

# Information Meeting 2021

November 15, 2021

Murata Manufacturing Co., Ltd.



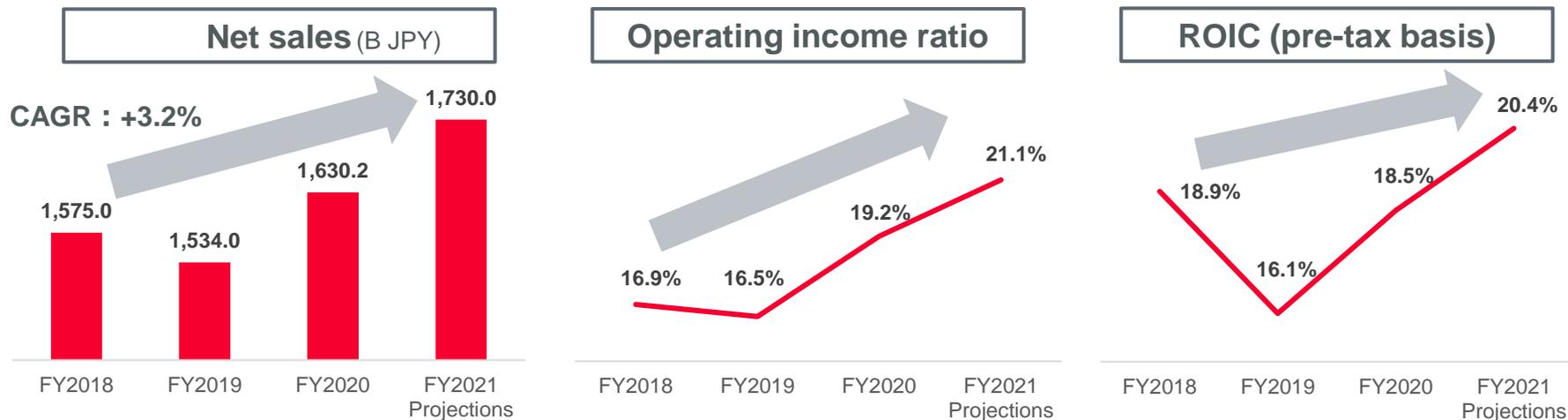
- There will be a major change in the business environment surrounding Murata by 2030
- Practice management that creates a Continuous Cycle of social value and economic value
- Set the three-layer portfolio as the axis of strategies  
Revision of Segment Information
- Make strategic investments in preparation for future opportunities and risks
- Continue to set ROIC as a management target



# Review of Mid-term Direction 2021

# Review of Mid-term Direction 2021: Management Targets

	FY2018	FY2021		
	Results	Target	Forecast	Compared to FY 2018
<b>Net sales (JPY)</b>	<b>1,575.0 billion</b>	<b>2,000 billion</b>	<b>1,730.0 billion</b>	<b>+9.8%</b>
<b>Operating income ratio</b>	<b>16.9%</b>	<b>17% or higher</b>	<b>21.1%</b>	<b>+4.2pt</b>
<b>ROIC (pre-tax basis)</b>	<b>18.9%</b>	<b>20% or higher</b>	<b>20.4%</b>	<b>+1.5pt</b>



**Net sales:** Expected to miss target. Because of the FY2019 adjustments to production of electronic equipment and adjustments to inventories of electronic components, we could not achieve the sales growth rate we were anticipating.

**Operating income ratio:** Expected to significantly exceed the target due to a gain from a better operational rate thanks to higher output on the back of robust demand, an improvement in the profitability of products, and a positive change in the product mix in FY2021.

**ROIC (pre-tax basis):** Expected to exceed the target due to a higher operating income ratio than planned although an improvement in the capital turnover rate is behind schedule.

# Review of Mid-term Direction 2021: Group-Wide Issues



Group-Wide Issues	Review of Mid-term Direction 2021	Ongoing issues connected to Mid-term 2024
<p><b>Implementation of Portfolio Management</b></p>	<ul style="list-style-type: none"> <li>• Introduced a business feasibility model Efficiently allocated management resources</li> <li>• Revised the business portfolio (Battery business, Wi-Fi® module business, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Evolution of portfolio management (Realization of a 3-layered portfolio)</b></li> <li>• <b>Expand business with a new understanding of the market (automobile -&gt; mobility)</b></li> <li>• <b>As monozukuri in wide meaning, enhancement of productivity and reinforcement of responsiveness to change</b></li> <li>• <b>Develop a concrete personnel strategy using results of employee surveys and execute it</b></li> <li>• <b>Strengthen initiatives to link contributions to solving social issues to business growth</b></li> </ul>
<p><b>Establishment of Advanced Supply System &amp; Exponential Productivity Enhancement</b></p>	<ul style="list-style-type: none"> <li>• Expanded and reinforced production capacity centered on MLCC</li> <li>• Introduced a production planning system</li> <li>• Implemented the themes for productivity enhancement and reduction of production losses</li> </ul>	
<p><b>Harmony among people, organization, and society</b></p>	<ul style="list-style-type: none"> <li>• Conducted employee survey. Proceeded with the effort to improve the corporate culture</li> <li>• Identified materiality and set KPIs, thereby building a system for advancing efforts</li> </ul>	

- We steadily implemented the effort to “Rebuild a strong management foundation” taken as the slogan in Mid-term Direction 2021, captured expanding business opportunities and realized Healthy & Sustainable Growth.
- Issues that manifested themselves in Mid-term Direction 2021 will be carried over to Mid-term Direction 2024, and we are determined to follow through with solving the issues.



# Vision2030

# Awareness of the Environment

## Expansion of the usage of electronics

- ❑ Spread of 5G and the IoT, and diversification of devices
- ❑ Automobile electrification and the shift to autonomous driving
- ▶ **There will be changes to the industrial structure and the definition of customers**
- ▶ **Continuous innovation will be necessary to accommodate diversifying needs**

## Transition to a sustainable society

- ❑ Growing awareness of environmental measures and the tightening of environmental regulations
- ❑ The pursuit of social value accompanied by economic value
- ▶ **The pursuit of sustainable operations will be the source of our competitive advantage in the future**

## Advancement of digitalization

- ❑ Reform of business activities by utilizing big data and 5G
- ❑ Diversification of means of communication with outside parties
- ▶ **Speed of digitalization is increasing at customers and competitors; if we fall behind, we will be less competitive**

## Increasing geopolitical risks

- ❑ Trends in U.S.–China relations
- ❑ The combination of global tides (e.g., responding to environment and human rights) with regional economic policies will lead to new regulations
- ▶ **Monozukuri and supply chain undergoing drastic reform**

## Changing population structure and balance of power

- ❑ World population structure changing
- ❑ Industrialized nations facing various problems relating to their population aging. People putting more value on health
- ▶ **Increasing importance of preparing for the very long term**

## Response to post-pandemic society

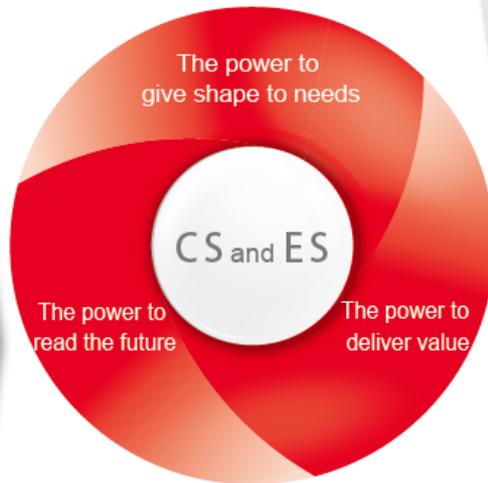
- ❑ Fusing of real and online activities
- ❑ Diversification and decentralization of business activities (procurement, production, logistics, etc.)
- ▶ **Change in workstyle and the pursuit of diversity at external contact points will lead to enhanced productivity and competitiveness**

- **There will be a major change in the business environment surrounding Murata by 2030.**
- **It will be more necessary than ever to prepare for opportunities and risks in order to grasp business opportunities firmly and realize sustainable growth.**

# Murata's value creation process

Recognizing the environment (opportunities and risks)

## Murata's core competencies



### Murata's management capital, cultivated through the practice of the Murata Philosophy

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

Murata Philosophy (management philosophy)

## Innovator in Electronics

Strengthen corporate governance

### Growth strategy

#### Deepen core businesses and promote evolution of business models

3-layer portfolio



Four business opportunities



#### Execute four management transformations

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

**Key issues (materialities) originating with social issues**

Strengthen the management base

### Murata Vision 2030

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

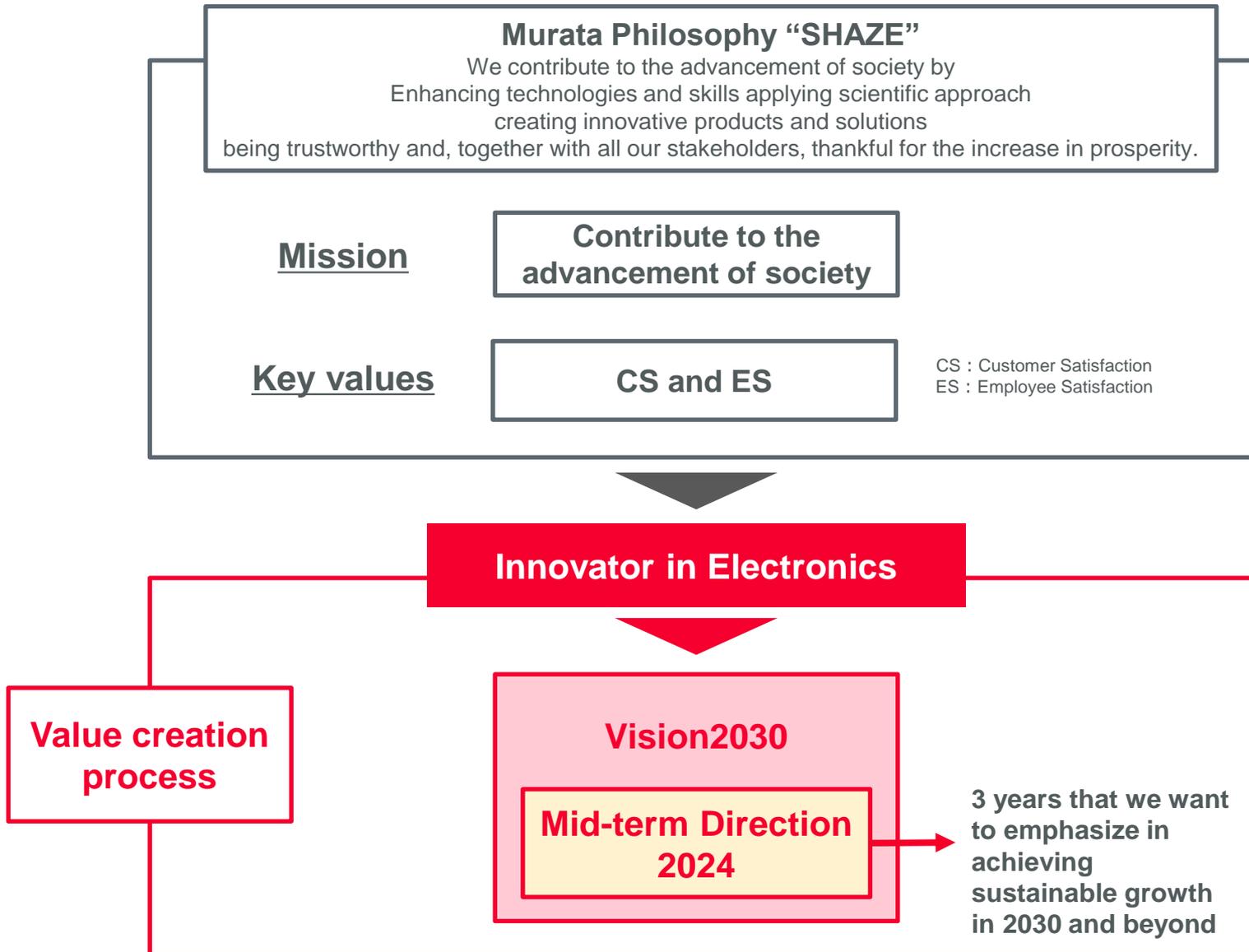
Global No. 1 component manufacturer

Value that we create together with our stakeholders

Economic value

Social value

# Position of Vision 2030



## Innovator in Electronics

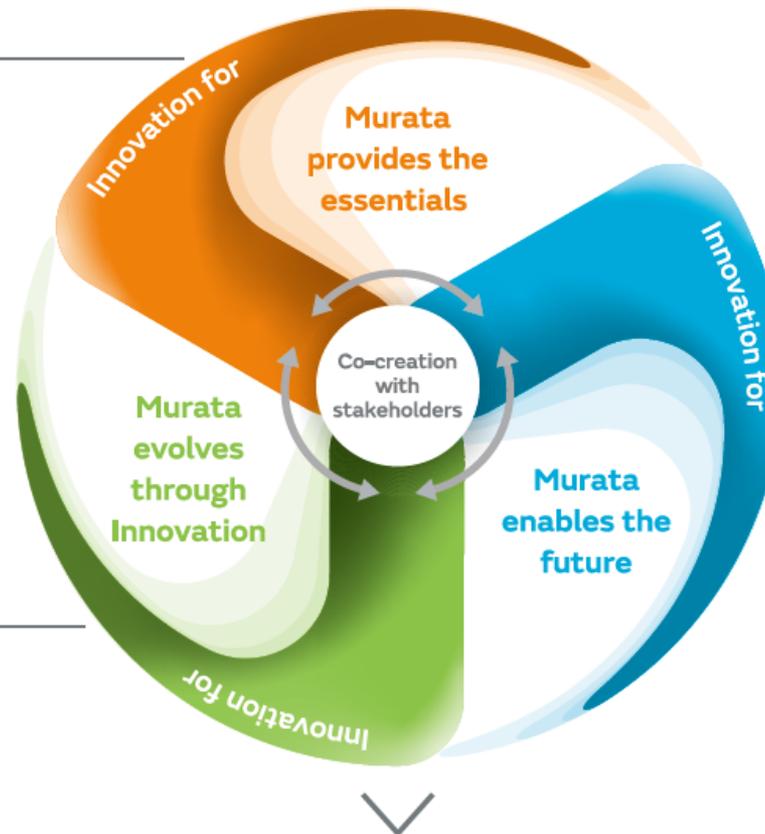
**Murata will innovate to create a continuous cycle of social and economic value and contribute to the enrichment of society.**

### Murata in everyday life

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

### Practicing sustainable operations

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



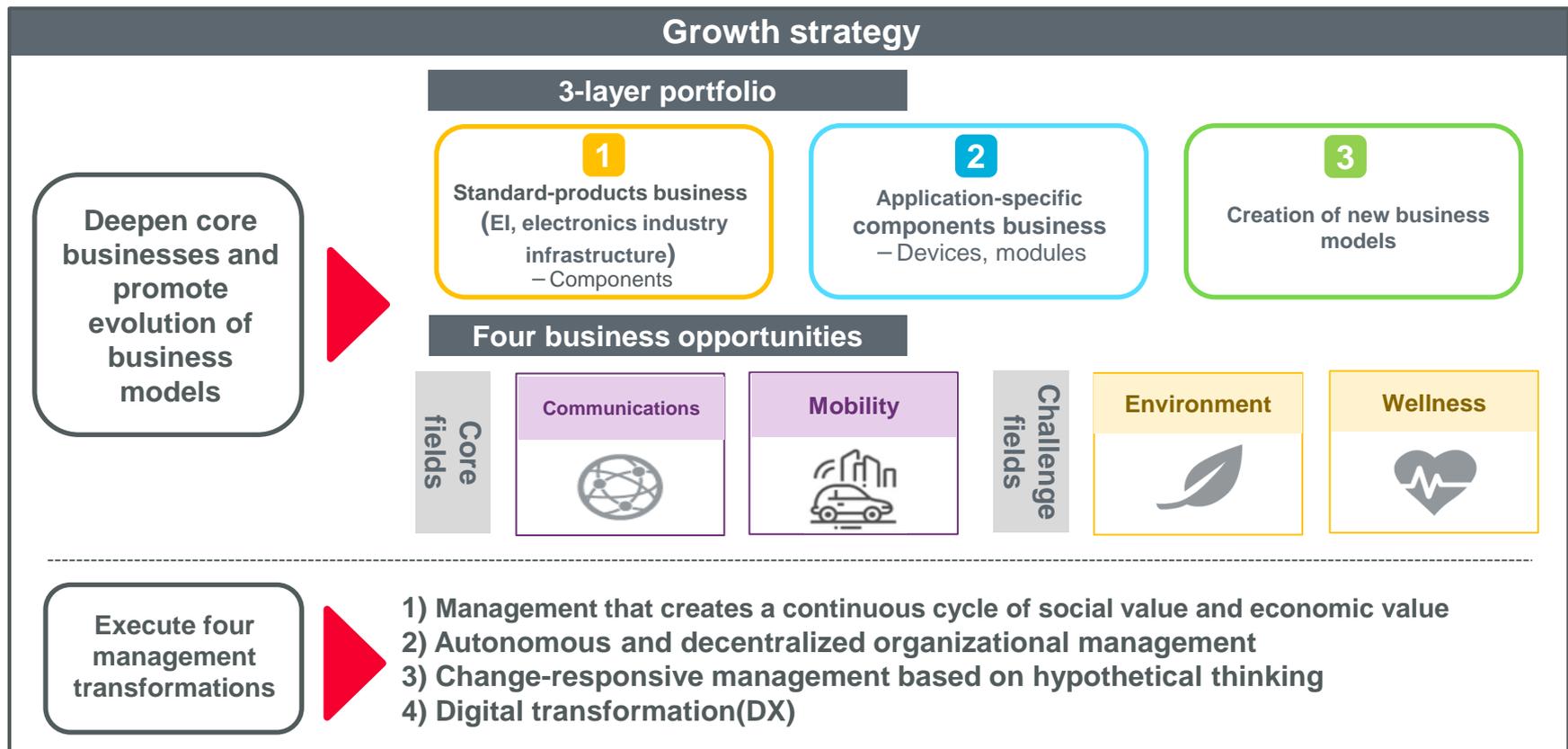
### Solving social issues

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

**Global No. 1 Component & Module Supplier**

Murata will be the best choice for customers and society

# Vision 2030: A growth strategy to get where Murata wants to be



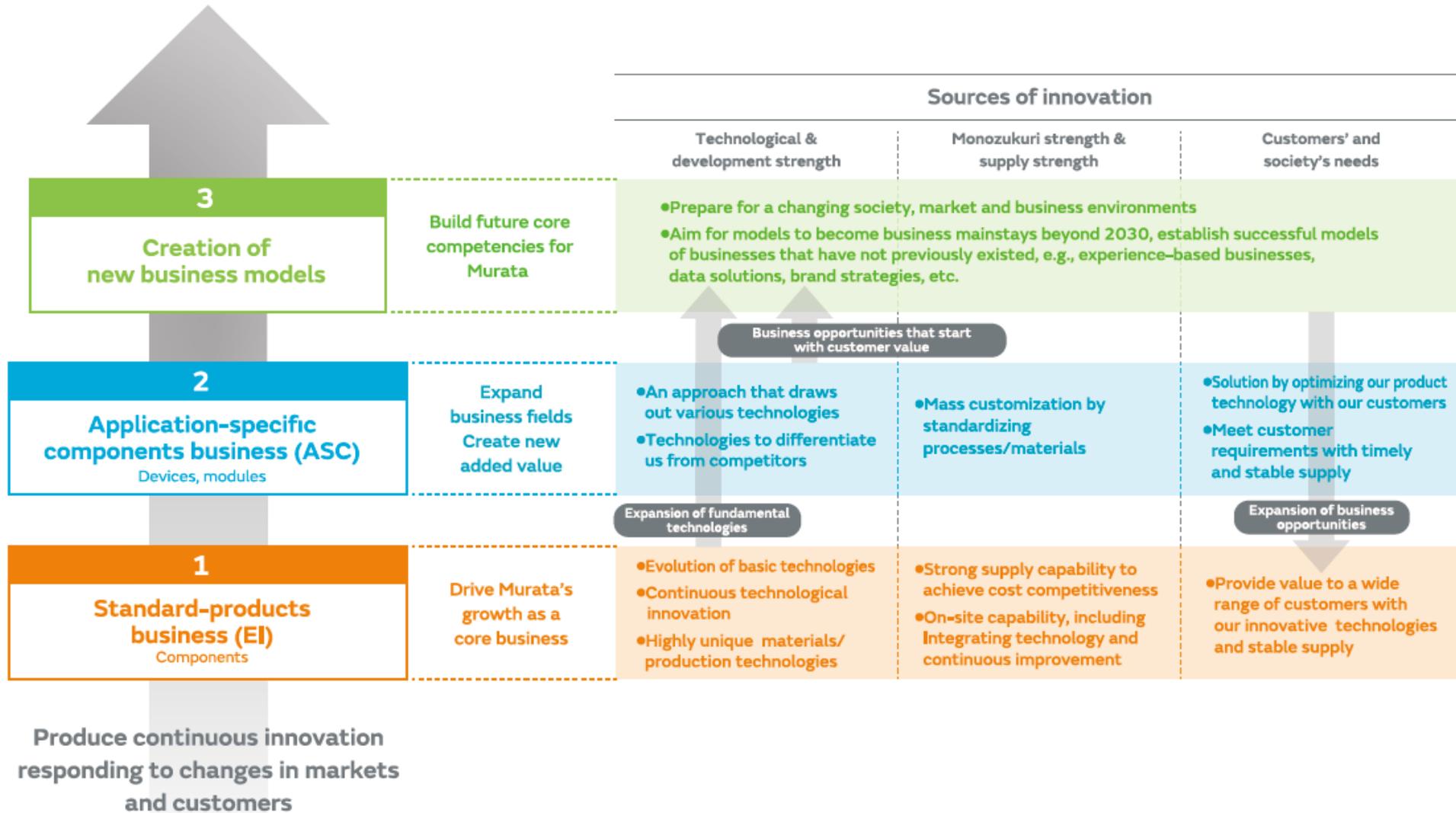
# Growth strategy

## Deepen core businesses and promote evolution of business models

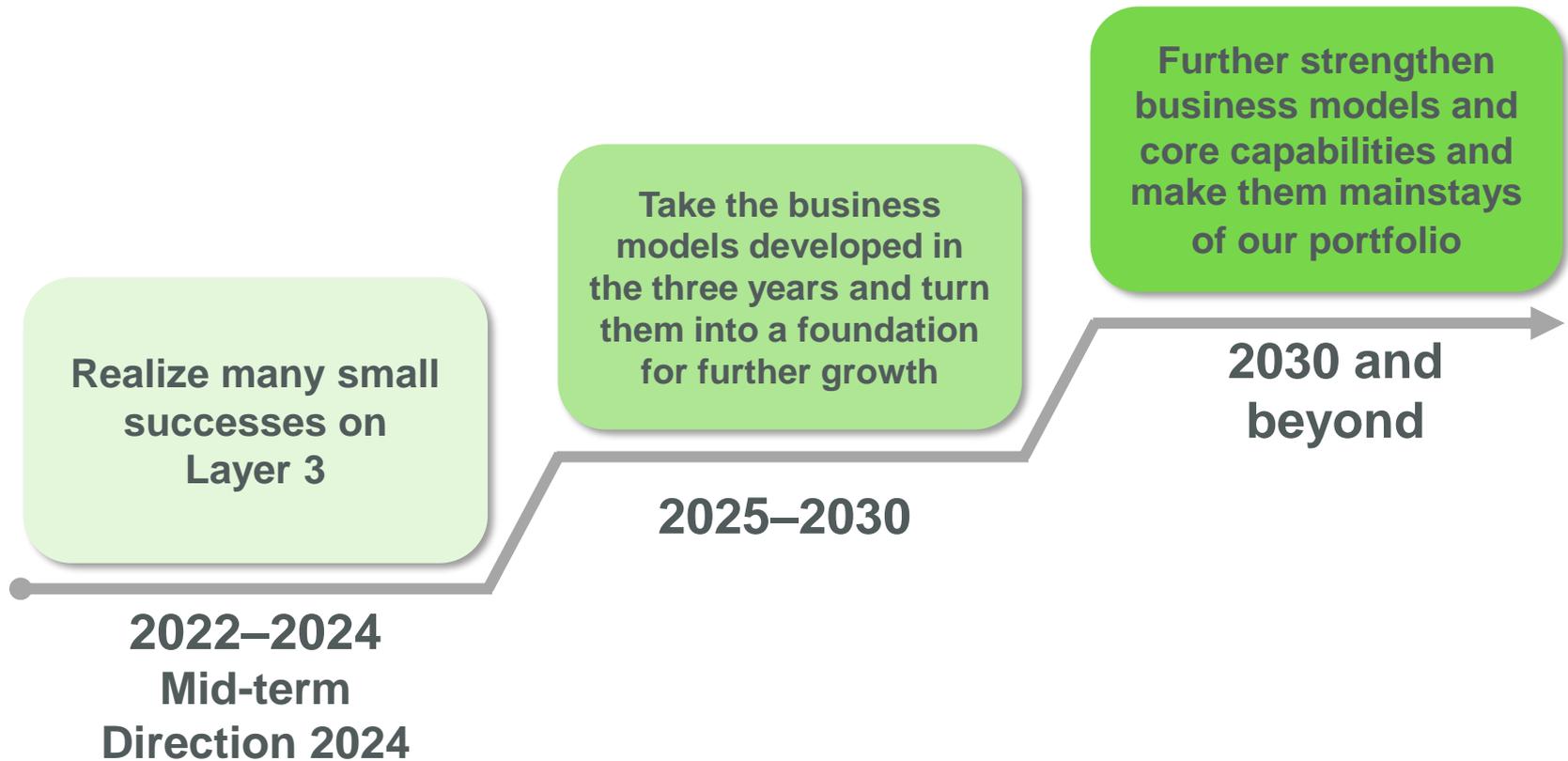
### 3-layer portfolio



## Innovator in Electronics



## Steps of Layer 3 Initiatives



- With an eye on 2030 and beyond, we will take up the challenge of building a new business model as a preparation for Murata to expand in the long run.
- We will seek domains where Murata can demonstrate its strengths through taking a series of challenges in the first three years.

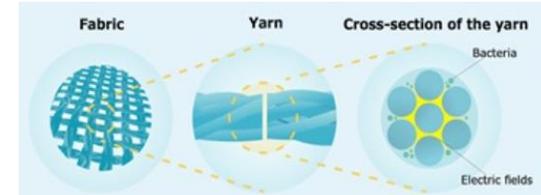
## Worker safety monitoring system



Visualize safety during work with a sensor device attachable to a helmet.

## Piezoelectric fabric “PIECLEX”

**PIECLEX**  
UTILIZE YOUR ENERGY



In collaboration with Teijin Frontier Co., Ltd., Murata developed the world's first piezoelectric fiber, which generates electric energy to create an antibacterial function when force is applied.

## Traffic Counter System



Visualize traffic volumes by utilizing sensors and wireless communication technology. Helping to improve infrastructure and increase the impact of outdoor advertising.

## Spatial visualization solution AIRSual



Support appropriate ventilation and avoid the 3C's by visualizing information on spaces, such as CO2 concentration.

# Revision of segment information and sales classifications

~FY2021

Segment	Sales Category	Main products
Components	Capacitors	Multilayer ceramic capacitors (MLCCs)
	Piezoelectric Components	SAW filters
		Piezoelectric sensors
		Ceramic resonators
	Other Components	Inductors
		EMI filters
		Lithium ion secondary batteries
		Connectors
		Sensors
		Thermistors
Modules	RF modules	
	Multilayer ceramic devices	
	Connectivity modules	
	Multilayer resin substrates	
	Power supplies modules	
	Solutions	
Others	Machinery manufacturing	
	Sales of software	



FY2022~

Segment	Sales Category	Main products
Components	Capacitors	Multilayer ceramic capacitors (MLCCs)
	Inductors	Inductors
	EMI filters	EMI filters
Devices/modules	High-Frequency Device and Communications Module	SAW filters
		RF modules
		Multilayer ceramic devices
		Connectors
		Connectivity modules
		Multilayer resin substrates
	battery and power supply	Lithium ion secondary batteries
		Power supplies modules
	Functional Device	Piezoelectric sensors
		Ceramic resonators
Sensors		
Thermistors		
Others	Solutions	
	Machinery manufacturing	
	Sales of software	

- From the fiscal year ending March 2023, Segment Information will be changed to align with the 3-layered portfolio.
- Sales by Application Category too will be revised.
- We will connect the enhancement of transparency in management to promotion of proactive dialogue with stakeholders and of autonomous and decentralized organizational operation.

# Growth strategy

## Deepen core businesses and promote evolution of business models

# Four business opportunities

Core fields

### Communications

#### Everything is connected by communication

- Expansion of 5G network
- Evolution of IoT and DX
- Advent of 6G



Continue providing value by accurately identifying diversifying applications and changing customer structures and leading the way *with technological innovation.*

### Mobility

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

- Technological innovation in the field of CASE
- Fusion of MaaS transport modes and services
- Advent of a mobility society



In addition to contributing to the evolution of the automobile (in-car), we will aim to capture business opportunities in the broader sense of mobility (out-car).

### Environment

#### Markets where promises have been made to become a sustainable society

- Climate change
- Circular economy
- Cleantech



We will actively respond to the need to protect the environment in order to establish competitive advantages and aim to create innovation that connects the resolution of social issues with our business.

### Wellness

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

- Acceleration of the aging society
- Development of digital health
- Change in the concept of being healthy (incl. mental health)



We seek to provide value by leveraging our expertise in the electronics field and Murata's technologies. Furthermore, we strive to produce innovation that accommodates a change in the concept of being healthy.

Challenge fields

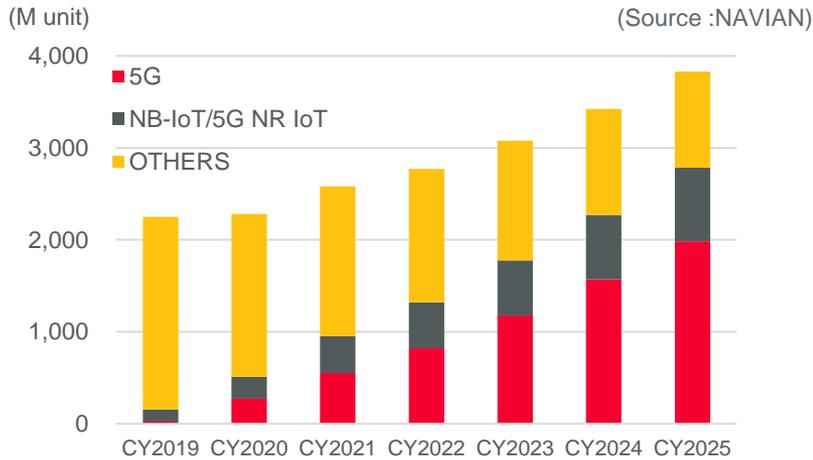
# Growth strategy

## Deepen core businesses and promote evolution of business models

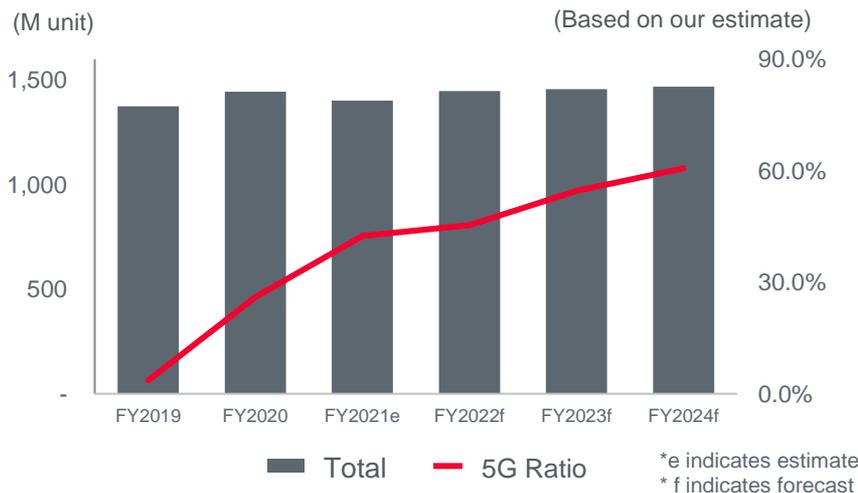
# Business Opportunities: Communications

### Increase in component demand

#### Demand for communication devices



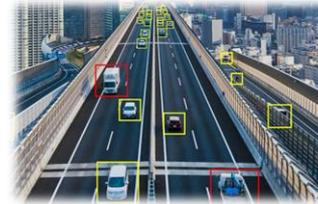
#### Smartphone quantity forecast



### Provision of solutions by applying data

A variety of solution services will be offered. The construction of infrastructure that supports them will progress, making cities smarter at a faster pace.

Ex: Eliminating traffic congestion



Ex: Aerial cellular phone base stations



### Diversification of applications

Devices will take various forms as applications diversify.

Ex: Changes in personal information access devices



Ex: Spread of public devices



### Merging of the real and virtual

Virtual spaces will be formed that use hologram technology and extended reality (XR) technology, transforming lifestyles too.

Ex: Virtual meeting



Ex: Virtual tourism



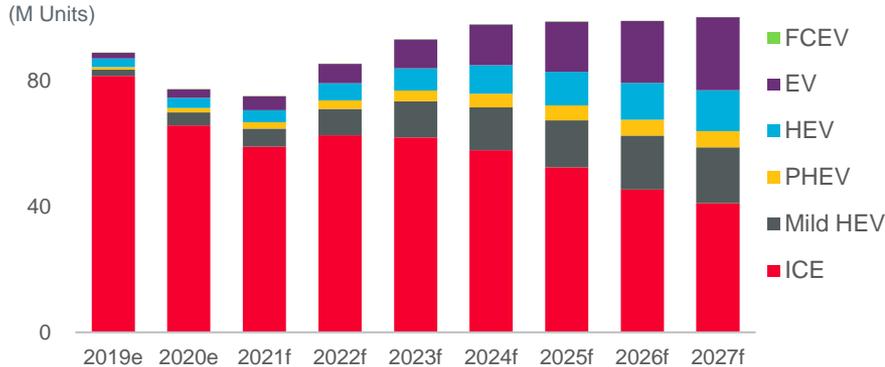
# Growth strategy

## Deepen core businesses and promote evolution of business models

# Business Opportunities: Mobility

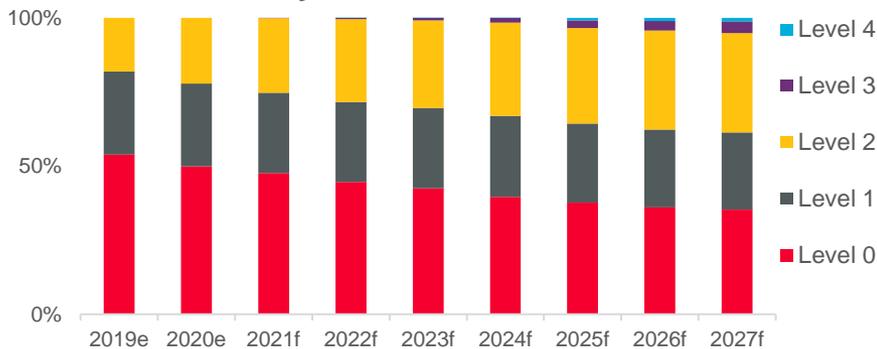
### Increase in component demand

#### Vehicle Production Volume Forecast by Powertrain



(Source: Estimated by Murata based on IHS Markit Global Production Based Powertrain Forecast, September 2021) \*e indicates estimate \*f indicates forecast

#### Autonomy Level Forecast, Share of Total



(Source: IHS Markit, Autonomy Forecast, Global, September 2021) \*e indicates estimate \*f indicates forecast

(By our research) (pcs)	Conventional vehicles Autonomous driving Lv0	HEV Lv2	EV Lv3
<b>Capacitors</b>	<b>3,000</b>	<b>Min.6,000</b>	<b>Min.10,000</b>

### Increased demand for compact, multifunction mobility

Automobiles are evolving into moving communication/sensor devices  
Business opportunities in the mobility industry that uses IoT technology will expand.

Ex: Moving operating base

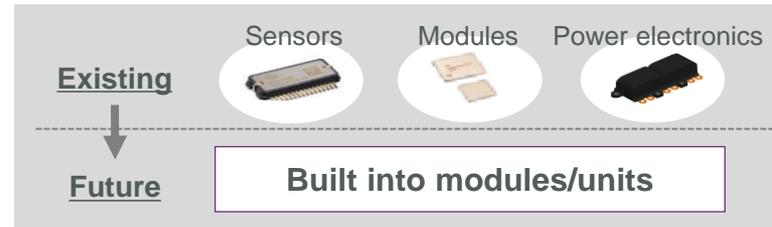


Ex: Personal mobility



### Changes in expectations toward component manufacturers

The shift of OEM/Tier 1 to the realm of high added value  
The shift from single-function components to superior composite performance/intelligent application proposals.



### Providing services & solutions to the mobility society

Enterprises unlike those that came before will be new customers, such as services based on vehicles  
We will use our knowledge from the communication field to provide new value including software and solutions.



# Growth strategy

## Deepen core businesses and promote evolution of business models

# Business Opportunities: Environment

### Business opportunities created by trying to live in harmony with society

Clean design and production processes are needed in every electronic component. Meeting this need will help us maintain our competitive advantage



#### Murata's contributions

- We will proactively work on reducing carbon footprint and recycling resources
- Others will choose us to be their partner in collaboration on the value chain, and together we will achieve a sustainable society

### Expansion of business opportunities triggered by decarbonization

- Demand will grow for lithium-ion secondary batteries in a wide range of fields, including power tools and storage battery systems
- The IoT will be used for decarbonization in all types of industries, e.g., for environmental monitoring and transportation efficiency

(Examples from Murata)  
ESS  
Home storage battery system



#### Murata's contributions

- We will contribute to the decarbonized society through our battery and power supply businesses, which have the competitive advantages of safety, security, high efficiency, and long life
- We will offer sensors and other components that make various types of monitoring possible

### Transition to a new-energy society, development of circular economy, etc.

- Transformation of the energy mix will create new markets
- Technologies and products will be developed on the assumption of a circular economy and value chains will be built around them

#### Murata's contributions

- We will examine technologies for a hydrogen society and pursue the potential of electronics to realize a circular economy
- We will produce innovation by co-creation with stakeholders. While finding practical applications for our technologies and acquiring new technologies, we will promote solutions to environmental problems

# Growth strategy

## Deepen core businesses and promote evolution of business models

# Business Opportunities: Wellness

### Increased demand for electronic components

As digital technology spreads in medical and healthcare and the solutions business expands, more demand is expected for electronic components.

(Examples from Murata)  
Electronic components for hearing aids, wearables, and medical devices



#### Murata's contributions

By providing compact, high-quality electronic components, we will contribute to the acceleration of digitization in the medical and healthcare fields.

### Business that looks at health comprehensively

Utilization of data that are capable of correctly learning, monitoring and visualizing people's physical and mental states will lead to business opportunities in a wide range of fields that go beyond the medical and healthcare ones.



#### Murata's contributions

We will combine Murata's technologies and ideas to provide solutions that enable people to live dynamic lives.

### Progress of medical and healthcare electronics

- Business opportunities will expand in medical electronics that help reduce the burden at medical care sites.
- Regular devices will be replaced with smaller and portable ones, and medical care models will change; for example, IoT technology will enable online diagnosis.

(Examples from Murata)  
Drip Controller

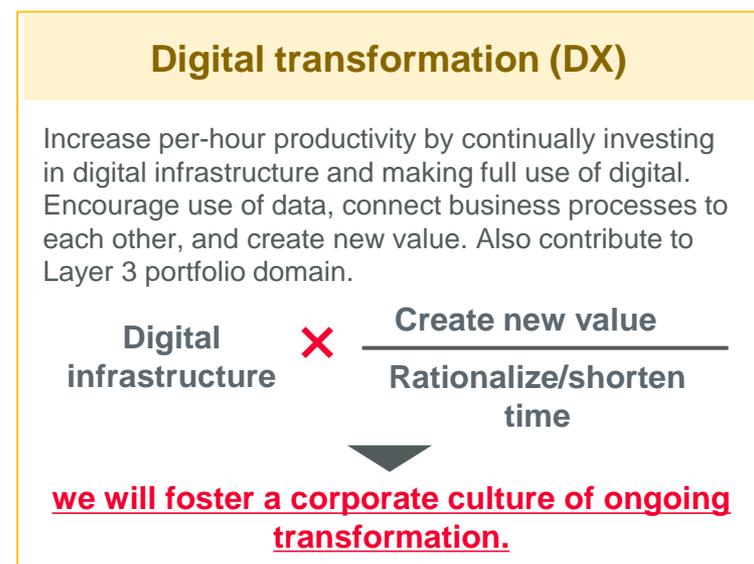
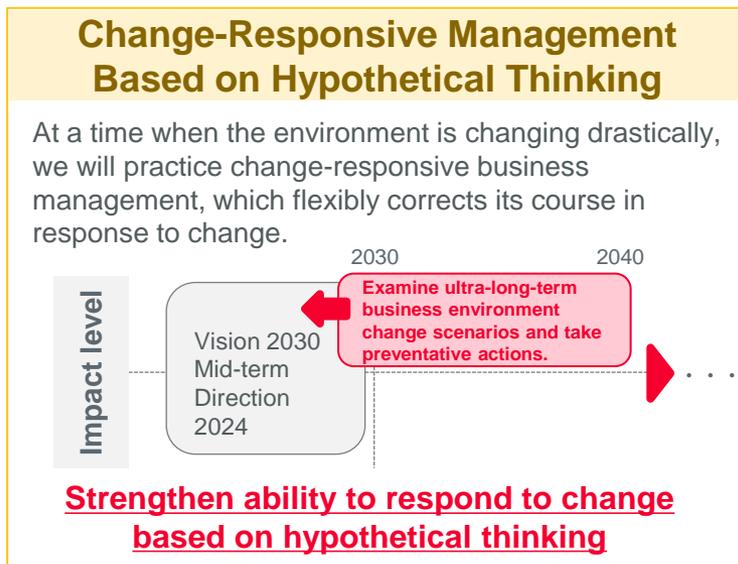
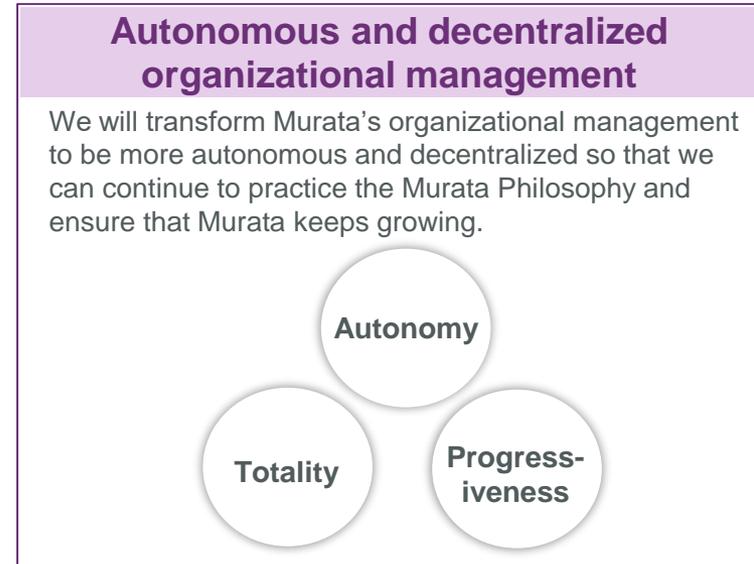
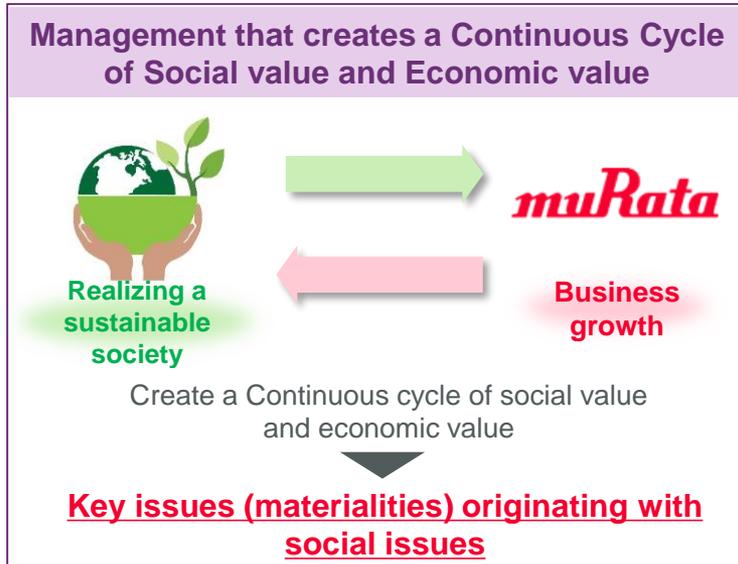


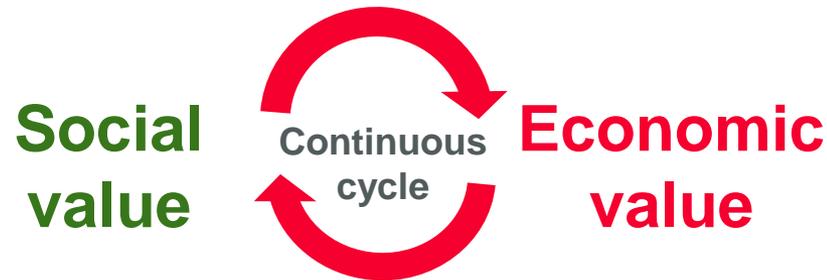
#### Murata's contributions

Utilizing technology that enables compactness, high functionality and high quality, we will produce innovation that pursues safety, efficiency and convenience.

# Growth Strategy

## Execute four management transformations





Key issues (Materialities) originating with social issues

**Initiatives to solve social issues through business activities overall**

Aim to increase social value by minimizing burden on global environment and local communities.

**Contribute to solving social issues through our business**

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

- **We will contribute to bring about a sustainable society through a Continuous Cycle of social value and economic value.**
- **We will connect the proactive effort to resolve social issues to the establishment of new competitive advantages.**

# Key Issues (Materialities) Originating with Social Issues



Contribute to solving social issues through our business

**Communications**

Contribute to building the social infrastructure that the advancement of communications technology is causing to expand



**Environment**

Create businesses to solve climate change and resource & energy shortages, thereby contributing to improving global environmental problems



**Mobility**

Contribute to achieving the formation of a safe transportation society and new cities



**Wellness**

Contribute to a society where all people can live healthy, prosperous lives



Initiatives to solve social issues through business activities overall

**Environmental**

**E**

- Strengthening to climate change
- Use of sustainable resources
- Preventing pollution and managing chemical substances

**Social**

**S**

- Safe and worry-free workplaces and health management
- Respect for human rights and diversity
- Coexistence with local communities

**Governance**

**G**

- Appropriate Business Transactions
- Business continuity management (BCM) initiatives
- Information security



# Mid-term Direction 2024

# Management Targets

## Economic value

**Net sales**  
(JPY)

2,000 billion

**Operating income ratio**

20% or higher

**ROIC**  
(before tax)

20% or higher

## Social value ① “Environment”

**Amount of GHG emissions (vs fiscal 2019)**

FY2024: Reduce by 20%  
FY2030: Reduce by 46%

**Renewable energy implementation rate**

FY2024: 25%  
FY2030: 50%  
FY2050: 100%

**Sustainable resource usage rate**

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

**Resource recycling rate**

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

## Social value ② “Diversity”

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

FY2024: 7%  
FY2030: 10%

## Social value ③ “ES”

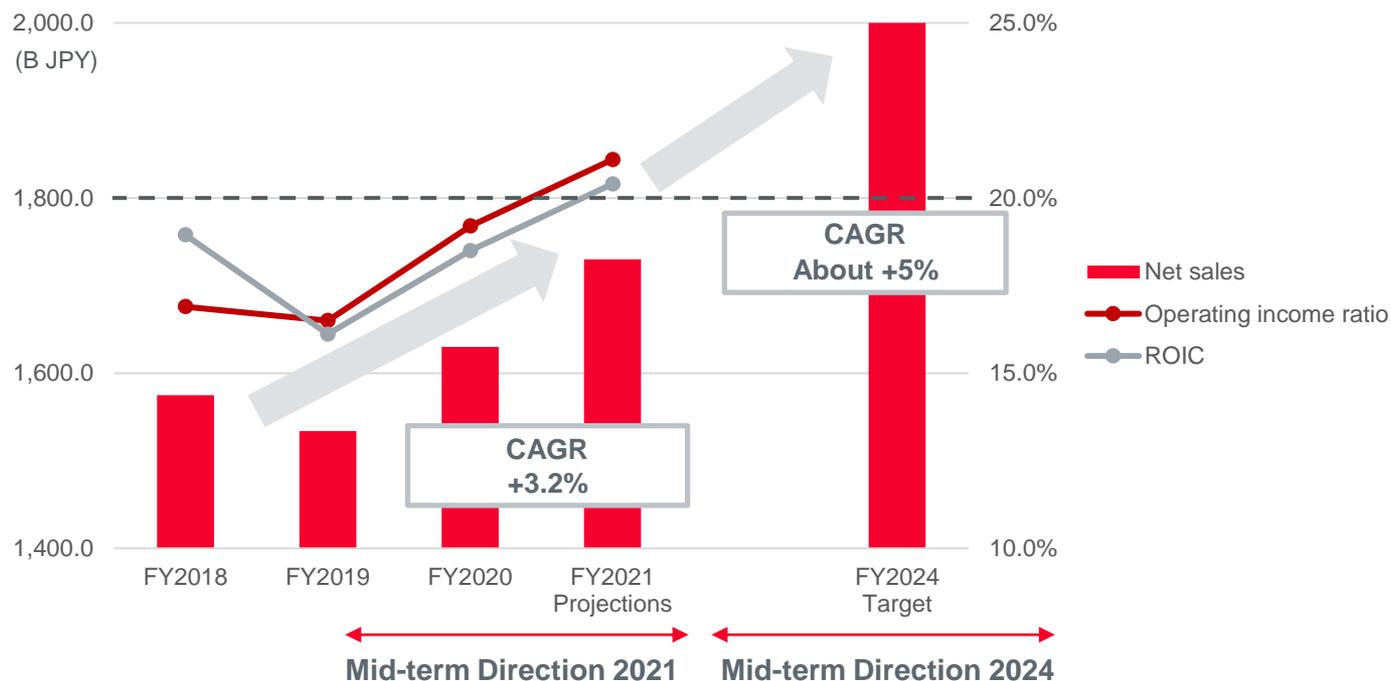
**Positive employee engagement response rate**

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

\*The target for FY2024 is measured as the extent of improvement over the current state.

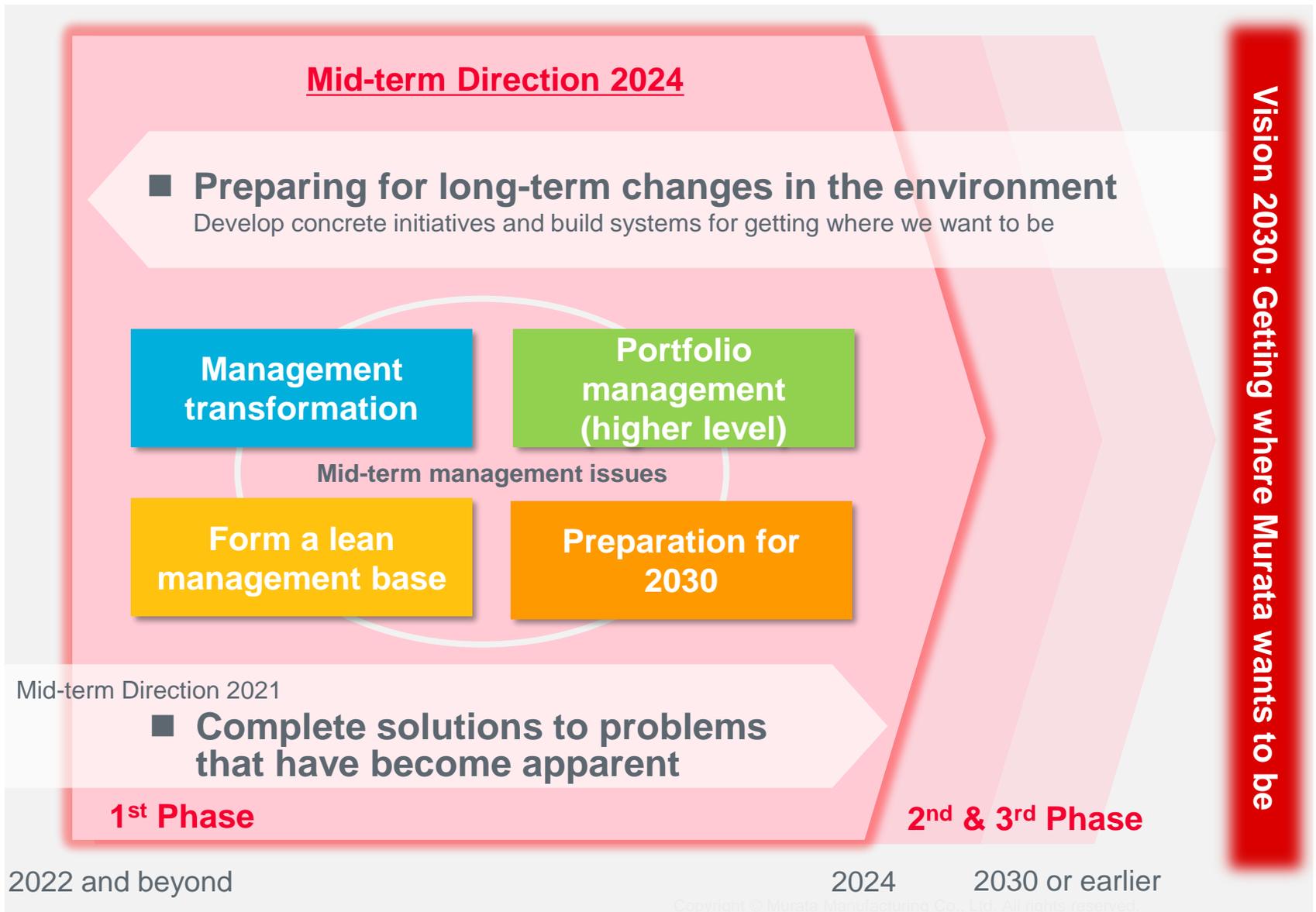
# Management Targets -Economic value-

	FY2021 Forecast		FY2024 Targets
Net sales (JPY)	1,730.0 billion	➔	2,000.0 billion
Operating income ratio	21.1%		20% or higher
ROIC (pre-tax basis)	20.4%		20% or higher



Establish a management base that can maintain and improve the level of the operating income ratio under any circumstances, and set ROIC targets for the purpose of continuously improving capital efficiency.

# Position of Mid-term Direction 2024



# Mid-term Direction 2024

## “Mid-term Management Issues”

### Management transformation

- 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)

### Portfolio management (higher level)

- Practice portfolio management that uses a 3-layer structure
- Clarification of Layer 3 business models

### Form a lean management base

- Enhance work quality and increase work productivity
- Strengthen business operations during the ongoing COVID-19 pandemic and strengthen personnel and organizational capabilities for the post-pandemic period
- Continue to strengthen quality foundation

### Preparation for 2030

Work on issues to achieve the innovation that Murata aims for by combining the 3-layer portfolio with the four business opportunities

- Strengthen *monozukuri* in wide meaning and promote its evolution
- Strengthen the power to sell and power to support and promote their evolution
- Strengthen the ability to respond to geopolitical and other management risks
- Promote development of elemental technology that will be core technologies of the future
- Practice open innovation to achieve co-creation of value



# Portfolio management

# Mid-term Direction 2024 Portfolio management (layer 1)

1

Standard-products business (EI)  
Components

**We will secure business opportunities in the growing market while working to increase business efficiency and achieve lean business operations.**

Capacitors

- Expand and reinforce production capacity continuously so as to respond to stronger demand for components.
- Draft and implement scenarios that keep winning in consideration of risks, such as the rise of the competition.
- Retain the top market share by producing sustainable innovation and running a thoroughly prepared supply system.



Inductors  
EMI filters

- Expand and reinforce our product lineup in the communications and mobility markets, which have high growth potential.
- Aim to achieve the business growth that outperforms the market through establishing competitive technologies in power inductors and vehicle-mounted products.

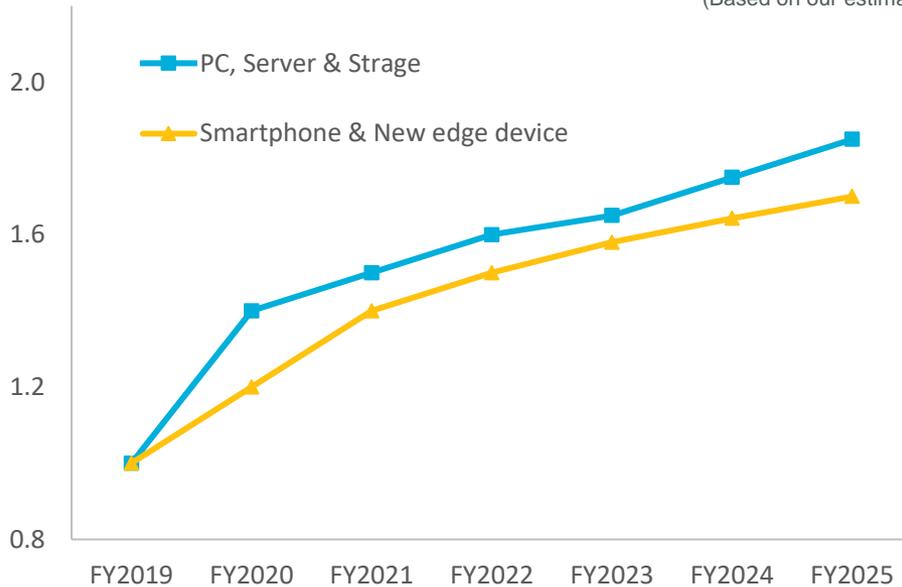


## Communications

### Consumer MLCCs market forecast(quantity basis)

Demanded quantities will increase year after year as 5G becomes popular.

(Based on our estimate)

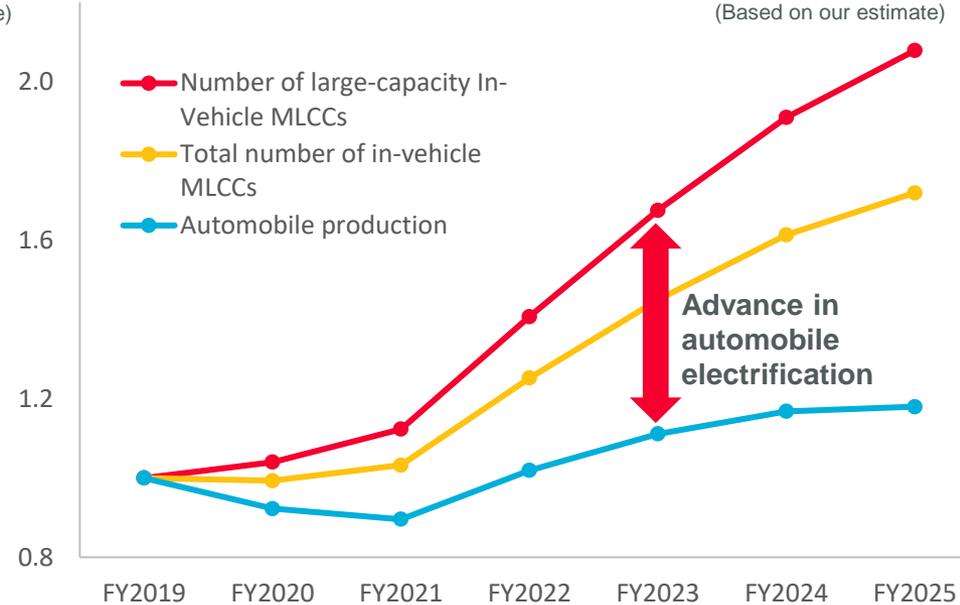


## Mobility

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

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

(Based on our estimate)



### Usage quantity of MLCCs for smartphones

Usage quantity will grow by 10 to 20% by making products compatible with 5G.

(pcs)

(By our research)	Low-end	Middle-range	High-end
Smartphone	400 ~500	700 ~800	1000 ~1200

### Usage quantity of MLCCs for in-vehicle

(pcs)

(By our research)	GAS	HV	PHEV	BEV
Powertrain	300~500	1,000~1,600	1,500~2,000	2,000~2,500
ADAS	3,000~5,000			
Safety	300~1,000			
Infotainment	500~2,500			
Other	500~2,500			

# layer 1 Capacitors

## Murata global market share

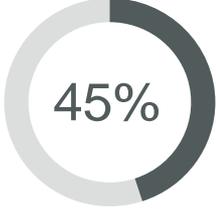
MLCCs overall



High frequency applications (HiQ)



0603M size or under



For Automotive



## Production capacity

China Wuxi



Singapore



Philippines



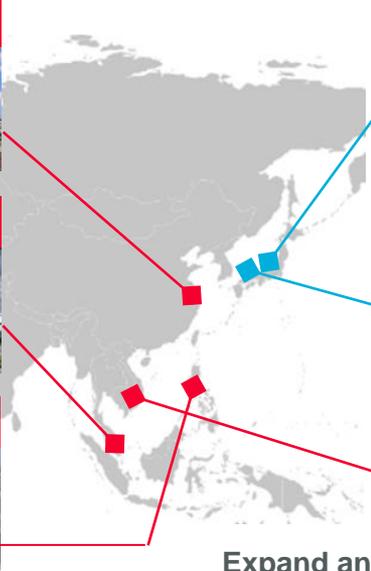
Fukui Murata



Izumo Murata

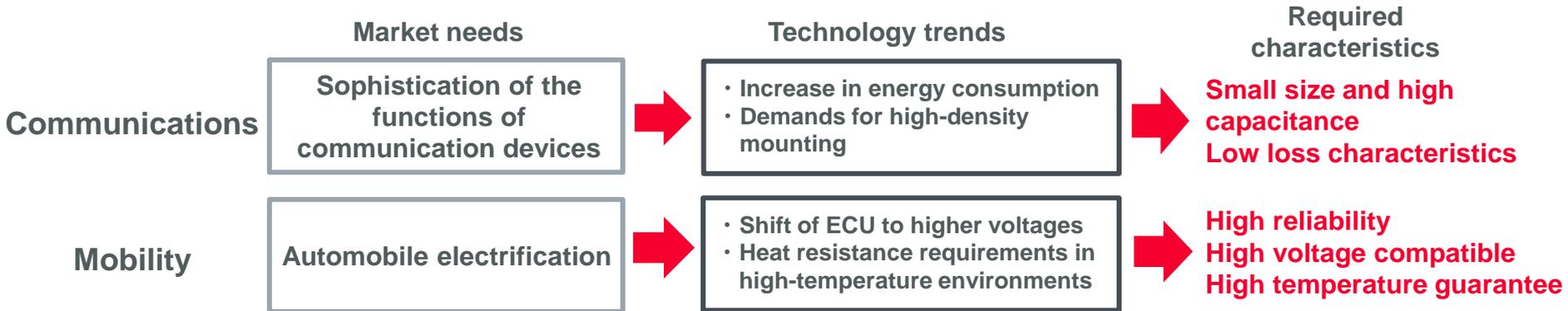


Thailand -under construction-



Expand and reinforce production capacity continuously to meet brisk demand

## Technological trend



# layer 1 Inductors / EMI filters

## Murata's strengths

High quality  
Customer support

Extensive product  
lineup

Strong capability

Development ability  
making full use of  
our base  
technologies



RF Inductor

Noise filter  
Power Inductor

Power Inductor



## Material · Structure

Non-magnetic  
core structure

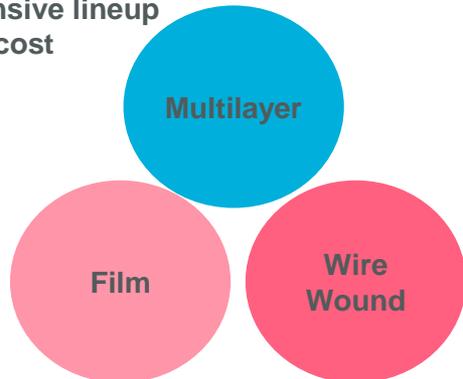
Ferrite

Metal

Metal Alloy Technology  
that enables compactness and  
High-performance

## Manufacturing Method

- Extensive lineup
- Low cost



- High Q value and small size
- High precision (Minimal tolerance in inductance)
- Large currents support
- High Q

Monozukuri and Strong capability



**Aim to expand business in the promising communications and mobility markets.**

# Mid-term Direction 2024 Portfolio management (layer 2)

2

Application-specific components  
business (ASC)  
Devices/modules

We will earn a competitive advantage by establishing a healthy business portfolio and pursuing differentiation with technologies rooted in customer needs.

High-Frequency Device  
and  
Communications Module

- Aim to capture businesses with strong technologies amid intensifying competitive conditions.
- Realize business growth by injecting resources into technologies that can differentiate Murata from the competition.
- Search new applications and customers for which we can leverage Murata's strengths in the communications market, which is expanded by the ongoing adoption of the IoT and 5G.
- Change out parts of the portfolio, seeking high-added-value business, and transform structure from the pursuit of scale to contributing to profitability.



Functional  
Device

- Expand business by injecting resources into the creation of core technologies and applications that can draw out our strengths.
- Strive to differentiate our technologies and aim to create new value with partners.



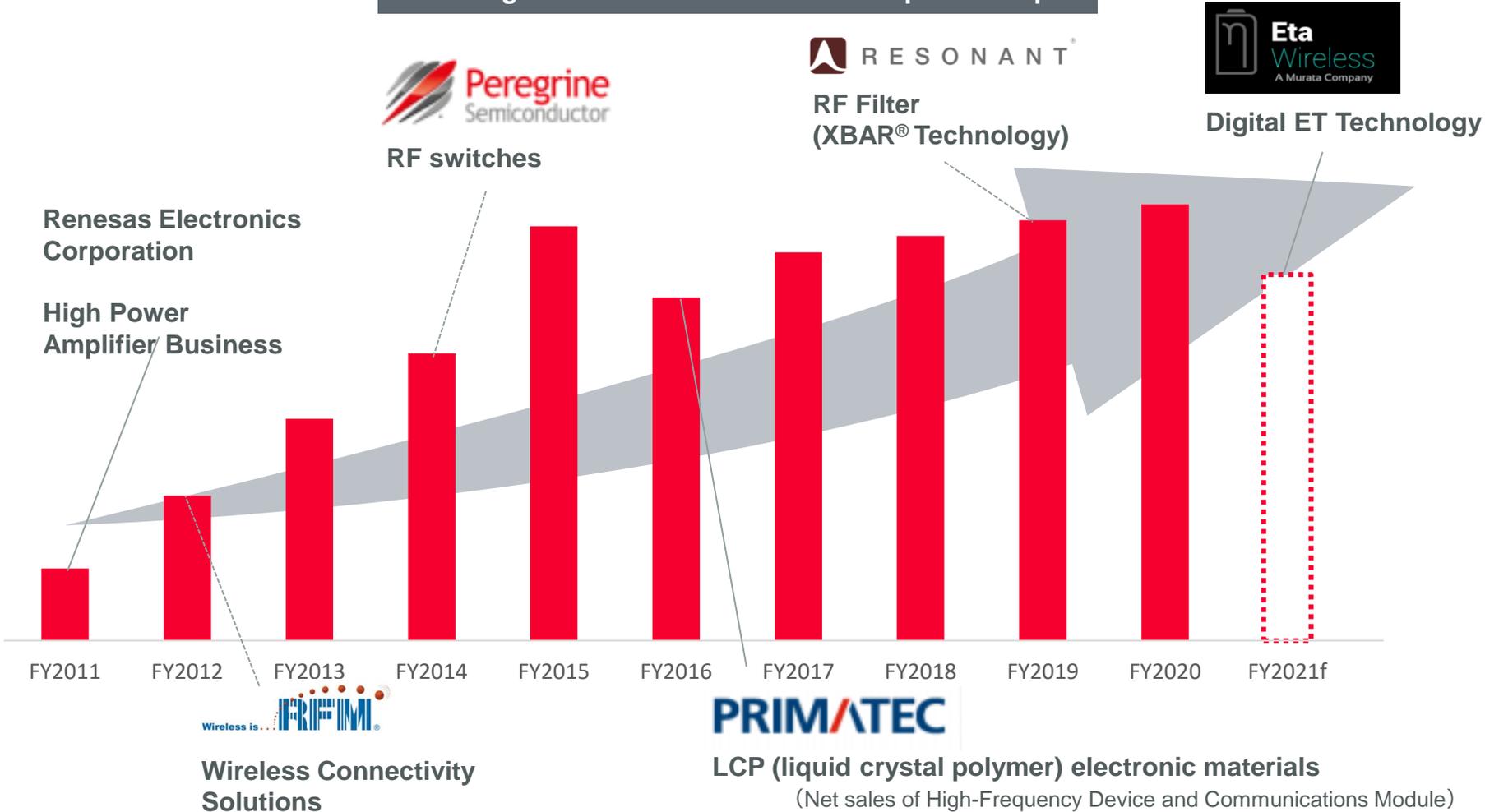
battery and  
power supply

- Try to establish a competitive advantage by establishing and strengthening technologies that differentiate Murata from the competition, and simultaneously build a business foundation as Murata's business that makes environmental contributions.
- Solidify the business foundation by accurately grasping business opportunities through making timely investments and strengthening *monozukuri*.
- Attempt to improve profitability by strengthening financial position.



# layer 2 High-Frequency Device and Communications Module

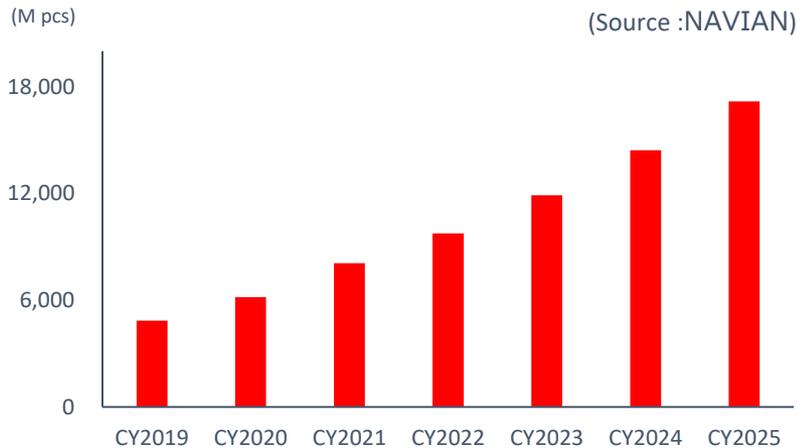
## Sales growth and Transition of M&A · partnership



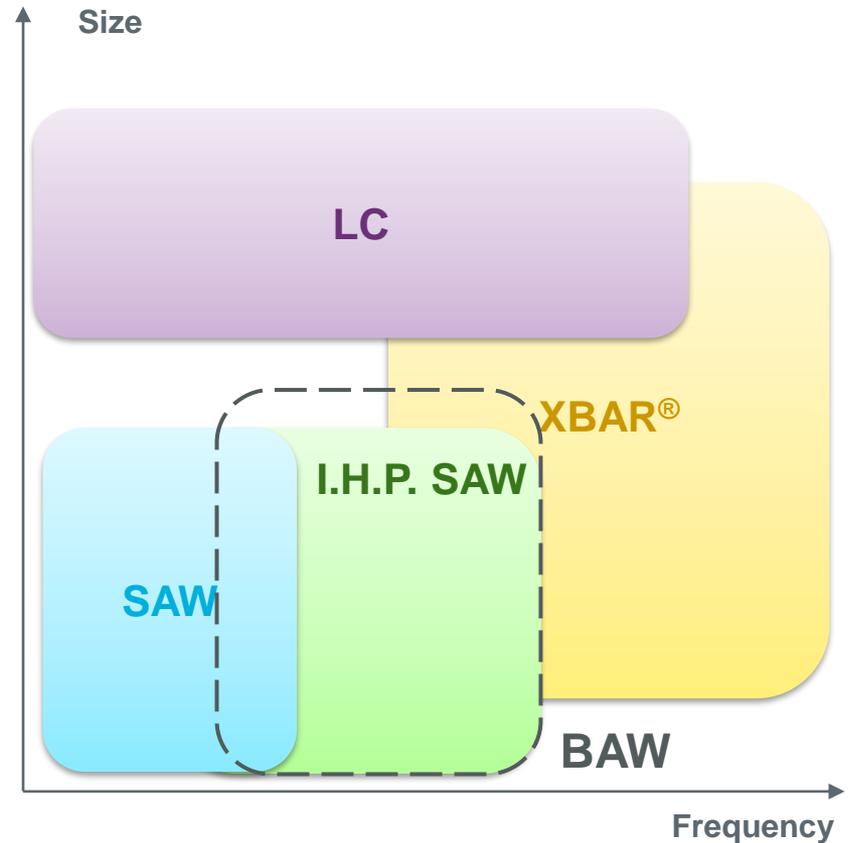
- Components and solutions that had been reinforced through M&A and partnership were optimized for applications to modules.
- Sales volume has grown approximately 2.5-fold over 10 years.

# layer 2 High-Frequency Device

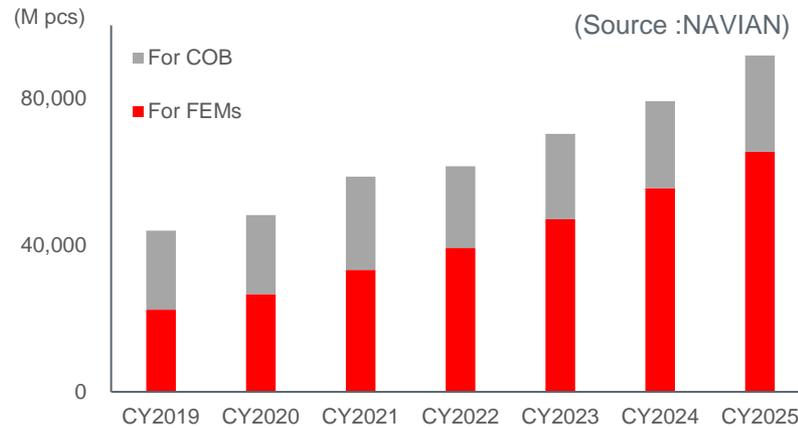
## Market forecast of front-end modules



## High Frequency and Size Trends



## Market forecast of filters

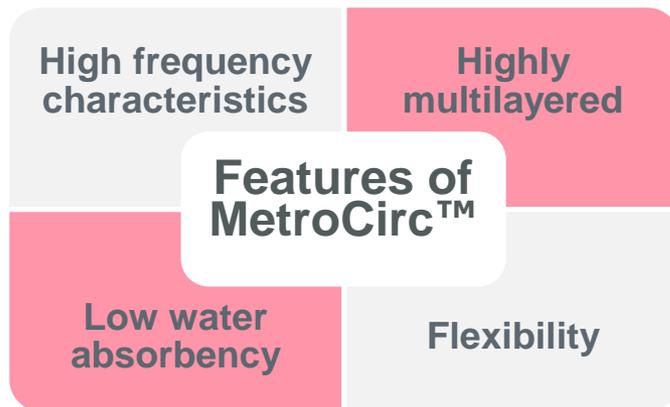


- **5G will expand demand for modules and filters.**
- **Line-ups and characteristics (high frequency/broadband/steepness/low attenuation/small size, etc.) will become important.**

# layer 2 Communications Module

– Connectivity modules, MetroCirc™ –

## Features of MetroCirc™



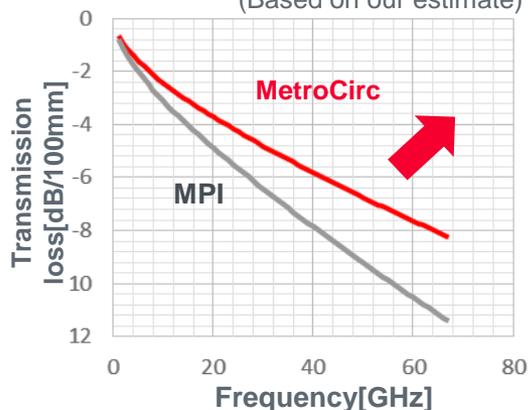
## Application to connectivity modules

### Based around the MetroCirc™ mmWave antenna module



### High frequency characteristics of MetroCirc™

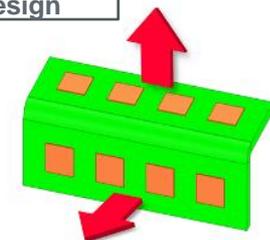
(Based on our estimate)



Superior characteristics in the millimeter wave band differentiates MetroCirc™ from competing products.

Realize the emissions of radio waves into two directions with one RFIC.

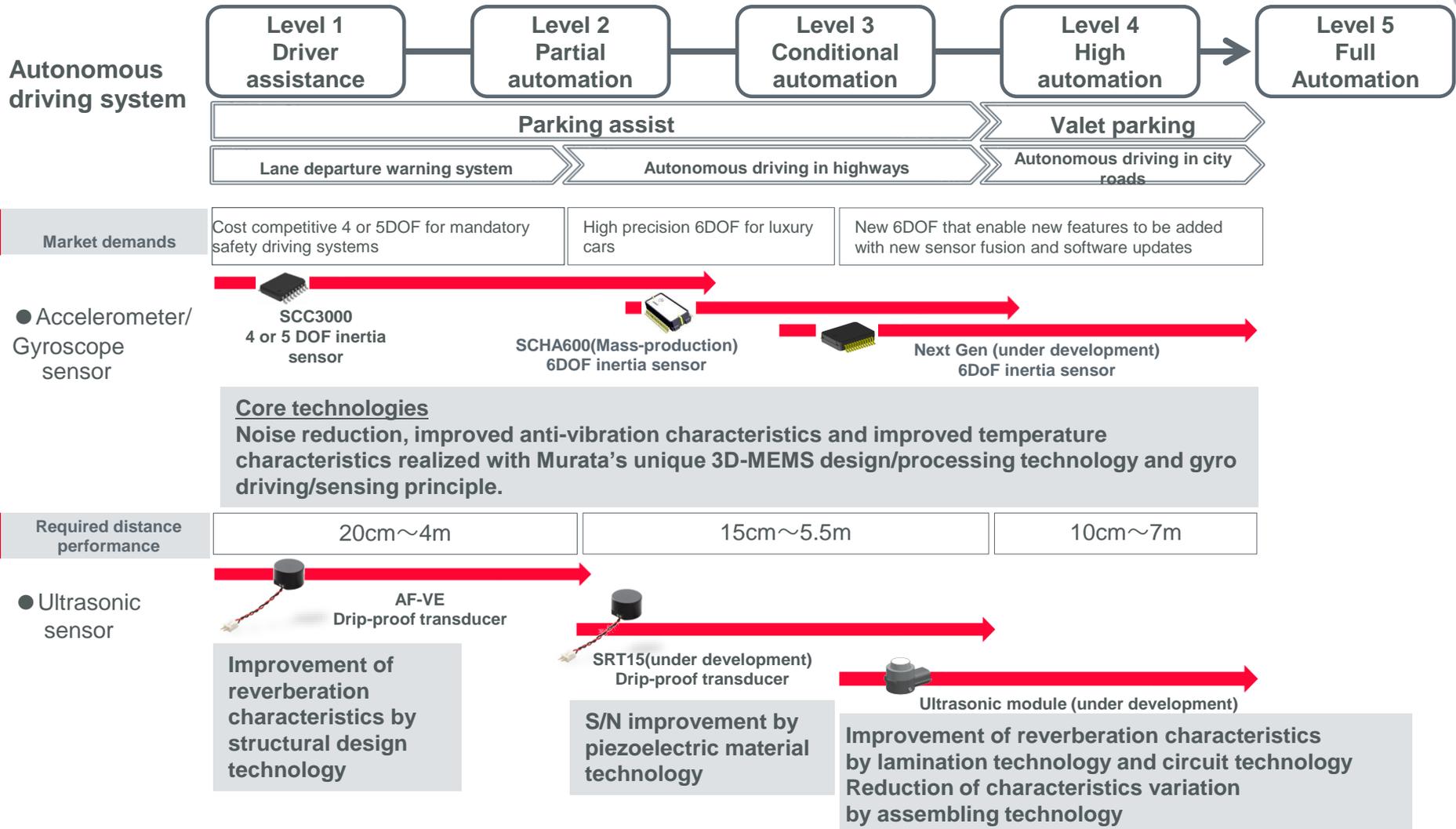
L-shape design



Contribute to saving space inside devices, lowering cost and stabilizing the millimeter wave communication function.

- Utilize high frequency characteristics and flexibility in millimeter-wave modules and transmission lines.
- Capable of making proposals that can reduce the number of modules and that can enhance design freedom.

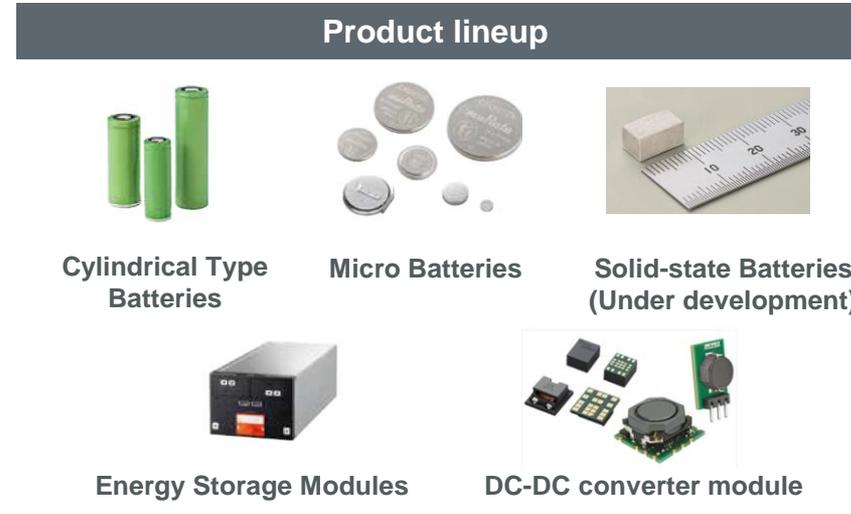
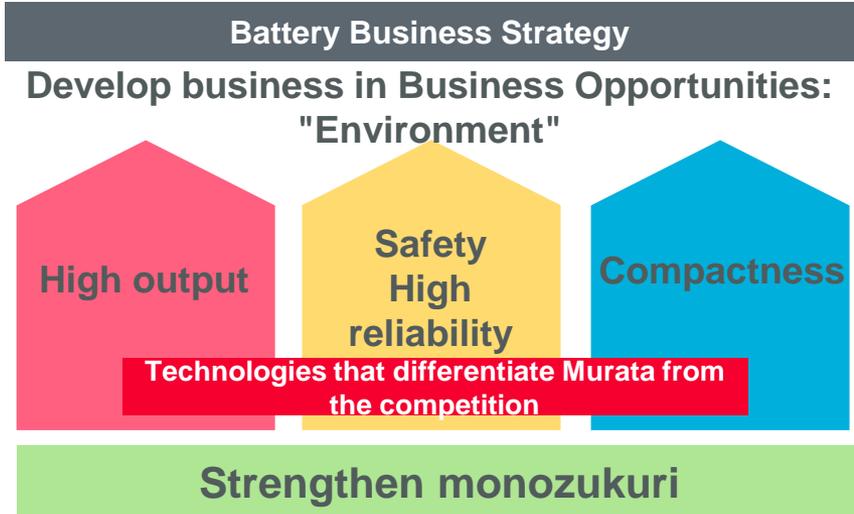
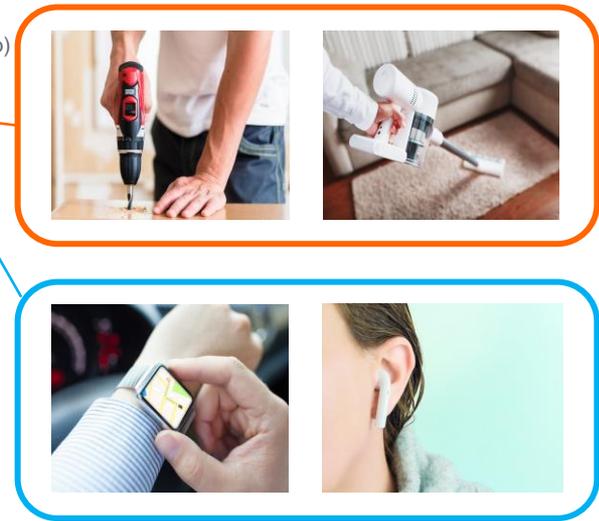
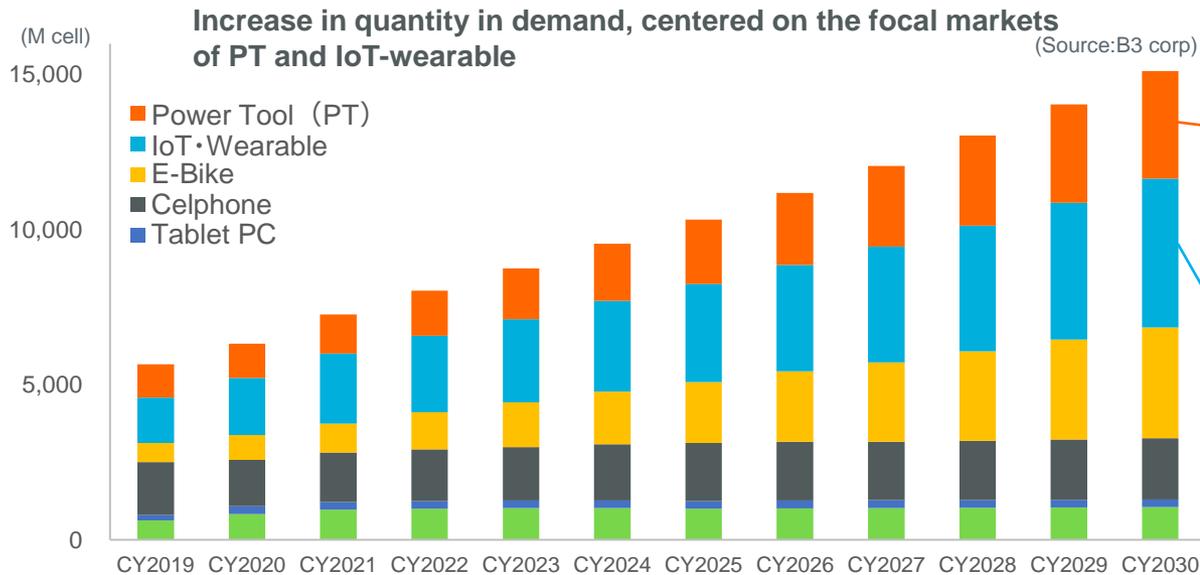
# layer 2 Functional Device - Sensors -



The more advanced autonomous driving technology becomes, the higher sensor technology are required.

# layer 2 Battery and Power supply

## Market forecast for consumer small size Lithium Ion Batteries

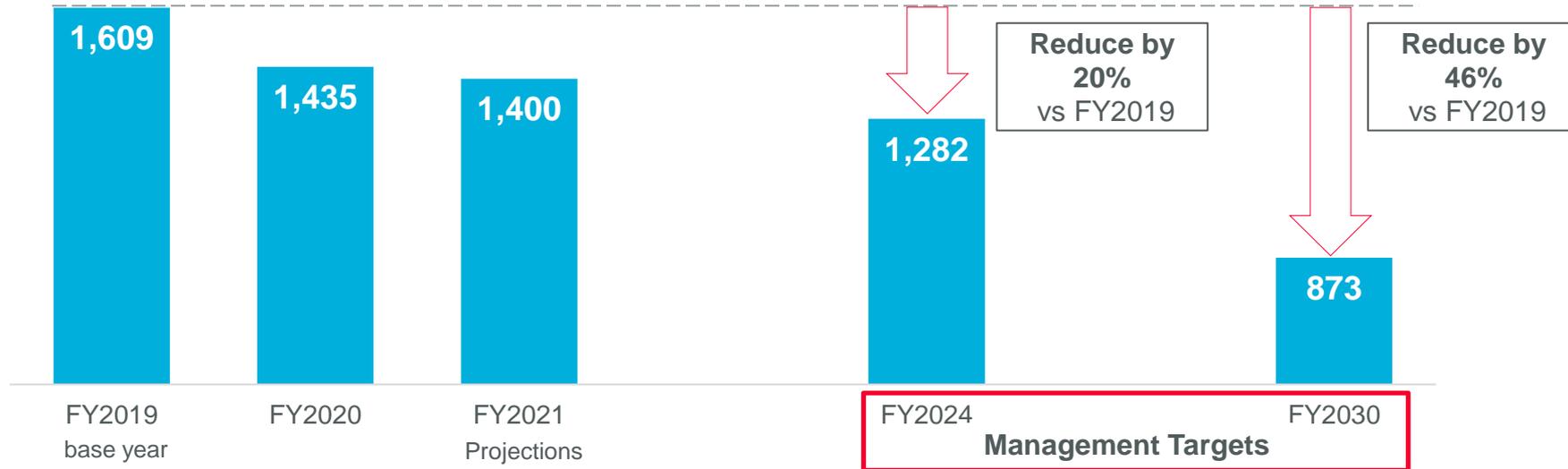




# Management That Creates a Continuous Cycle of Social Value and Economic Value

# Responses to climate change

Total greenhouse gas(GHG) emissions  
Scope1 + Scope2 (1,000t-CO<sub>2</sub>e/year)



## Expands the use of renewable energy

- Promotes energy-saving activities
- Joining the "RE100"

**RE100**

°CLIMATE GROUP



## Promotes energy-saving activities

- Improve the performance of the energy management system utilizing own technologies.
- Reduce the environmental load by making electronic components lighter and smaller.
- Adopt an in-house carbon pricing scheme.

- **Address reduction of total GHG emissions through advancing renewable energies and energy-saving**
- **Additionally, a study is ongoing to set Scope 3 reduction targets in compliance with SBT. Advance anti-climate-change measures throughout the supply chain.**
- **Connect active environmental response as a competitive advantage to the enhancement of economic value.**

# Responses to climate change – Renewable energy –



## Renewable energy implementation rate



## Main initiatives

### Promotes energy-saving activities



Okayama Murata Manufacturing



Murata Electronics(Thailand)

### Use of 100% renewable energies in plants

Utilization of a system that combines sunlight, storage batteries and control



Kanazu Murata Manufacturing



Storage battery

**Utilization of storage batteries that leverage the strengths of Murata's secondary batteries**

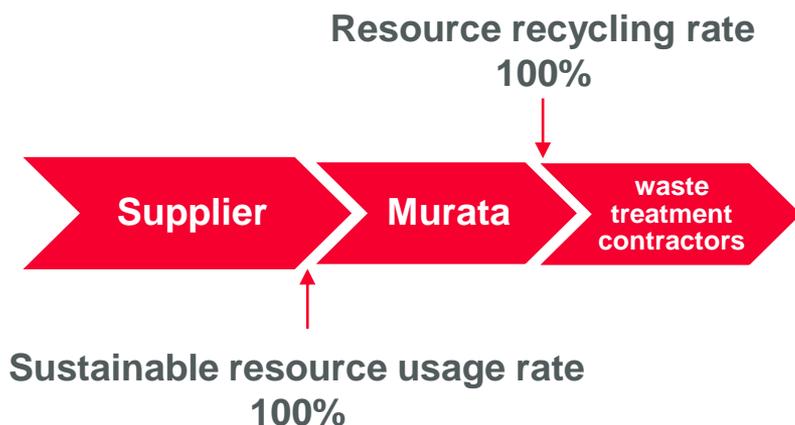
- Murata joined RE100 ahead of the rest of the industry.
- We aim to raise the ratio of renewable energies to 100% by combining various methods including onsite and offsite renewable energies and reviewing contracts with electricity power companies.

# Use of Sustainable Resources

	Management Targets		
	FY2024	FY2030	FY2050
<b>Sustainable resource usage rate</b>	<b>+1%</b> measured as the extent of improvement over the current state	<b>25%</b>	<b>100%</b>
<b>Resource recycling rate</b>	<b>+5%</b> measured as the extent of improvement over the current state	<b>50%</b>	<b>100%</b>

\* Sustainable resources: “Resources at low risk of depletion,” which we can use continually into the future by taking steps such as building recycling schemes.

\* Resource recycling rate: The percentage of Murata’s outputs (emissions) that are recycled as circulating resources.



## Example of Initiatives

### Toyama Murata Manufacturing

- Reduction of waste and disposal costs by in-house disposal of liquid waste
- Recycling of wastewater
- Continuation of zero landfill waste



Facilities to treat liquid waste

**Murata contributes to resolving environmental issues through co-creation with partners while realizing the sustainable use of resources in its business activities.**

# Supporting employee growth and respecting diversity

## Murata Vision 2030

Bringing together diverse personnel from around the globe, we aim to be innovators as individuals and as an entire organization.

Great performance achieved with diverse talented personnel who have experience in working globally in different bases

ES\*: Murata's Key value  
\*Employee Satisfaction

Promotion of opportunities for global collaboration

Corporate culture that leads to employees' satisfaction and development

### Targets

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

FY2024 : 7%  
FY2030 : 10%

As of 2021, about 5%

**Positive employee engagement response rate**

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

\* Includes local staff members overseas, not counting Japanese nationals



# Capital Allocation Policy

# Mid-term Direction 2024 Capital Allocation Policy

(Unit: 100 million yen)

## 19–21F cumulative

## 22–24F cumulative



### Position of Strategic investment

Push forward with making investments actively from a long-term perspective in a way that prepares us for likely social changes and ensuing business opportunities and risks, and leads us to sustainable growth.

Examples: Environmental investments, acquisition of technologies, risk countermeasures and IT infrastructure.

### Shareholder returns policy

Increase dividends in a stable manner to aim at a minimum DOE of 4% in line with a dividend payout ratio of 30% as the guideline.

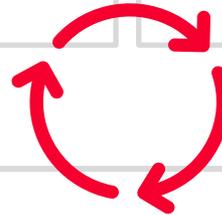
Buy back own shares flexibly by taking medium-to long-term fund needs into account.

## Appropriate resource allocation and Shareholder returns

- **Based on the capital allocation policy,**
  - Investments focused on ROIC and growth
  - Shareholder returns that can realize a minimum DOE of 4% in line with a dividend payout ratio of 30% as the guideline
- **Investment decision that reflects capital costs, and business evaluation**

## Sustained growth

- **Management that creates a continuous cycle of social value and economic value**
- **Mid-term Direction 2024**
  - Social value : Environment, Diversity, ES
  - Economic value : Net sales¥2,000 billion, Operating income ratio 20% or higher, ROIC(before tax) 20% or higher

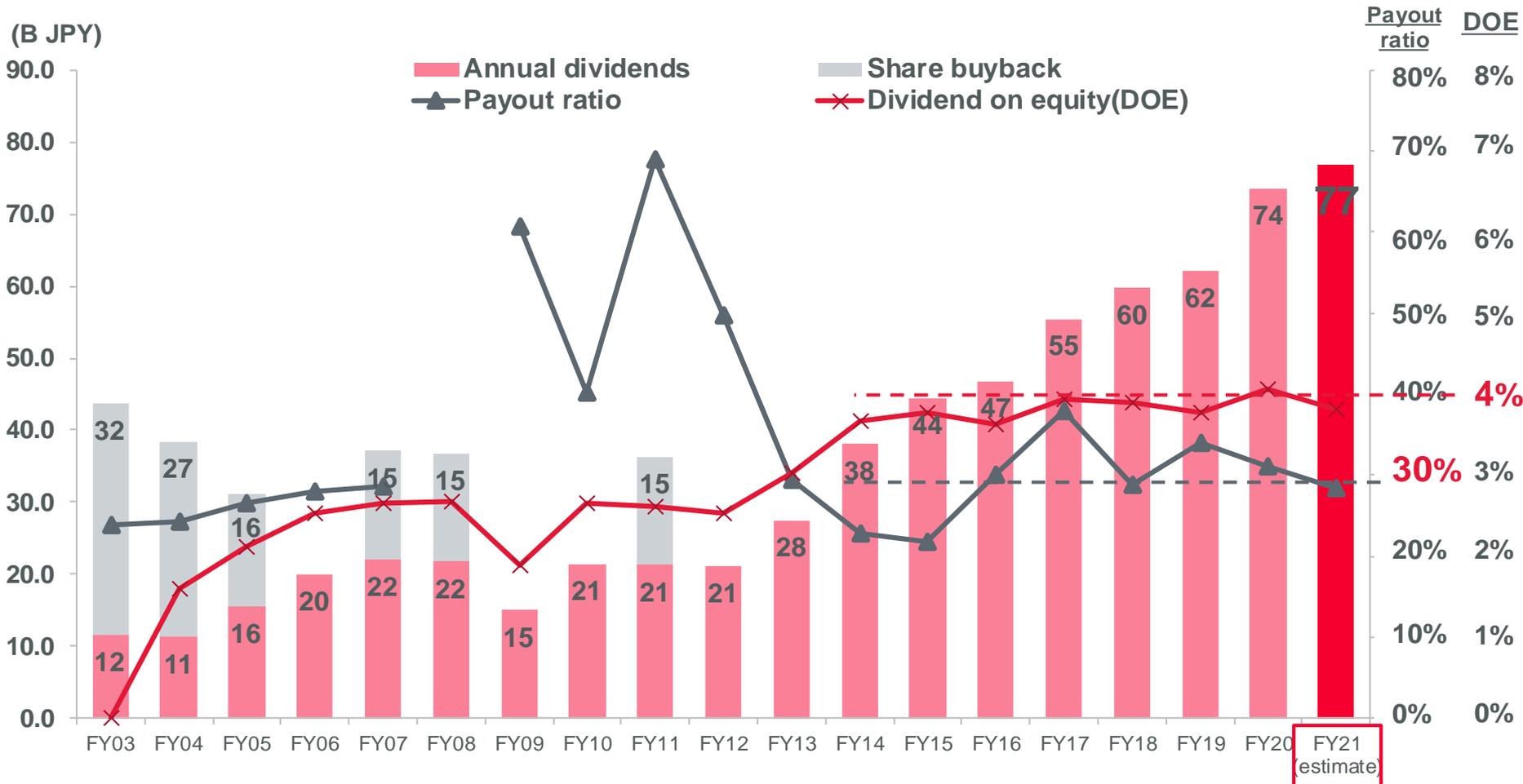


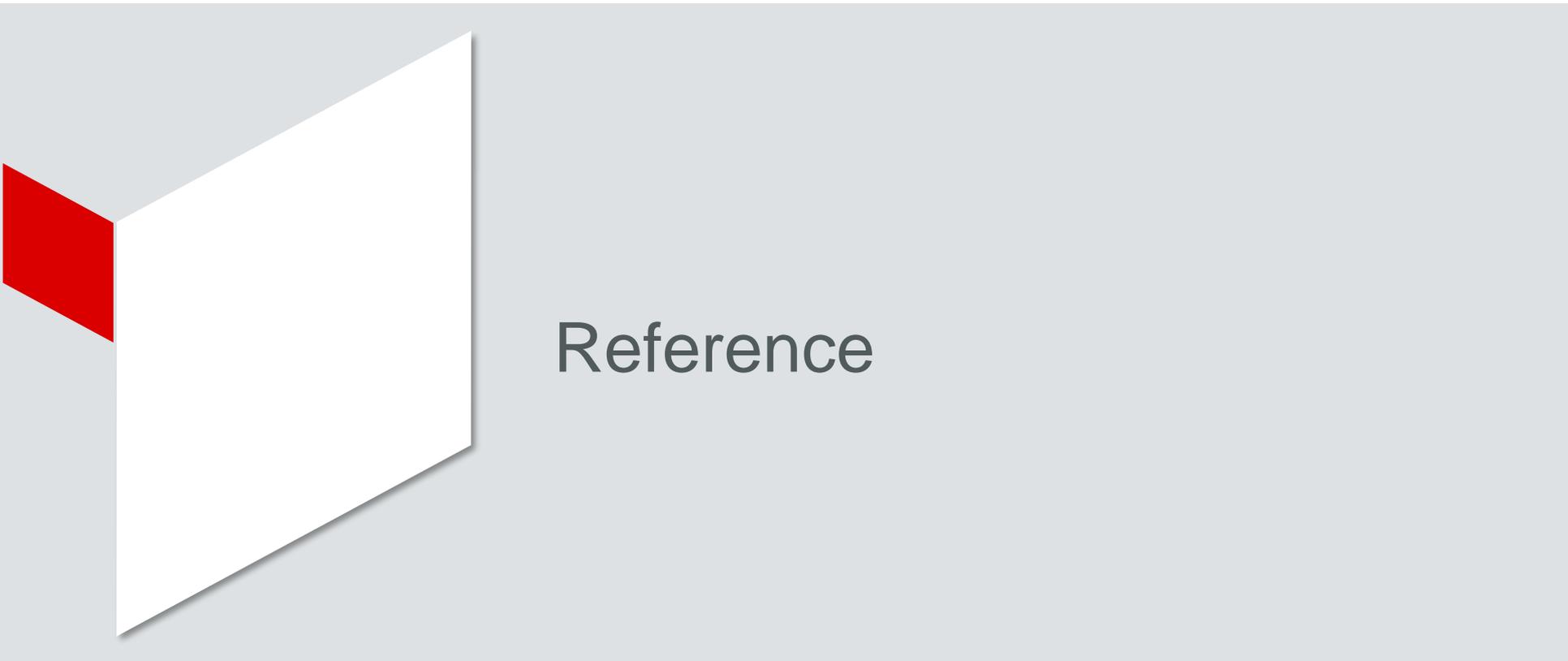
## Strong financial foundation

- **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

# Return to Shareholders

- Dividend** As a stable increase in dividends is our basic policy, we aim to achieve DOE (Dividend on equity ratio) of 4% or higher over the medium term with reference to dividend payout ratio of approximately 30%.
- Share buyback** As a means of returning profits to shareholders, we implement share buybacks in a timely manner to improve capital efficiency.





# Reference

# Revision of Sales by Application Category



~FY2021

Sales by Application	Main applications
AV	TV, Video Game
	Digital Camera
Communication	Smartphone
	Wearable Appliance
	Base Station
Computers and Peripherals	Electronic Data Processing
	Industrial equipment
Automotive Electronics	Automobile
	Motor cycle
Home Electronics and Others	Home Electrical Appliance
	Others

FY2022~

Sales by Application	Main applications
Communication	Smartphone
	Wearable Appliance
	Base Station
Mobility	Automobile
	Motor cycle
Computers	Electronic Data Processing
Home Electronics	TV, Video Game
	Digital Camera
	Home Electrical Appliance
Industry and Others	Industrial equipment
	Others

Sales by Application Category will be revised to coincide with the change of Segment Information from the fiscal year ending March 2023.

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; and (7) other uncertainties and contingencies.

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

Thank you

