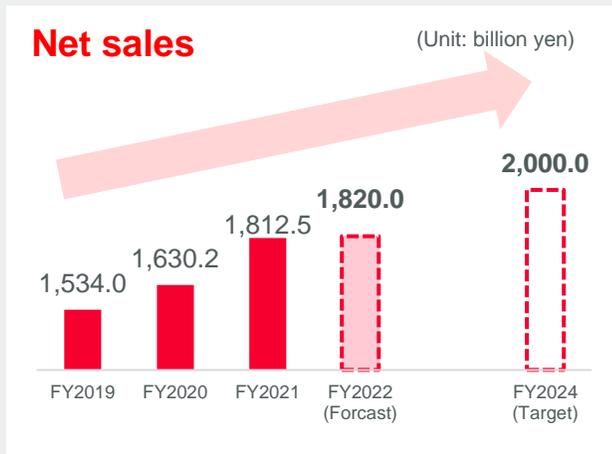
- To continuously increase corporate value, we established Vision 2030 to indicate our long-term direction.
- Medium-Term Direction 2024 covers three years that are vitally important to creating sustained growth for 2030 and beyond.
- Make steady preparations by backcasting from environmental changes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



# Progress toward Economic Value Goals

	FY2021	FY2022		FY2024
	Actual	Forecast (Oct. 2022)	YoY (vs FY2021)	Targets
<b>Net sales (JPY)</b>	1,812.5 billion	1,820.0 billion	+0.4%	2,000.0 billion
<b>Operating income ratio</b>	23.4%	20.9%	-2.5 pt.	20% or higher
<b>ROIC (pre-tax basis)</b>	22.6%	18.7%	-3.9 pt.	20% or higher

\* ROIC (pre-tax basis) = Pre-tax operating income / Average invested capital at the beginning and end of the period (=Net fixed assets[book value] + inventories + accounts receivable-trade - accounts payable-trade)



## Net sales

- : Although the weaker yen has had a positive effect on sales, the company plans to remain flat from the previous fiscal year due to a decline in demand caused by a decline in production of smartphones and PCs.

## Operating income ratio

- : Profit decreased from the previous fiscal year due to a drop in the operation rate, although profit increased due to the weaker yen.

## ROIC (pre-tax basis)

- : Expected to deteriorate due to a decline in operating profit against an increase in invested capital due to an increase in inventories and property, plant and equipment.

### Social Value ①: The Environment

#### Amount of greenhouse gas (GHG) emissions/ Reduction in emissions vs. FY2019

(Unit: 1,000 t-CO<sub>2</sub>e/year, %) (Scopes 1 + 2)

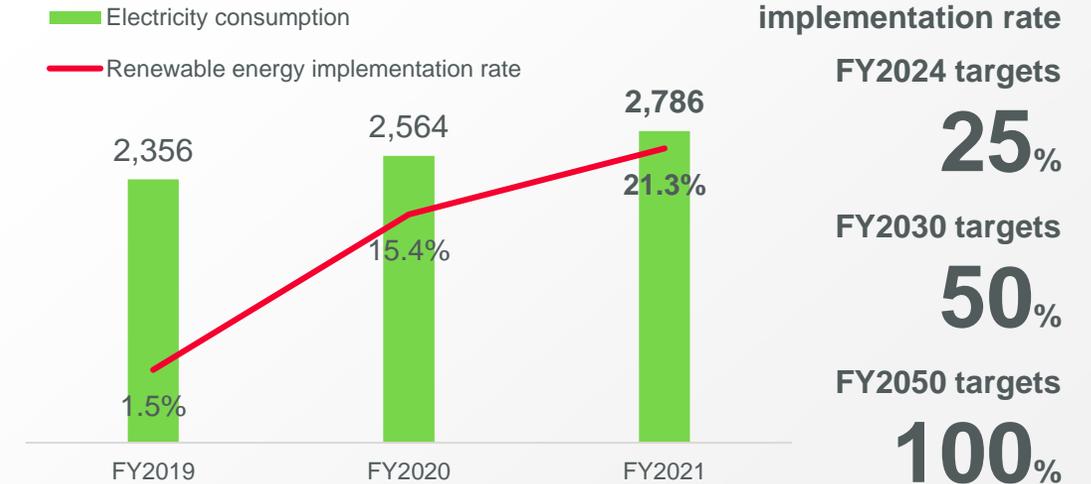


#### Initiatives

- Ongoing implementation of energy conservation measures (reduction of 40,000 to 50,000 t-CO<sub>2</sub> annually)
- Began operation of internal carbon pricing system and sustainable investment promotion system
- Acquired SBT certification. Set Scope 3 GHG reduction target. Scope 3: By FY2030, reduce by 27.5% vs. FY2019 (WB2.0°C level)

#### Electricity consumption/renewable energy implementation rate

(Unit: 1,000 MWh/year, %)



#### Initiatives

- Increase number of sites powered 100% by renewable energy. (FY2022: Sendai Murata Manufacturing)
- Began investigation of Japan's largest renewable energy procurement trial using a virtual PPA
- Entered into contract with Chugoku Electric power to purchase green energy and more

# Progress toward Social Value Goals ②

## Social Value ①: The Environment

### Sustainable resource usage rate\*1

FY2024: 1%\*3  
↓  
FY2030: 25%  
↓  
FY2050: 100%

### Resource recovery rate\*2

FY2024: 5%\*3  
↓  
FY2030: 50%  
↓  
FY2050: 100%

\*1 Rate of use of sustainable resources: Rate of use of resources with lower risk of depletion that can be used sustainably by building a recycling scheme, etc. (Resources that have risks of depletion: Ag, Ni, etc.)

\*2 Resource recovery rate: Rate of Murata's outputs (emissions) recycled as resource

\*3 Target at FY2024 indicates the improvement range from the current state. FY2021 figures are currently being tabulated

### Initiatives

#### Closed-loop recycling of PET film

Became 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 for forming dielectric sheets for multilayer ceramic capacitors

(As of May 2022, own research)



## Social Value ②: Diversity

### Percentage of overseas indirect employees\*4 with experience working at other sites

FY2021: 3%  
FY2024: 7%  
FY2030: 10%

\*4 Overseas local staff excluding employees from Japan

### Initiatives

- Provided diverse dispatching for employees going overseas
- Expanded and enriched pre-dispatch training and strengthened support for employees being sent overseas



## Social Value ③: ES\*5

### Positive employee engagement response rate

FY2021: 68%  
FY2024: 70% or higher  
FY2030: 76% or higher

\*5 ES(Employee Satisfaction): every employee achieves satisfaction and continuing growth through the performance of their work duties.

### Issues and initiatives

#### Issue

Actions for employees closely related to manufacturing sites



#### Initiatives

- Implement workshops and training for department heads
- Strengthen dialogues with employees working in the field
- Ongoing review of workstyles

# Medium-Term Direction 2024 Capital Allocation Policy

- Continue growth investment in layers 1 and 2, and steadily create cash flow
- Position long-term environmental investment, acquisition of technologies, IT infrastructure improvement, etc., as strategic investments and actively pursue them
- Increase shareholder returns while maintaining a strong financial foundation

**FY2022-FY2024 cumulative** (Unit: billion yen)

In	Out
Operating cash flows 1,250.0	Capital investment 640.0 (land, buildings 100.0)
	Strategic investment 230.0
	Shareholder returns 270.0
	Redemption of bonds 110.0

## Effective resource allocation and shareholder returns

- **Based on the capital allocation policy**
  - Growth investments focused on ROIC and growth
  - Implement strategic investments in preparation for the future
  - Shareholder returns that can realize a minimum DOE of 4% in line with a dividend payout ratio of 30% as the guideline
  - Flexible acquisition of treasury stock

## Sustained growth

- **Management that creates a continuous cycle of social value and economic value**
- **Economic value:**  
Net sales ¥2,000 billion, Operating income ratio 20% or higher, ROIC (before tax) 20% or higher
- **Social value:**  
the environment, diversity, ES

## Strong financial foundation

- **Secure credit lines from financial institutions**
- **Cash reserves on an appropriate level**
  - Operate with a cash reserves turnover of 2.5 to 3.5 months as the guideline

# 03

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Medium-term management issues  
Portfolio management (higher level)

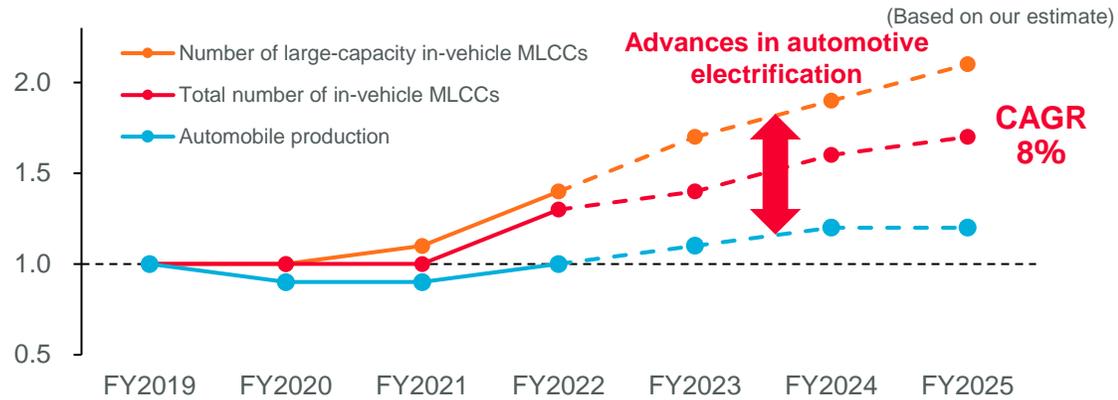
- To realize medium- to long-term growth, we believe it will be essential to deepen core businesses and promote the evolution of business models. That is why we are working to solve issues faced at each layer and striving to take our 3-layer portfolio management to a higher level.

	Sales classification	Issues	Direction taken
<b>Layer 1</b>	Capacitors Inductors/EMI filters	<ul style="list-style-type: none"> <li>• Expand and reinforce production capacity to respond to stronger demand</li> <li>• Maintain and improve our competitive advantage, such as technological strengths</li> <li>• Improve business efficiency to further bolster our business foundation</li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Expand and reinforce production capacity</b></li> <li>■ <b>Strengthen cutting-edge technologies</b></li> <li>■ <b>Improve business efficiency</b></li> </ul>
<b>Layer 2</b>	High frequency devices and communications modules Battery and power supply Functional devices	<ul style="list-style-type: none"> <li>• Develop technologies that differentiate us from our competitors</li> <li>• Completely standardize processes and materials, promote mass customization</li> <li>• Strengthen financial position of businesses with low profitability</li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Strengthen differentiated technologies</b></li> <li>■ <b>Improve profitability and establish a healthy portfolio</b></li> </ul>
<b>Layer 3</b>	Others	<ul style="list-style-type: none"> <li>• “Creation of new business models” from a long-term perspective</li> <li>• Build up successful cases with the aim of becoming business mainstays in 2030 and beyond</li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Search for fields where we can leverage our strengths</b></li> <li>■ <b>Implement mechanisms for creating ideas</b></li> </ul>

## [Layer 1] Expand and Reinforce Production Capacity

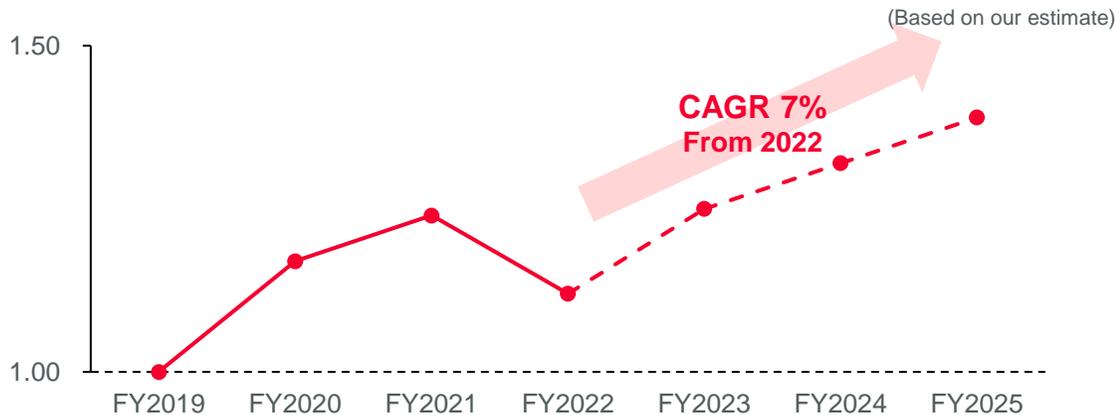
### In-vehicle MLCCs market forecast (quantity basis)

Trend of automotive electrification remains unchanged. Large-capacity components especially are increasing rapidly.



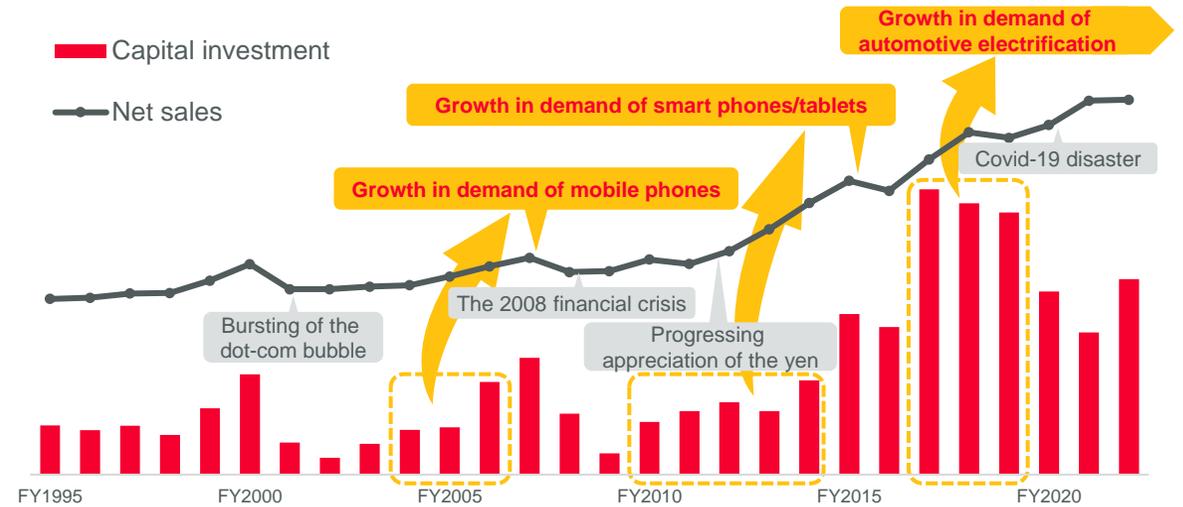
### Market forecast for inductors/EMI filters (quantity basis)

Driven by automotive electrification and 5G



### Capital investment for growth in demand in the future

Making it possible to rapidly meet growth in demand by making upfront investments



### New Production Building

#### Capacitor

Murata Electronics Thailand

To be completed in March 2023

Izumo Murata Manufacturing Co., Ltd. (Japan)

To be completed in April 2023

#### Inductor

Murata Manufacturing Vietnam

To be completed in August 2023



Izumo Murata Manufacturing Co., Ltd. (The image of the new building)

# [Layer 1] Strengthen Cutting-Edge Technologies

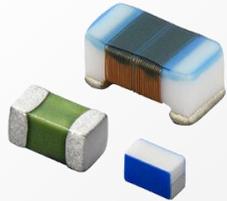
## Capacitors



## Technology trends

- Small size and higher capacity
- High levels of reliability
- High temperature support
- Withstanding increased voltage, etc.

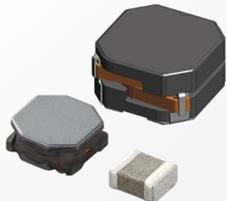
## RF inductors



## Technology trends

- Miniaturization
- Low loss (high Q)
- Strong currents
- High temperature support, etc.

## Power inductors



## Technology trends

- Small size and high frequency
- Strong currents
- Low profile, etc.

## The power to read the future

- Our sales network, built by supplying products with strong market shares, and our connections with customers in a broad range of industries
- Coordination with our network among global sites
- Our robust technical support system



## The power to give shape to needs

- Vertically integrated production system
- Our unique platform and core technologies
- Advanced coordination among all of our functions, such as development and manufacturing



**These factors enable us to take the lead over competitors and create state-of-the-art products**

## [Layer 1] Improve Business Efficiency

- One of Murata's strengths is an integrated production system, which includes everything from raw materials to products.
- We will strive to improve business efficiency and raise ROIC by addressing issues with the integrated production system.

### Vertically integrated production system

#### Advantages

- Enhance competitiveness by “black boxing” technologies and knowhow
- Reduce costs through internal production
- High supply competencies

#### Issues

- Increase in employed capital
- Decline in flexibility

#### Addressing issues

##### Introduce production plan proposal system

- Refine demand prediction and improve production planning efficiency



##### Change to smart factories

- Improve efficiency of manufacturing plants
- Accommodate increases in production complexity



##### Improve production efficiency

- Ongoing promotion of streamlining
- Develop worksite improvement facilitators and maintenance engineer who support manufacturing plants

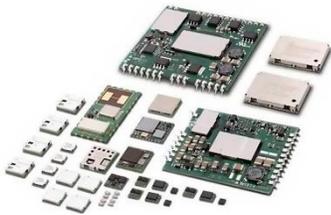


## [Layer 2] Establish Differentiated Technologies

Category	Products/technology	Application	Differentiated points	Initiatives for strengthening differentiated technologies
High frequency devices and communications modules	<b>XBAR technology</b>	Used in mobile devices, such as smartphones and wearable devices	<ul style="list-style-type: none"> <li>• Important technology for realizing high-speed wireless communications, such as 5G</li> <li>• High performance characteristics in high frequency/wide bandwidths</li> <li>• High degree of affinity with SAW filter technology</li> </ul>	<ul style="list-style-type: none"> <li>• Development of 5G and next-generation Wi-Fi® standards</li> <li>• Aim for adoption in a wide range of mobile devices, not limited to smartphones</li> </ul>
	<b>Digital ET technology</b>		<ul style="list-style-type: none"> <li>• Technology that contributes to energy savings in high-frequency circuits</li> <li>• Synergy with Murata's high-frequency circuit design technologies</li> </ul>	<ul style="list-style-type: none"> <li>• Apply to high-frequency circuits that support wide bandwidths communications systems, such as 5G and 6G</li> <li>• Aim for adoption in a wide range of mobile devices, not limited to smartphones</li> </ul>
	<b>Multi-layer LCP Product</b>		<ul style="list-style-type: none"> <li>• Superior high-frequency characteristics</li> <li>• Stability due to low water absorption</li> <li>• Highly multiple layers and flexibility for design freedom</li> </ul>	<ul style="list-style-type: none"> <li>• Reinforce competitive advantage of characteristics for high-frequency regions, such as 5G and 6G</li> <li>• Aim for adoption in a wide range of mobile devices, not limited to smartphones</li> </ul>
Functional devices	<b>MEMS sensors</b>	Used in the automation of mobility, such as automobiles and construction/farming equipment	<ul style="list-style-type: none"> <li>• High sensitivity, high accuracy, robustness, reliability and low noise level achieved with Murata's unique 3D-MEMS technologies</li> <li>• Function safety design and customer system support for state-of-the-art autonomous driving systems</li> </ul>	<ul style="list-style-type: none"> <li>• Aim to expand business in the autonomous driving market, which is expected to grow in the future</li> <li>• Aim to become a sensor supplier that is essential for vehicle control in the increasingly diverse mobility market</li> </ul>
Energy power	<b>FORTELION</b>	Used in in-house consumption storage batteries	<ul style="list-style-type: none"> <li>• High output</li> <li>• Safety, long life, and high temperature characteristics</li> <li>• Packaging technology for impact resistance and miniaturization</li> <li>• LFP(Lithium Iron Phosphate)</li> </ul>	<ul style="list-style-type: none"> <li>• Leverage Murata's unique materials technology and ensure competitive advantage</li> <li>• Create environmental business through synergy with other businesses</li> </ul>

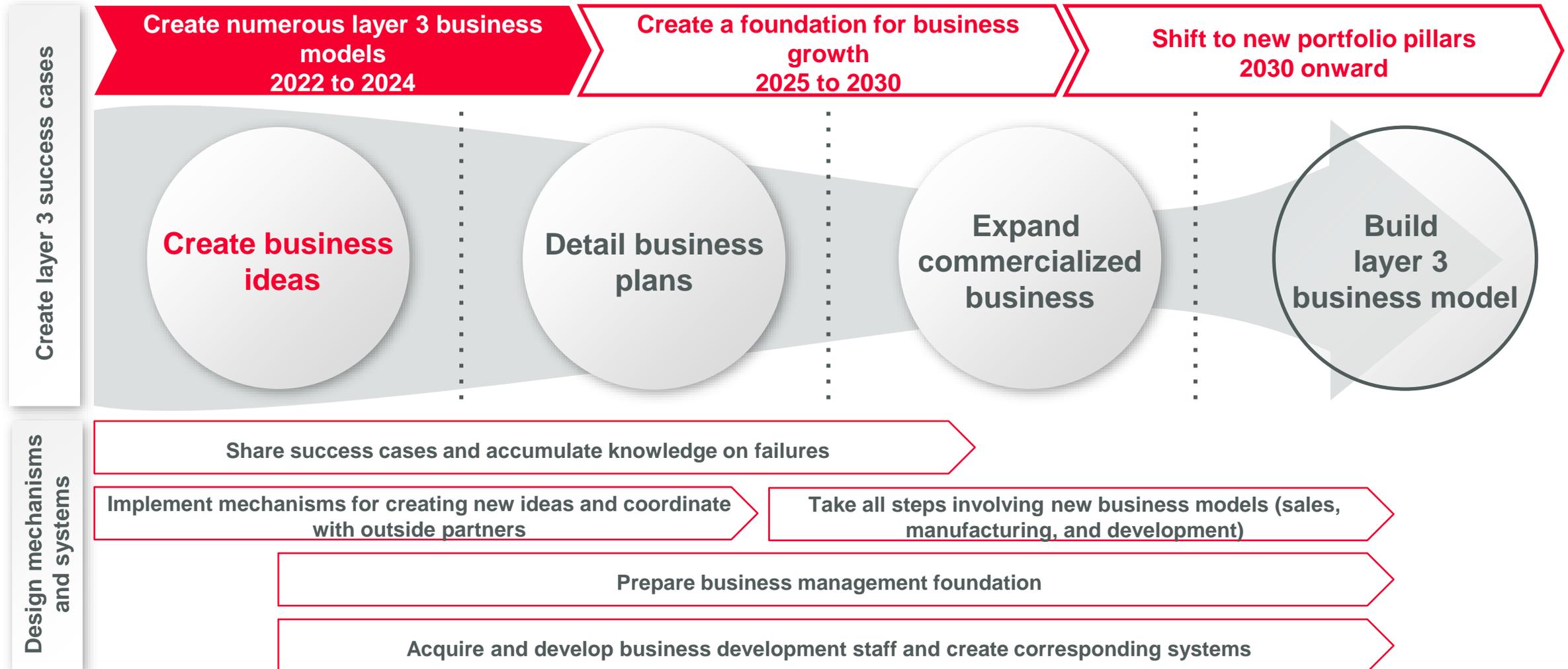
# [Layer 2] Improve Profitability and Build a Healthy Business Portfolio

- Introduce a business evaluation model based on growth potential and ROIC, review and revise business portfolio
- Shift portfolio to fields with high growth potential where Murata's strengths can be leveraged

Target field	Initiatives	Future direction
<b>Lithium-ion secondary battery</b>	<ul style="list-style-type: none"> <li>■ Contract business involving laminated type batteries for smartphones</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on high-capacity cylindrical batteries for power tools, etc.</li> <li>• Build a business foundation for businesses that make environmental contributions</li> </ul> 
<b>Connectivity modules</b>	<ul style="list-style-type: none"> <li>■ Review and revise smartphone-oriented business structure</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on in-vehicle and IoT-oriented business, promote sales growth of modules that use in-house technologies to meet millimeter wave, UWB, and other communication standards</li> <li>• Emphasize added value from super small modules +α</li> </ul> 
<b>Power supply modules</b>	<ul style="list-style-type: none"> <li>■ Sell off custom power supply business for office equipment</li> <li>■ Conduct M&amp;As to reinforce differentiated technologies (high efficiency, high power density, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on low power and high power fields</li> <li>• Expand business aimed at data centers and servers</li> </ul> 

## [Layer 3] Search for Fields Where We Can Leverage Our Strengths

- Under Medium-Term Direction 2024, we will identify the fields where we can leverage Murata's strengths.
- In 2030, as layer 3, we aim to achieve sales of ¥100.0 billion.



## [Layer 3] Implement Mechanisms for Creating New Ideas

- To promote innovation, we will create technology displays that enable us to show our technologies to customers and partners, and we will promote knowledge collaboration outside our company.

Initiatives	Overview	Aims
<b>KUMIHIMO Tech Camp with Murata</b>	<p>Through this project, we will provide Murata products to start-ups and solicit ideas for new products and services, then, together with our partner companies, we will provide support for everything from prototype production to mass-production and sales support in order to commercialize these ideas.</p> 	<ul style="list-style-type: none"> <li>Increase awareness of Murata's highly reliable, highly accuracy sensor devices and other products</li> <li>Work together with start-ups to provide support for the market launches of new products and services, thereby promoting the creation of new business</li> </ul>
<b>MURATA MIRAI MOBILITY</b>	<p>Experience-based facility for introducing Murata's solutions and technologies for the in-vehicle system market</p> 	<ul style="list-style-type: none"> <li>Reinforce external collaborations, such as technology exchange</li> <li>Reinforce collaborations with research and development sites</li> <li>Create industry-leading, innovative products and technologies</li> </ul>
<b>Murata Interactive Communication Space</b>	<p>A facility that promotes knowledge collaboration. Visitors can experience Murata technologies and products that are connected to the technologies and applications of the future.</p>	
<b>Acquire the seeds of new business through venture capital (VC) funding</b>	<p>We will invest in VC-funded companies in Japan and overseas. We will collect information about cutting-edge products from companies, such as start-ups around the world, and search for the seeds of new business.</p>	<ul style="list-style-type: none"> <li>New commercialization of Murata technologies</li> <li>Take on the challenges of new business fields, such as drones, healthcare, storage batteries, and services</li> </ul>

## PIECLEX

New business and partner company that combines with the strengths of Murata



Murata and Teijin Frontier have jointly developed PIECLEX, the world's first piezoelectric fabric that generates electrical energy and is antimicrobial when motion occurs.

**Acquiring new capabilities through business tie-ups has made commercialization possible**

## Worker safety monitoring system

New business that helps to resolve customers' problems and provide more experiential value



Together with another company, we have developed a "worker safety monitoring system" that uses sensor devices attached to a helmet to monitor bioinformation and surrounding environmental conditions (work environment) in real time.

**Linking the resolution of customers' problems and experiential value to business**

## Traffic counter system

New business that leverages data to help resolve social issues



This system leverages communication and power technologies to collect traffic volume data. Through this business, we are establishing technologies, collaborating with local companies, and creating a platform of extensive knowledge on certification procedures and more.

**We will apply this platform to other businesses as well, expanding our data business**

# 04

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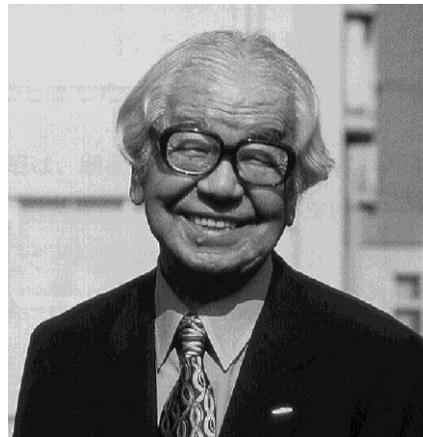
Medium-term management issues  
Form a lean management base  
Strengthen human capital

# 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.
- Employees share the same objectives and respond to the changing business environment.

## 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.



Founder Akira Murata

**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.

# Our Cherished Beliefs

- When managing Murata, we strive to have everyone share and implement the Murata Philosophy, which serves as a compass that directs the actions of management and of each and every employee.
- Our key values are CS and ES, which came up when our business performance was slumping in the early 2000s, and we work to improve our competencies.

## Penetration of the management philosophy

### Penetration of the Murata Philosophy as our shared approach

Murata's strengths are  
the ability to predict needs and an integrated  
production system

Putting the Murata Philosophy into practice requires  
coordination among people, functions, and fields

We dedicate ourselves to extending the penetration of the  
Murata Philosophy so that we can create a corporate culture of  
collaboration and harmony among diverse human resources

## Our key values: CS and ES

Early 2000s  
Growth slowed  
following the  
bursting of the  
dot-com bubble

2004  
Launched  
organizational  
culture  
restructuring

While we had placed  
much importance on CS  
in the past, an  
organization survey  
found that employees  
were becoming seriously  
fatigued

We placed more  
importance on ES,  
in addition to CS  
↓  
We are making  
progress toward  
achieving  
sustainable  
growth

## Murata's human capital

### People are at the core of value creation

Acquiring and developing  
human resources

to respond to a changing  
business environment

Employee engagement

that is born when employees  
are motivated and feel they are  
growing

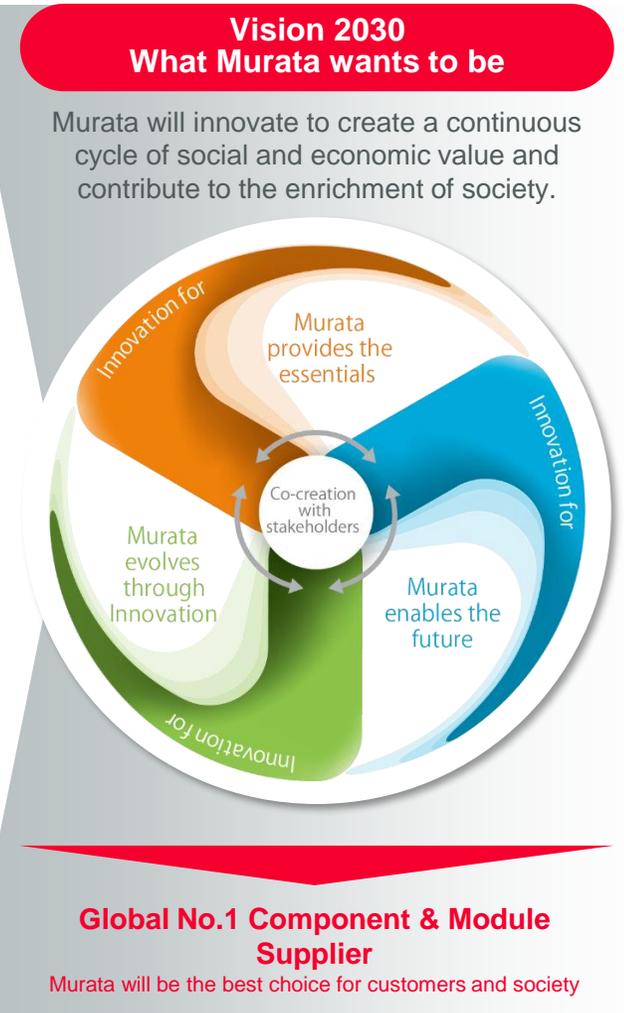
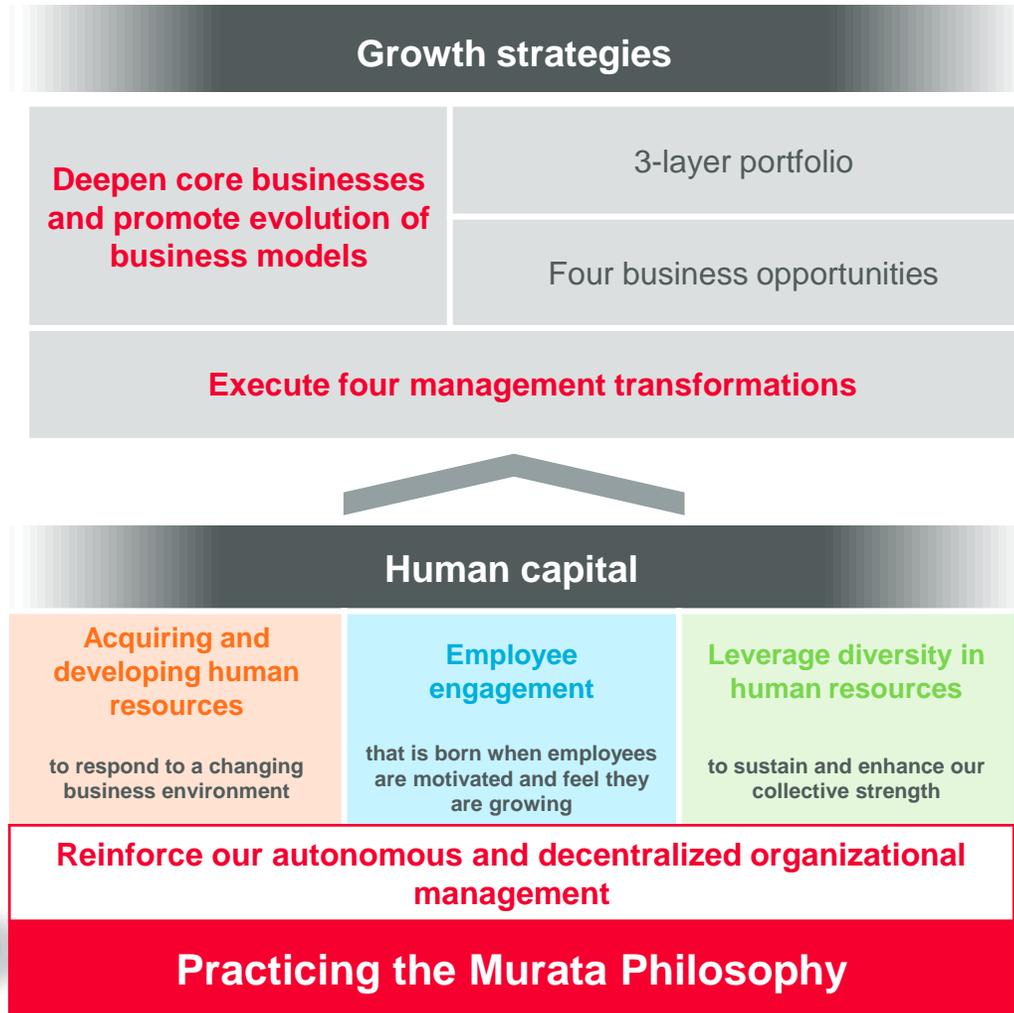
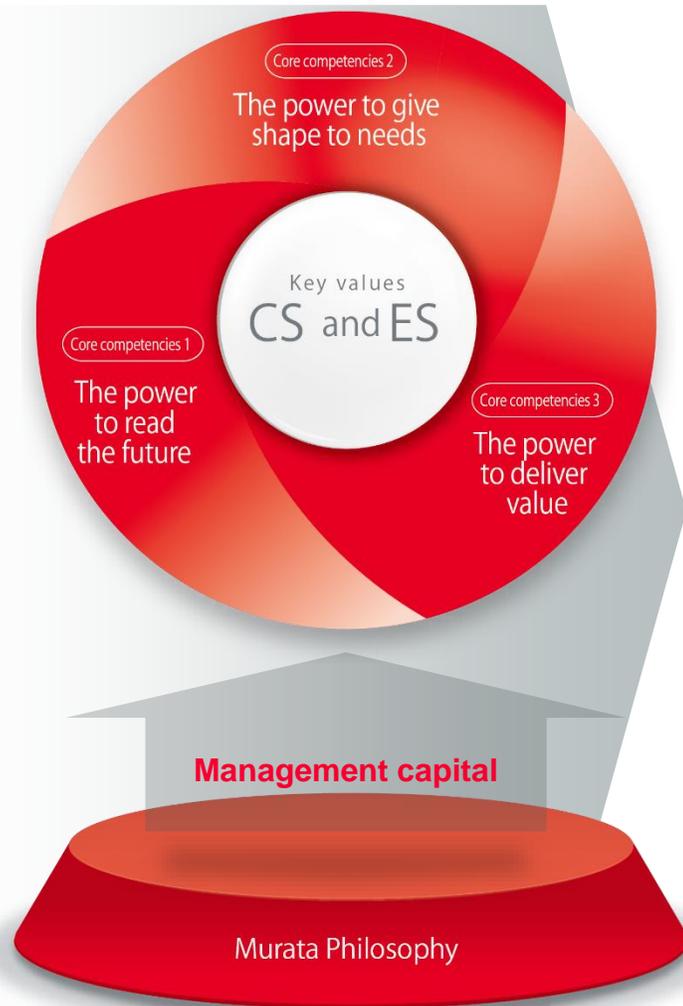
Leverage diversity in human  
resources

to sustain and enhance our  
collective strength

- Promoting innovation and productivity improvements in every organization
- Promoting coordination among organizations and more synergy with the 3-layer portfolio

## Human Capital Reinforcement Approach

- Led by our belief that a company is its people, and it's people who are at the core of value creation, we aim to achieve continuous growth by strengthening our human capital and linking them to our management strategy.



# Human Capital Reinforcement Approach

- Under Medium-Term Direction 2024, we intend to strengthen our human capital by taking action listed below

	Issues	Actions
<p><b>Leverage diversity in human resources</b> to sustain and enhance our collective strength</p>	<ul style="list-style-type: none"> <li>Enable all employees to gain wide-ranging, borderless experience.</li> <li>Enhance the strength of organization through collaboration and cooperation among diverse human resources.</li> </ul>	<ol style="list-style-type: none"> <li>Promote global rotation of employees</li> <li>Acquire diverse personnel with a variety of experience and leverage the diversity</li> <li>Provide a variety of career paths</li> <li>Promote women's participation</li> </ol>
<p><b>Employee engagement</b> that is born when employees are motivated and feel they are growing</p>	<ul style="list-style-type: none"> <li>Enable employees to act autonomously for overall optimization.</li> <li>Ensure that employees can work in safety and peace of mind.</li> </ul>	<ol style="list-style-type: none"> <li>Use global survey to improve the organizational culture</li> <li>Encourage conversation between top management and employees</li> <li>Establish employee-friendly work environments and systems</li> <li>Provide safe and secure workplaces and practice health management</li> </ol>
<p><b>Acquiring and developing human resources</b> to respond to a changing business environment</p>	<ul style="list-style-type: none"> <li>Acquire, develop, and deploy human resources to achieve Vision 2030.</li> <li>Prepare management for the future.</li> </ul>	<ol style="list-style-type: none"> <li>Attracting and acquiring human resources</li> <li>Develop human resources</li> <li>Continual training of candidates for next generation of management</li> <li>Acquire and develop employees for DX (digital transformation)</li> </ol>

## Initiatives for Leverage Diversity in Human Resources: Multi-track Career Paths and D&I

- We are creating environments where employees with diverse experience and ways of thinking respect each other and work together, leveraging their full abilities.

### Multi-track career paths

We use multiple career paths to reward personnel who can contribute through their expertise



No. of assigned specialist path officials (Unit: people; Japan only)

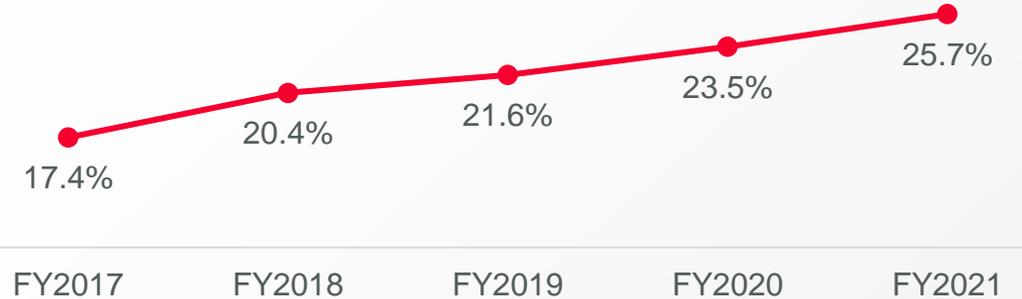
- Management position
- General staff



### Promoting Diversity & Inclusion (D&I)

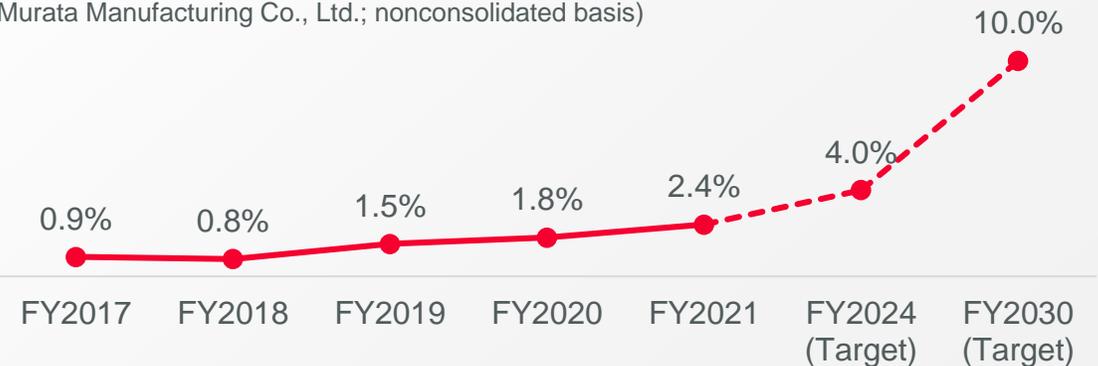
#### Realizing diverse leadership styles

Percentage of management staff that are mid-career hires including employees acquired through M&As (Japan only)



#### Percentage of female management staff

(Murata Manufacturing Co., Ltd.; nonconsolidated basis)



# Initiatives for Employee Engagement: Health Management

- As part of our initiatives, we are preparing secure, safe workplace environments and actively promoting health management.



## Sleep improvement: Improving ES among shift workers at manufacturing sites

We are dedicating ourselves to implementing sleep improvements to improve ES among shift workers who support Murata's *monozukuri*.

From September 2021, we employed a sleep improvement advisor who specializes in circadian rhythms and internal clocks, and we are leading the Japanese manufacturing industry with our pioneering measures

- Introduced sleep questionnaires and sleep diaries for employee sleep consultations
- Began adjusting the lighting environment to foster better quality of sleep
- Using MF100 fatigue stress detector to visualize the effects to promote greater health awareness among employees

## MF100 fatigue stress detector (layer three business)

Based on vital data, such as heart rate and pulse, this detector accurately measures heart rate variabilities, visualizing the degree of fatigue and stress (previously not easily evaluated) based on the balance of autonomic nerves and more.

\*This product is not a medical device



## Initiatives for Acquiring and Developing Human Resources: Level-Specific Training Program

- During their first year with the company, and as members of the manufacturing industry, employees take part in factory hands-on training to learn how interesting *monozukuri* is and gain an understanding of areas of dedication at manufacturing sites.
- We have developed level-specific training programs for nurturing candidates who will become corporate executives in the future.

1. For corporate executive candidates

- Our two-year selective training program promotes the self-transformation of participants into leadership roles (MLP: Middle Leadership Program).
- Participants work directly not only with their immediate superiors, but with multiple executives, and we provide opportunities for their active growth.

Rate of promotion to senior management positions among participants in selective training (in Japan/cumulative)

Fiscal Year	Rate (%)
FY2017	26.3%
FY2018	20.7%
FY2019	20.5%
FY2020	32.7%
FY2021	49.2%

2. For mid-level leaders

- We have set up programs for developing next-generation corporate executive candidates.

Make2030	A program that provides experience at an early stage to heighten sensitivity to changes in the environment, to promote coordination throughout the organization, and to have participants link their self-directed thinking and behavior with the future of the company
Global Program	A human resource development and reinforcement program that helps to develop employees who can contribute to business growth from a company-wide perspective while adopting the Murata Philosophy

**Make 2030**  
Become the Leaders of Innovation

3. For new graduates

- All new graduates take part in factory hands-on training (for approximately six months). The goal is to teach them about our dedication to safety, quality, and cost at manufacturing sites, the value of teamwork, and the sources of Murata's value creation.
- Much time is invested in new graduates. We have high expectations from them for growth, in order to reinforce our human capital.

Number of factory hands-on training participants (people)

**Cumulative total: 3,020**

Fiscal Year	Participants (people)
FY2009	120
FY2010	60
FY2011	72
FY2012	121
FY2013	134
FY2014	134
FY2015	152
FY2016	234
FY2017	261
FY2018	339
FY2019	370
FY2020	389
FY2021	306
FY2022	328

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# Initiatives for Acquiring and Developing Human Resources: Developing *Monozukuri* Employees

- For Murata, as a manufacturer, manufacturing sites are the wellspring of value creation, so the development of *monozukuri* employees is an important task.
- Murata devotes special attention to developing *monozukuri* employees for worksite improvement as well as maintenance engineer who are responsible for equipment maintenance.

## The human resources that support *monozukuri* sites

### Worksite improvement facilitators

- Worksite improvement employees, who specialize in improvement technologies (*kaizen*) that support our competitiveness in *monozukuri*, are primarily manufacturing supervisors and workers on the front lines at manufacturing sites. They are remarkable for their implementation of scientific management techniques and the fact that they steadily produce improvements.
- We focus on providing them with wide-ranging experience so that they develop diverse perspectives and skills.

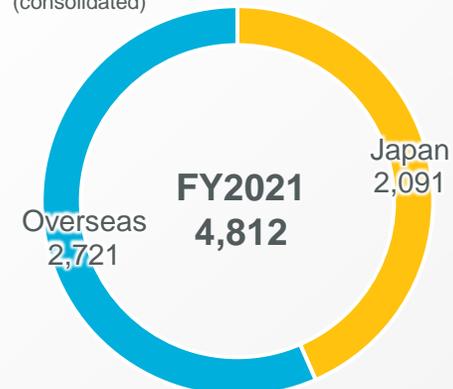
No. of worksite improvement facilitators (consolidated)



### Maintenance engineer

- Maintenance engineer are essential for Murata's equipment-focused processes, as they help ensure that factories operate steadily and maintain supply capabilities, one of Murata's strengths.
- We write down and standardize maintenance skills, which take a lot of time to acquire, and reinforce our development of maintenance engineer through maintenance training rooms at our main production sites.

No. of maintenance engineer (consolidated)



In the maintenance training room

## 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.