

Furukawa G Plan 2020
Group Global Growth

Progress of the Mid-term
Management Plan and Initiatives
Aimed at the Post-COVID-19 World

President

Keiichi Kobayashi

June 11, 2020

FURUKAWA ELECTRIC CO., LTD.

Forward-Looking Statements

Projections of future sales and earnings in these materials are “forward-looking statements.” Management offers these projections in good faith and on the basis of information presently available. Information in these statements reflects assumptions about such variables as economic trends and currency exchange rates.

Forward-looking statements incorporate known and unknown risks as well as other uncertainties that include, but are not limited to, the following items.

- Economic trends in the U.S, Europe, Japan and elsewhere in Asia, particularly with regard to consumer spending and corporate expenditures.
- Changes in exchange rates of the U.S. dollar, euro, and Asian currencies.
- Furukawa Electric Group’s ability to respond to rapid advances in technology.
- Changes in assumptions involving financial and managerial matters and the operating environment.
- Current and future trade restrictions and related matters in foreign countries.
- Changes in the market value of securities held by the Furukawa Electric Group.

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FURUKAWA ELECTRIC CO., LTD.

1. Results to date

2. Promotion of ESG management

3. Initiatives aimed at the post-COVID-19 world

4. Initiatives for FY2020

1. Results to date

Although the financial situation has improved, Communications Solutions business has been weak since the second half of FY2018, resulting in a larger gap between the actual operating income and Mid-term Management Plan target.

In FY2020, COVID-19 is expected to impact the entire company.

FY2020 Mid-term Management Plan Period

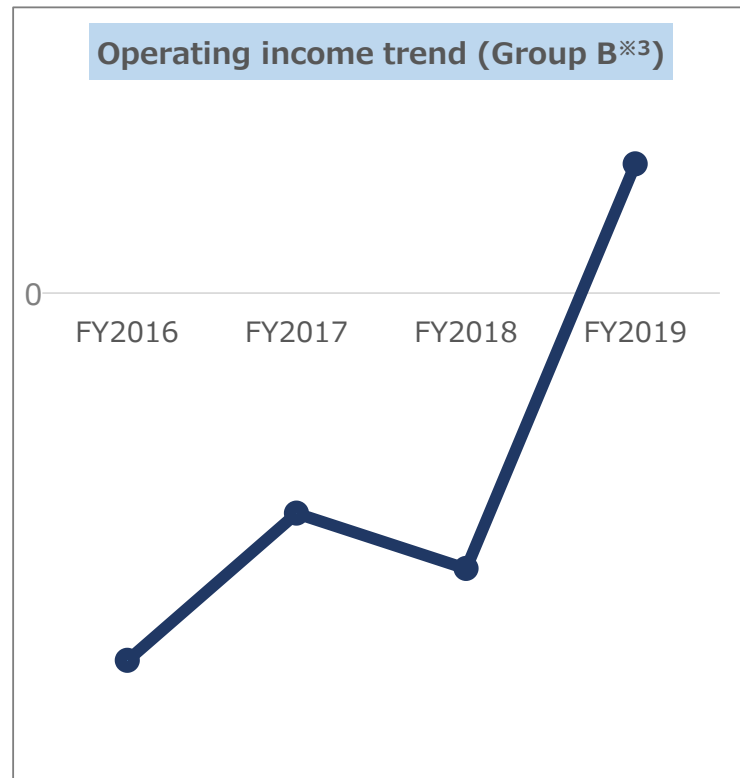
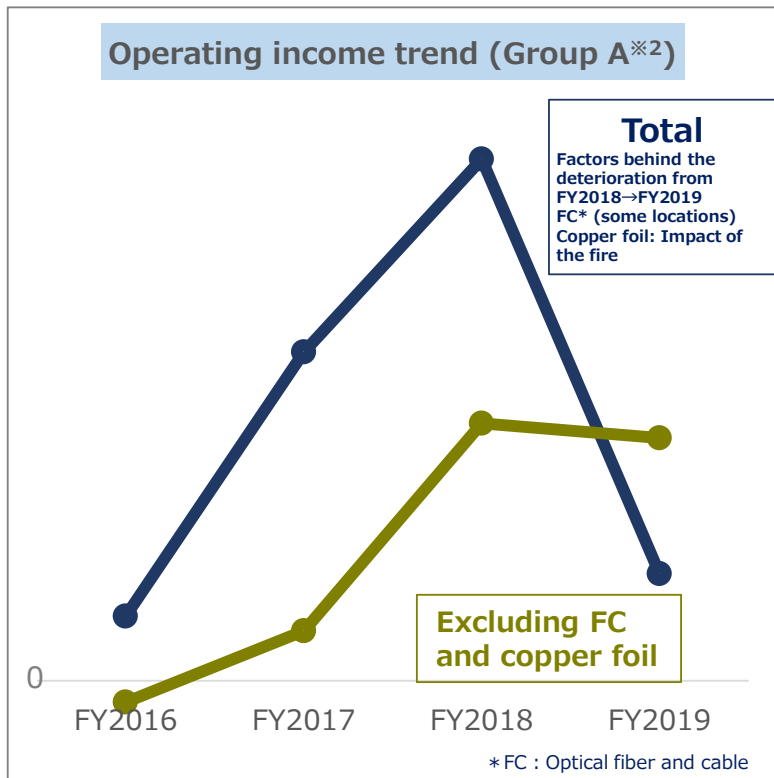
	FY2015 Result	FY2016 Result	FY2017 Result	FY2018 Result	FY2019 Result	FY2020 Forecast	2020 Mid-term Management Plan	
							As of May 2016	As of May 2018
Operating income	JPY 27.1 billion	JPY 38.6 billion	JPY 44.8 billion	JPY 40.8 billion	JPY 23.6 billion	Being assessed based on the impact of COVID-19	At least JPY 40.0 billion	At least JPY 55.0 billion
Net income attributable to owners of the parent company	JPY 10.0 billion	JPY 17.6 billion	JPY 28.5 billion	JPY 29.1 billion	JPY 17.6 billion		At least JPY 20.0 billion	At least JPY 30.0 billion
NET D/E Ratio	1.2	1.0	0.9	0.8	0.8		–	<0.8
Equity capital ratio	24.5%	27.6%	29.0%	30.3%	30.2%		–	>30%
ROE	5.5%	9.3%	12.9%	12.0%	7.3%		> 8%	>10%
Return on operating assets	9.1%	12.1%	13.1%	11.2%	6.1%		At least 10%	At least 10%

With consideration for the effective use of management resources group-wide, restructured the businesses, reorganized the locations and revised the business portfolio.

	Major actions
FY2017	<ul style="list-style-type: none">•Restructured the Shenyang power cable site in China•Closed the Changchun wire harness site in China•Withdrew from the refrigerant pipe business (Okumura Metals)
FY2018	<ul style="list-style-type: none">•Sold shareholdings of FCM CO., LTD.
FY2019	<ul style="list-style-type: none">•Reorganized the power cable business for construction and wholesalers
FY2020	<ul style="list-style-type: none">•Transferred the copper tube, copper tube component and copper plate business to CTJ Holdings 2 Co., Ltd. (Executed June 1)•Establish a magnet wire joint venture with Superior Essex and transfer the heavy magnet wire business to the joint venture (Planned for October)

In addition, promoted responses such as focusing on project orders that will generate suitable profits and actively raising prices for value added products.

Using return on operating assets^{※1} as one of the KPI for management decisions, promoted improvements to the low-margin businesses/ products and business sites.





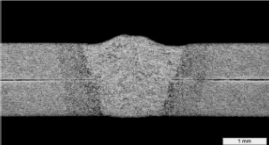
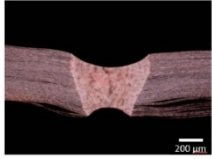
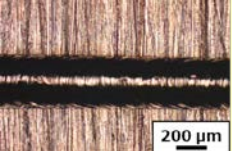
There are multiple business, product and site candidates that are being targeted for withdrawal, downsizing and reorganization. While identifying the status of improvements going forward, the appropriate decisions will be made and acted on.

※ 1 : Return on operating assets : Operating Income / Operating Assets (Inventories + Tangible and Intangible Fixed Assets)

※ 2 , 3 : Low-margin businesses (individual businesses, products, business sites) in FY2016 are handled as Group A, and separately, the major businesses (total of non-consolidated power cable, copper strips and copper tubes businesses) are handled as Group B

Through the fusion of “materials capability” and “laser machining technology” achieved full-scale commercialization of industrial fiber lasers (FL) in FY2019. Will aim to expand the business going forward.

Flow of development to date

August 2017 - Full-scale development of copper and fiber laser solutions	December 2017 – Pure copper welding (Joint development with FURUKAWA CO., LTD.)	April 2018 - Galvanized steel plate welding	December 2018 – Copper foil welding	June 2020 – Announced development of new laser welding solutions (Blue laser x near infrared FL)
High strength, stable copper welding for vehicle batteries, motors, etc.	Contribute to increased performance of power semiconductors	Contribute to increased vehicle body strength	Contribute to increased lithium-ion battery capacity	Contribute to manufacturing process automation and increased productivity of the main components for xEV
	Welding pure copper 	Welding Galvanized steel plates 	Welding copper foil 	Sputterless processing of pure copper 

Contribute to increasing xEV demand

Lithium-ion battery

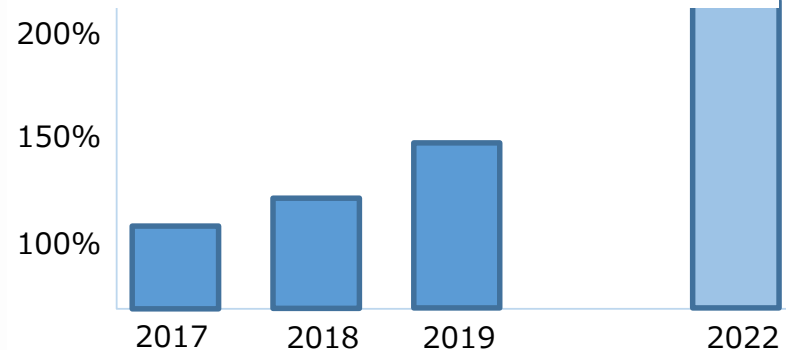
Inverter

Harness

Motor



Net sales in the industrial fiber laser business (2017 = 100%)



2. Promotion of ESG management

Promotion of ESG management

~Directed at achieving Furukawa Electric Group Vision 2030~

Based on the “Sustainable Development Goals (SDGs)” adopted by the UN, the “Furukawa Electric Group Vision 2030” was formulated to provide clarity for the group’s business domains.

Directed at achieving “In order to build a sustainable world and make people’s life safe, peaceful and rewarding, the Furukawa Electric Group will create solutions for the new generation of global infrastructure combining information, energy and mobility” set forth in Vision 2030, the company is **openly, agilely and innovatively** promoting ESG management that shows consideration for the three key factors of **environment, social and governance**.



Sustainable development goals (SDGs)



Furukawa Electric Group Vision 2030

– Initiatives in FY2019

Environment



- In August 2019, obtained SBTi certification
- In March 2020, expressed support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)



Social

- In January 2020, formulated human rights guidelines for the Furukawa Electric Group
- In March 2020, named a FY2019 Nadeshiko Brand



Governance / Other initiatives

- In December 2019, conducted an effectiveness evaluation of the Board of Directors
- In February 2020, signed the UN Global Compact



Promotion of ESG management

~Directed at achieving Furukawa Electric Group Vision 2030~



Reduce weight and increase efficiency of vehicles through aluminum harnesses



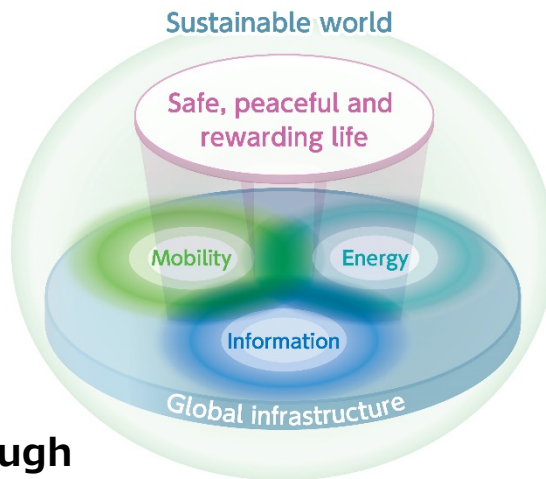
Develop technology for recycling disposable plastic into reinforced plastic



Contribute to renewable energy through power cables for offshore wind power systems



Construct a 5G/ high speed communications network through the introduction of optical fiber and optical devices



Reduce energy use at data centers through the introduction of thermal management systems



Contribute to medical care through catheters using extremely flexible alloys

3. Initiatives aimed at the post- COVID-19 world

<Business>

- **Information:** High speed communications, 5G&6G networks
- **Energy:** Stable supply of electrical power, renewable energy
- **Mobility:** Respond to lighter weights, electrification and CASE
 - Electronics and materials that support these businesses

<Research and development>

- **Domains overlapping information/ energy/ mobility:**
Future Infrastructure Technology Center and Digital Innovation Center
- **Priority themes:** Environmentally friendly, Infrastructure/ medical domain ⇒ Create new businesses

<Social>

- **Work style reform:**
 - Expand the ICT environment for teleworking
 - Remote meetings and evolution of communication
 - Transform to a management style in line with the new work styles

• Non-production sites: Utilize teleworking, and limit the number of people in the office to about maximum of 30% of the work force particularly at the head office and branch offices
• Production sites: Thoroughly enforce the measures to prevent “Three Cs: Closed spaces, Crowded places and Close-contact settings” and continue operations at the divisions directly involved in production. In the back office divisions, limit the number of people working in the office through the use of teleworking

- **Implement the “IP Open Access Declaration Against COVID-19”**



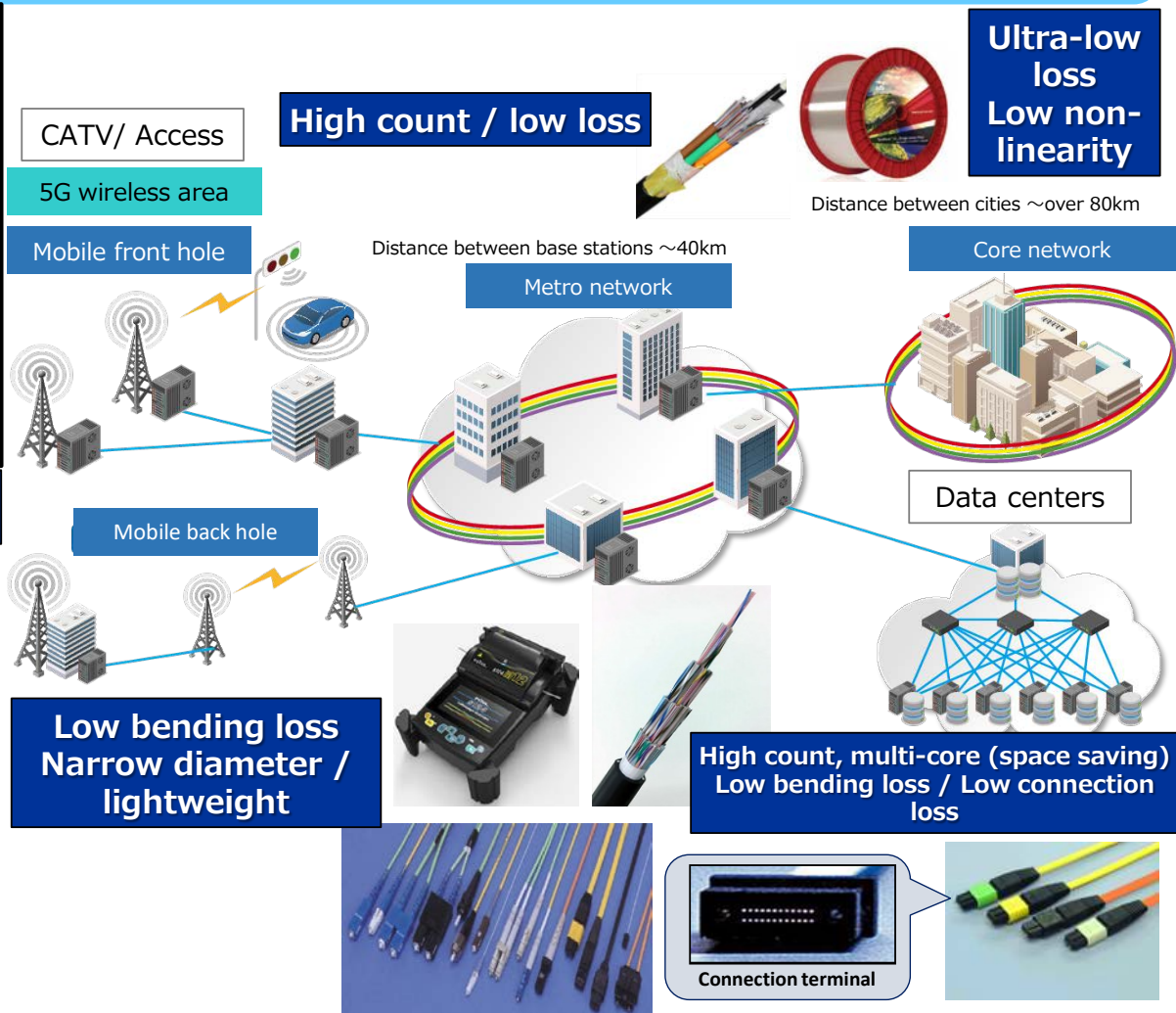
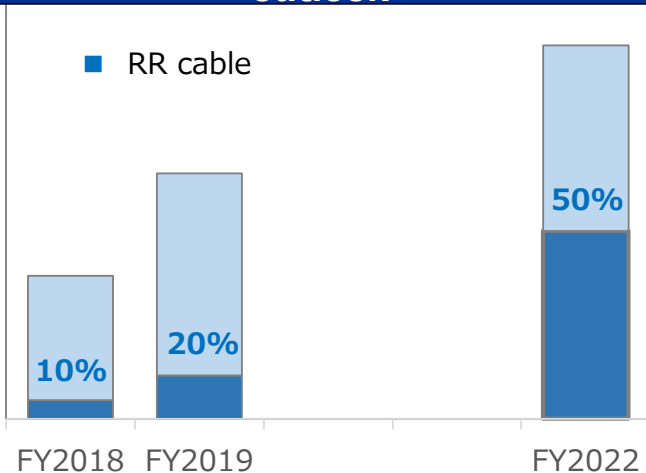
Communications Solutions

- Optical fiber & cable business

Following the advancements in 5G networks, communications traffic will steadily increase. The company will strengthen the high value added products that support high-speed, high capacity communications.

- Space saving (high count)
 - Rollable ribbon (RR) high count, multi-core cable
 - MT connectors
- Expanded relay distances, good installation features
 - Extra-low loss, low non-linearity and low bending loss optical fiber and cable products
 - Multi-core fusion splicer

North America cable net sales outlook



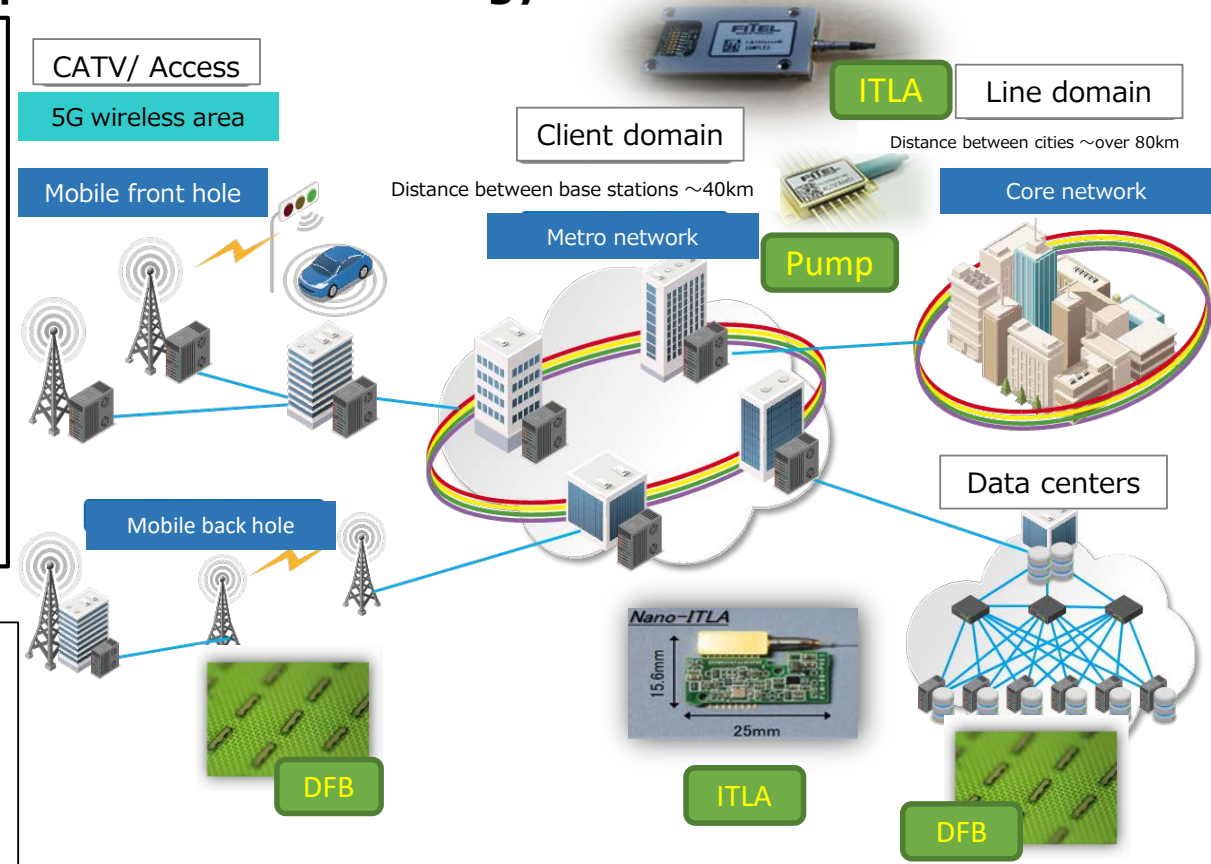
Communications Solutions

- Optical products (devices) business

For 5G communication systems, stabilization of high speed and high capacity communications is essential.

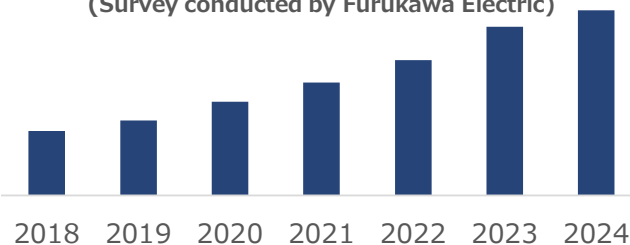
Contribute to society through the company's high output and high reliability optical device technology.

- Coherent products (ITLA)
 - Long distance, high capacity communications
 - ⇒ Narrow bandwidth, higher output
 - Data centers
 - ⇒ Small, Lower power consumption
- Pump products
 - Long distance, high capacity
 - ⇒ High output, Lower power consumption
- DFB chips
 - Short distance, high capacity
 - ⇒ High output, Environmental durability



Optical device* market forecast

(Survey conducted by Furukawa Electric)



*Devices that are part of the company's business (ITLA, DFB, Pump, etc.)

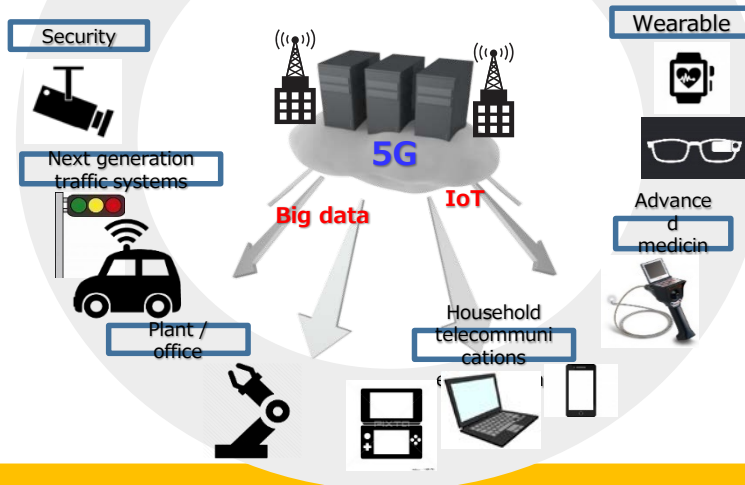
ITLA (Integrable Tunable Laser Assembly) / DFB (Distributed Feedback) : Signal light source
 Pump: Excitation light source

Energy Infrastructure

- Power cable business

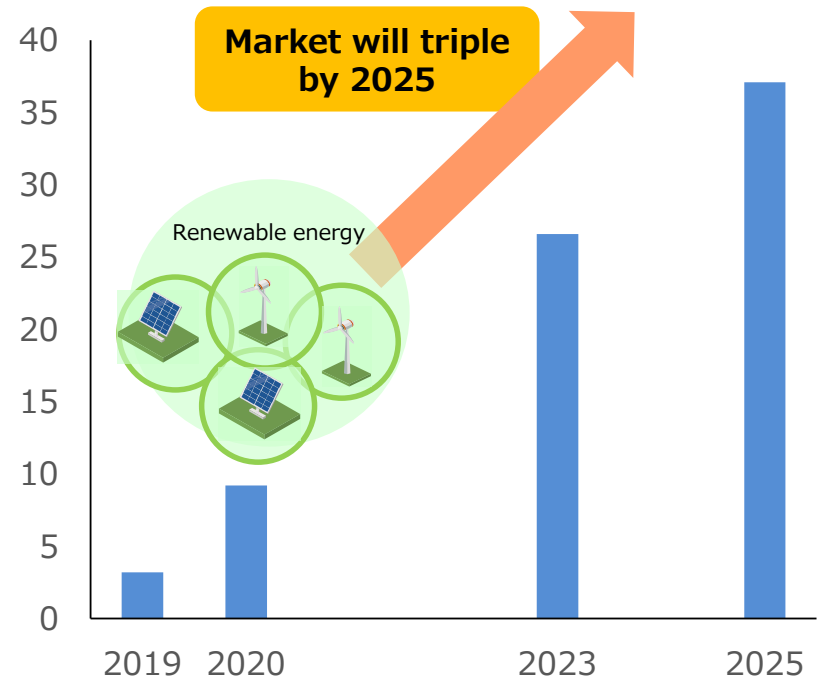
Following the advancements in 5G networks, energy demand will grow and stable supply will be more important.
Demand for “renewable energy” will grow to prevent global warming.

Following the advancements in 5G networks, energy use in the telecommunications domain will increase



Stable energy supply is essential

Forecast of submarine cable demand for renewable energy in Japan (JPY billion)



※Demand forecast created by Furukawa Electric

Energy Infrastructure

- Power cable business

In Japan, submarine power cable demand for renewable energy will greatly increase. Efforts are being focused on expanding the business base leveraging the company's existing experience.

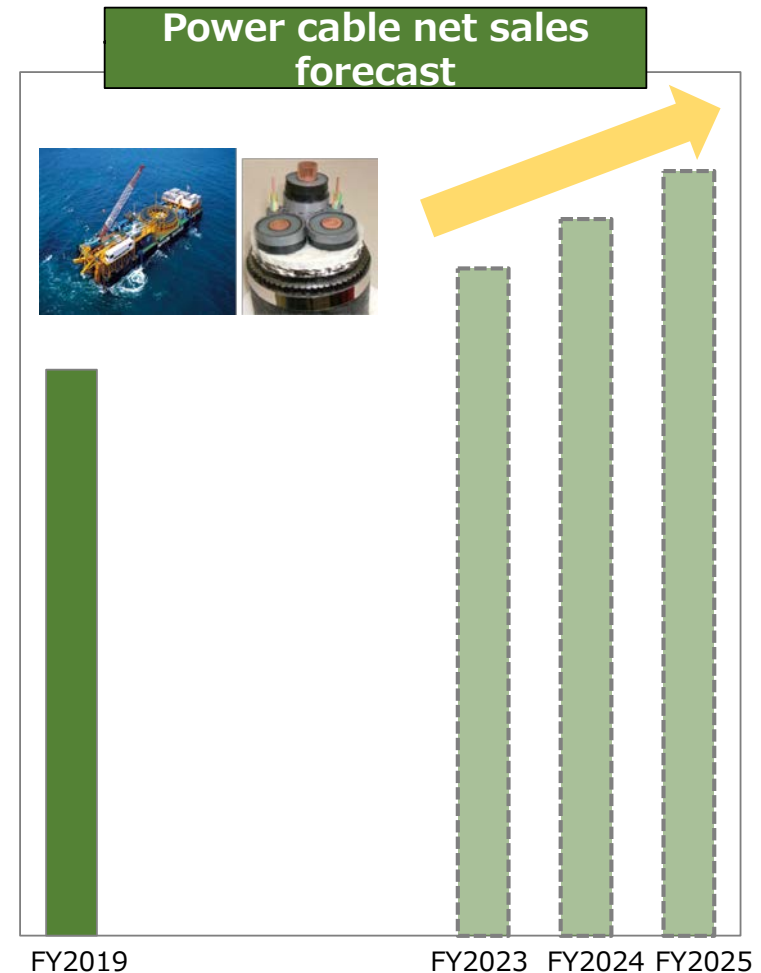
- Multiple front runner experience in renewable energy projects
 - Received requests to cooperate in power generation projects from the initial phase
- Achieving results preceding other companies
 - First in Japan to deliver a large-scale operational commercial submarine power line for a renewable energy project (started laying the cable in 2019)
 - Expect to secure at least 50% of the delivery share over the next 3 years
- Focus on expanding the business base directed towards 2025
 - Continue to expand submarine cable manufacturing capacity
 - Promote development of submarine cable technology



Rokkasho Solar Park
First renewable energy project in Japan to use 154kV



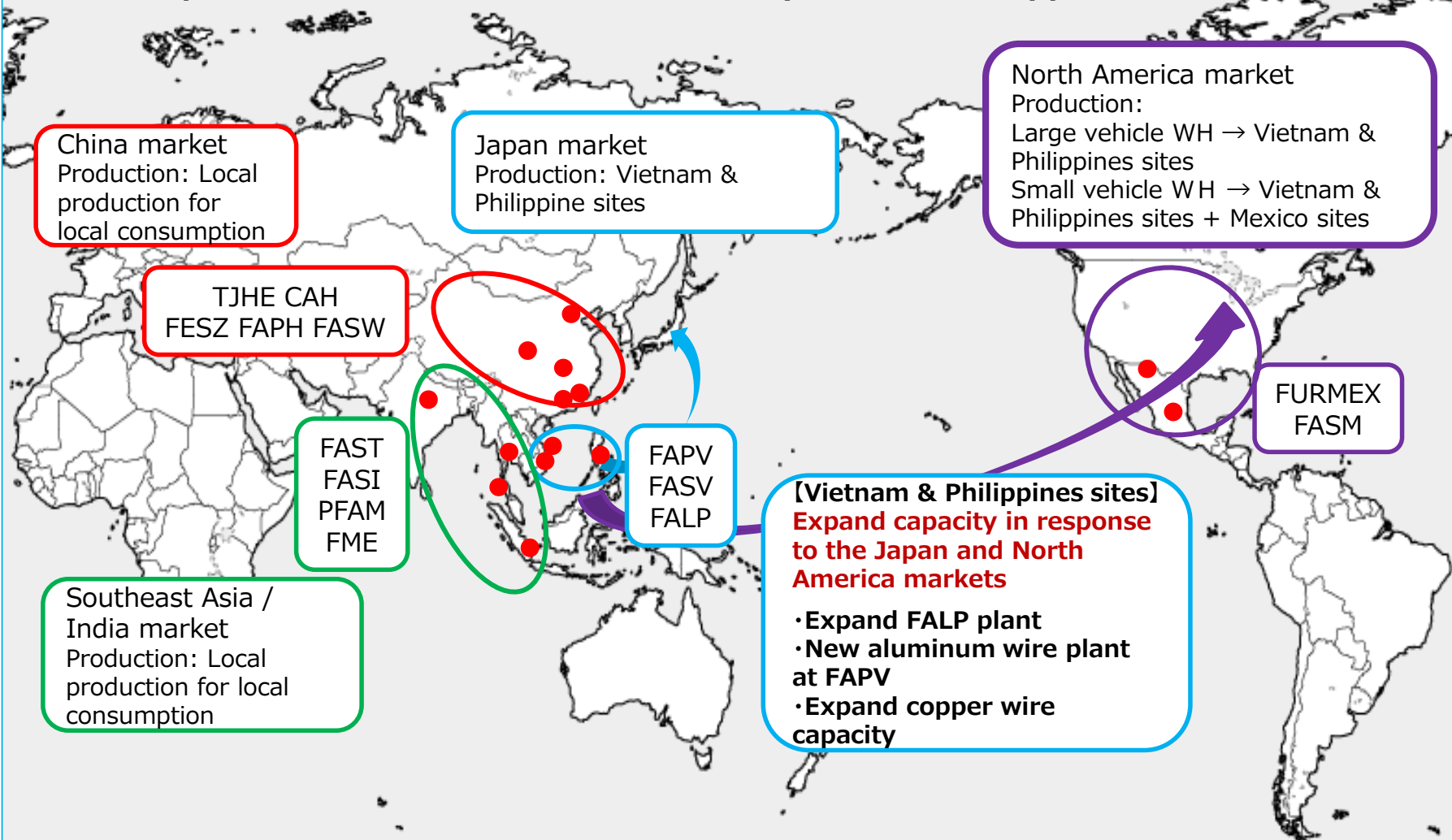
Fukushima floating offshore wind farm demonstration research



Automotive Products

- Wire harness business

Strengthen the supply chain and network based on a policy of optimal global production,
Cover Japan and North America market mainly from the Philippines & Vietnam sites.

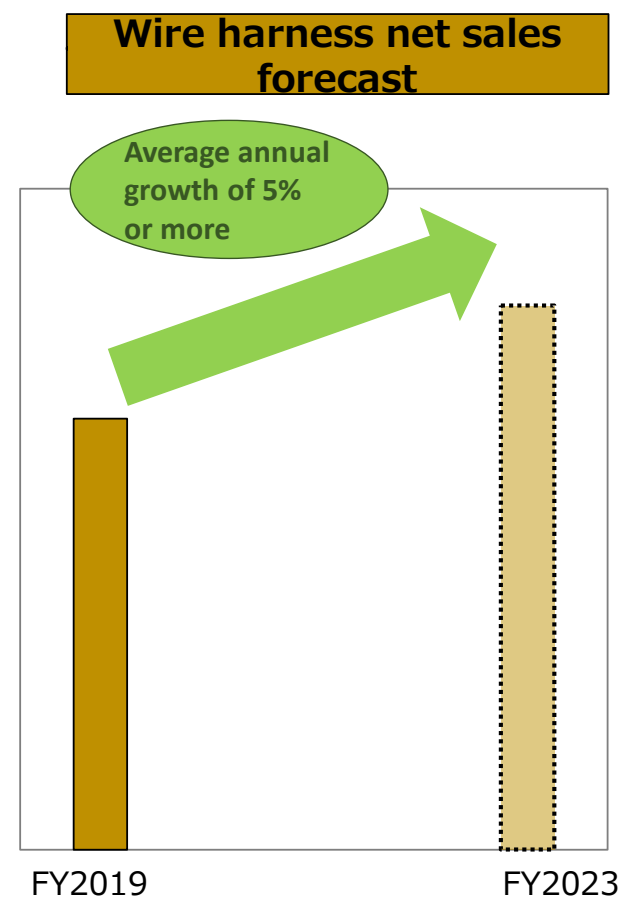
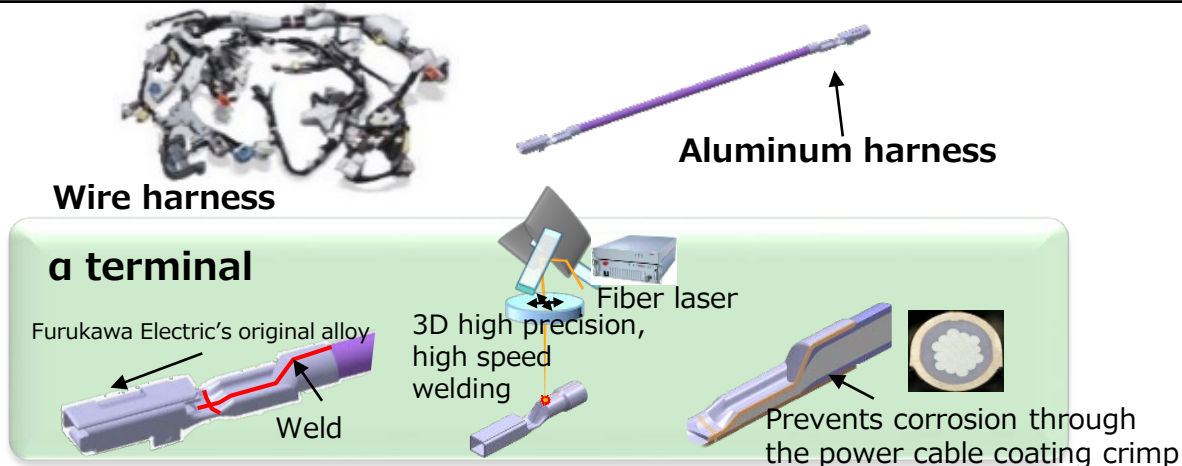


Automotive Products

- Wire harness business

In order to reduce vehicle fuel consumption as a measure against climate change, the demand for aluminum harnesses, which contribute to reducing vehicle weight, is increasing. Furukawa Electric is a leader in vehicle aluminum wire harness applications. Net sales are expected to increase from 2021.

- Target
 - SUVs & large vehicles, which have high needs for lighter weight
 - ※ **Number of models using Furukawa Electric aluminum harnesses**
 - End of FY2019: 39 models of 6 manufacturers
 - ⇒ 2023: 73 models of 8 manufacturers
- Furukawa Electric's strengths
 - Anti-corrosion technology of the α terminal (material & fiber laser technology)
 - Wide variation of the aluminum wires



Environmental domain

- Bipolar storage batteries

Need for power storage batteries is increasing for energy management in relation to renewable energy.

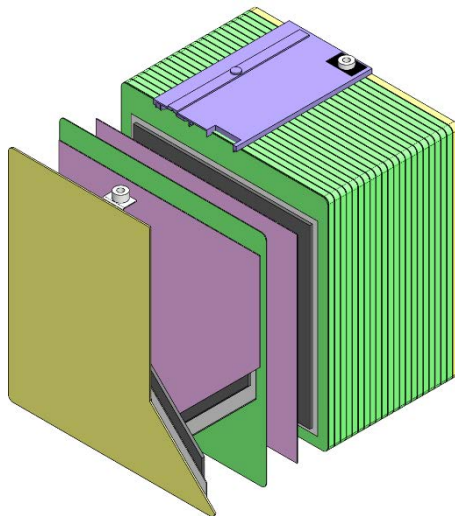
The company will commercialize bipolar storage batteries that are safe, compact and do not require air conditioning.

- Aim to reduce total cost by more than half compared to power storage lithium ion batteries

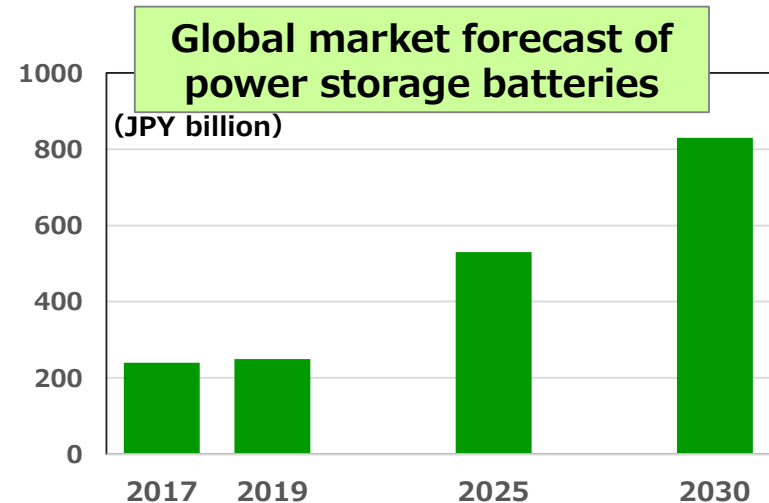
Furukawa Electric's
Metal and polymer
technology



Furukawa Battery's
Battery technology



Bipolar storage battery



Source: Created by Furukawa Electric based on the results of a private study

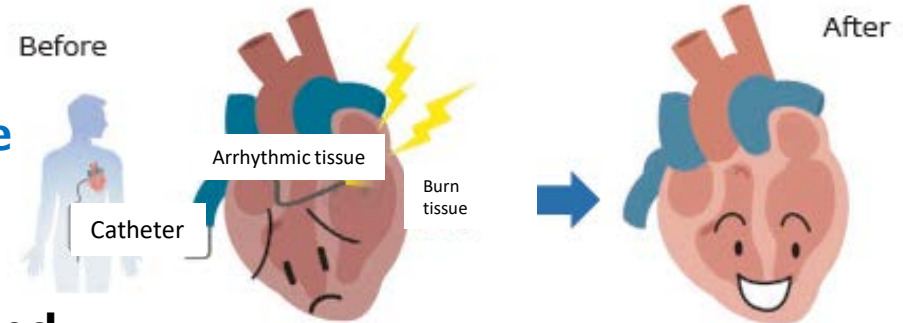
With spread of Bipolar storage batteries, promoting expansion of Power storage batteries market

Medical domain

The need for solutions to the regional and social issues in the medical domain has become apparent. Utilize the company's technology in the medical domain, and accelerate the R&D themes.

■ Medical applications of communications lasers

Currently develop technology for the testing and treatment of affected areas using optical technology

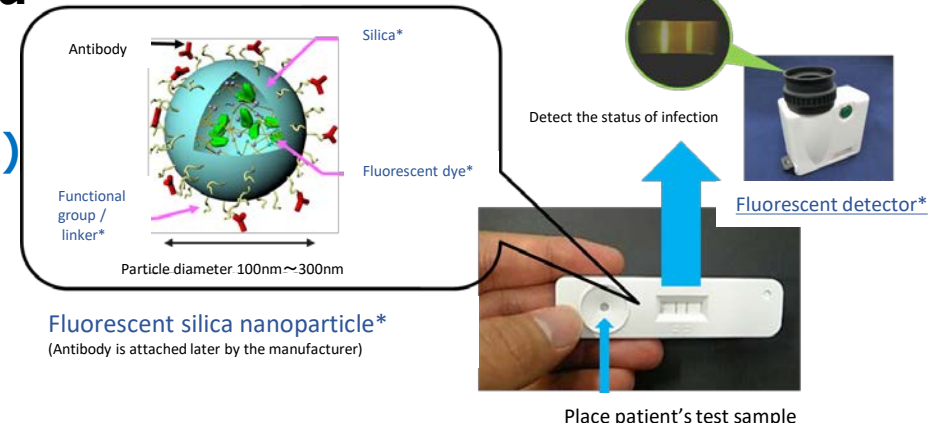


■ Fluorescent silica nanoparticle and detector

Diagnose infections with a high degree of sensitivity (commercialized)

■ Agri-medical domain

Co-creation with Hokkaido University in the regenerative medicine field combining the company's metal and polymer technologies



Infection detection kit using a fluorescent silica nanoparticle (image) [*Furukawa Electric's product and technology](#)

In addition to the above, strengthen the social contributions to the medical domain, including the supply of stent and guidewire materials

4. Initiatives for FY2020

Already commenced the following responses.
Accelerate additional responses under the leadership of the group-wide Emergency Response Team.

- **Reduce expenses / Compress operating capital**
 - **Inventories:** Steady improvement were made as of March 31, 2020
Going forward, appropriately manage inventory levels based on the customer and supply chain trends
- **Review fixed costs**
 - **Capital investments:** Focus on investments for IT infrastructure and for orders already received
 - **R&D expenses:** Review the priority development themes responding to the social changes post-COVID-19
- **Asset sales (non-current assets, investment securities, etc.)**
 - **In FY2019, sold land and investment securities**
(Progress has also been made as planned in the large-scale asset sales already announced)
- **Cash on hand**
 - **Presently, have secured cash amounting to about 100 billion yen (consolidated basis)**
 - **Including commitment lines and other loan facilities, have secured sufficient cash flow**

Grasp the overall status of the business (operations, supply chain, etc.) in a timely manner, and along with taking the necessary actions, analyze the demand data necessary for creating the business recovery scenarios.

Formulation of business recovery scenarios

- Accelerate the speed of execution through the Emergency Response Team, which plays a central role in responding to COVID-19 pandemic.

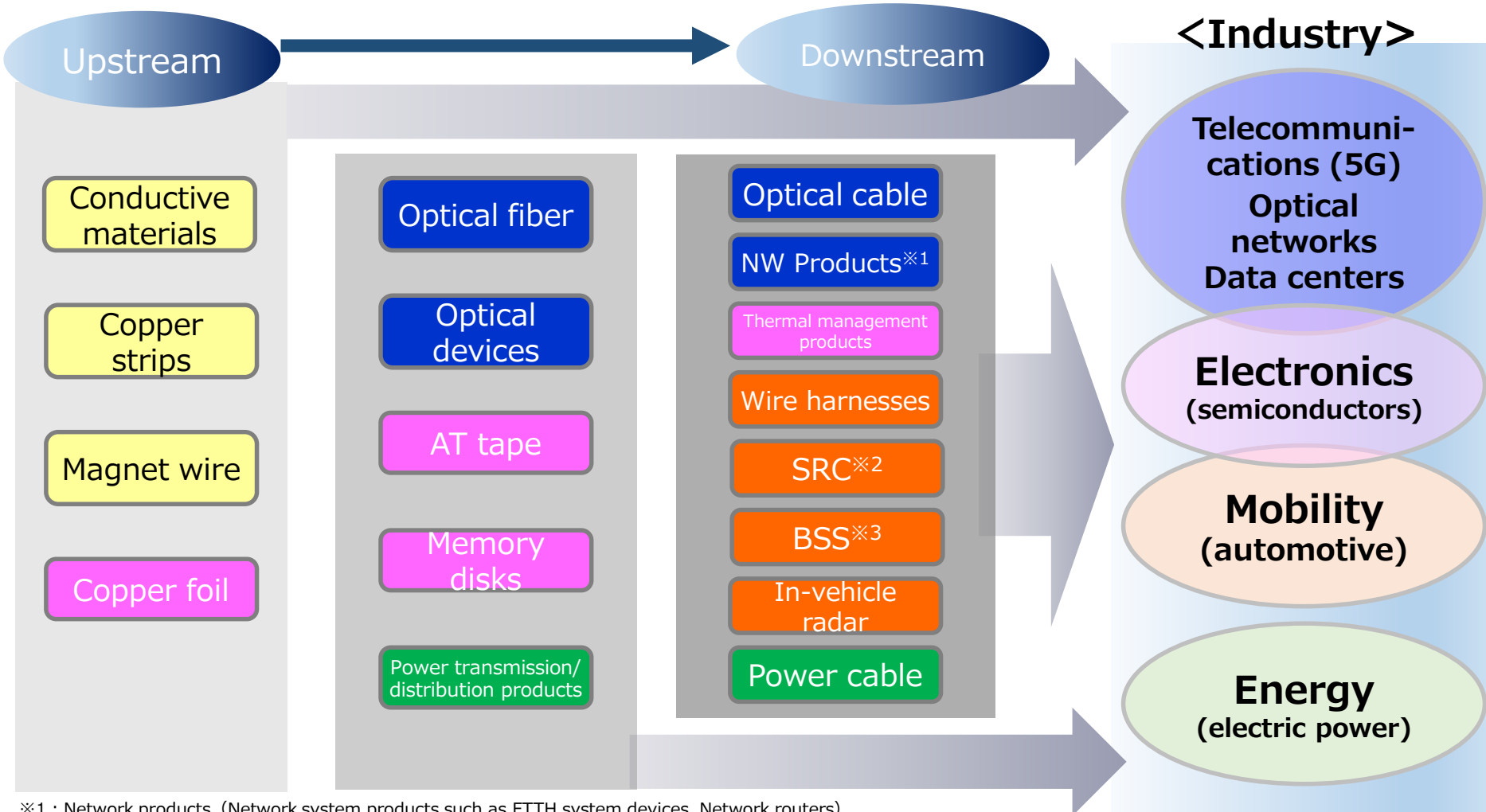
Formulating several scenarios based on the trend forecasts in each industry and focusing on the depth and length of the market slump, execute effective measures for the changes in the business environment.

<Trend forecast by industry>

Business (industry)	Trend forecast
Telecommunications	<ul style="list-style-type: none">•With the recent increase in telecommunications traffic, the telecommunications infrastructure market is expected to recover at an early stage although there are regional differences. (FTTH, Data center and 5G demand will lead the recovery)On the other hand, in optical fiber cable, the supply-demand imbalance in China has not been resolved, and optical components is expected to be affected by the worsening of U.S. – China trade dispute. <p style="text-align: right;">No major changes from the previous forecast</p>
Energy	<ul style="list-style-type: none">•Electric power demand is expected to fall in FY2020, but in the target markets (ultra-high voltage underground cable/ renewable energy), although there is a risk of delays, the slump will be limited.
Automotive	<ul style="list-style-type: none">•Will recover in FY2020 H1 and then remain flat.(Will not recover to pre-COVID-19 levels for some time)
Semiconductors	<ul style="list-style-type: none">•Although the semiconductor market will start to recover in FY2020 2Q, it will remain flat through the end of the year.•Although the drop in the memory market will be small, it may remain depressed for a relatively long time.

Relationship between the major industries and company's businesses

Maintain the relationship between the company's businesses and products and the diverse industries, and expand the supply chain.

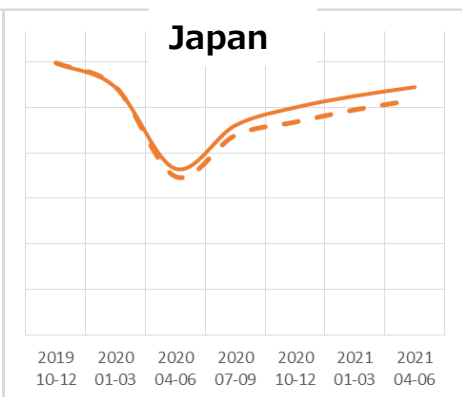
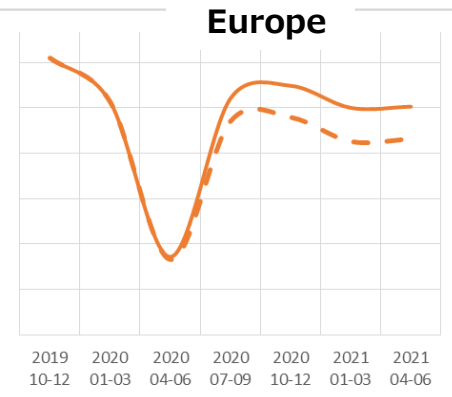
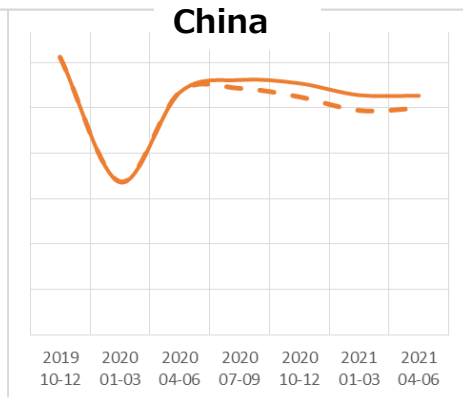
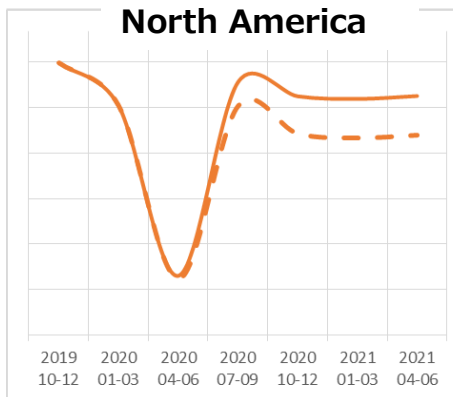
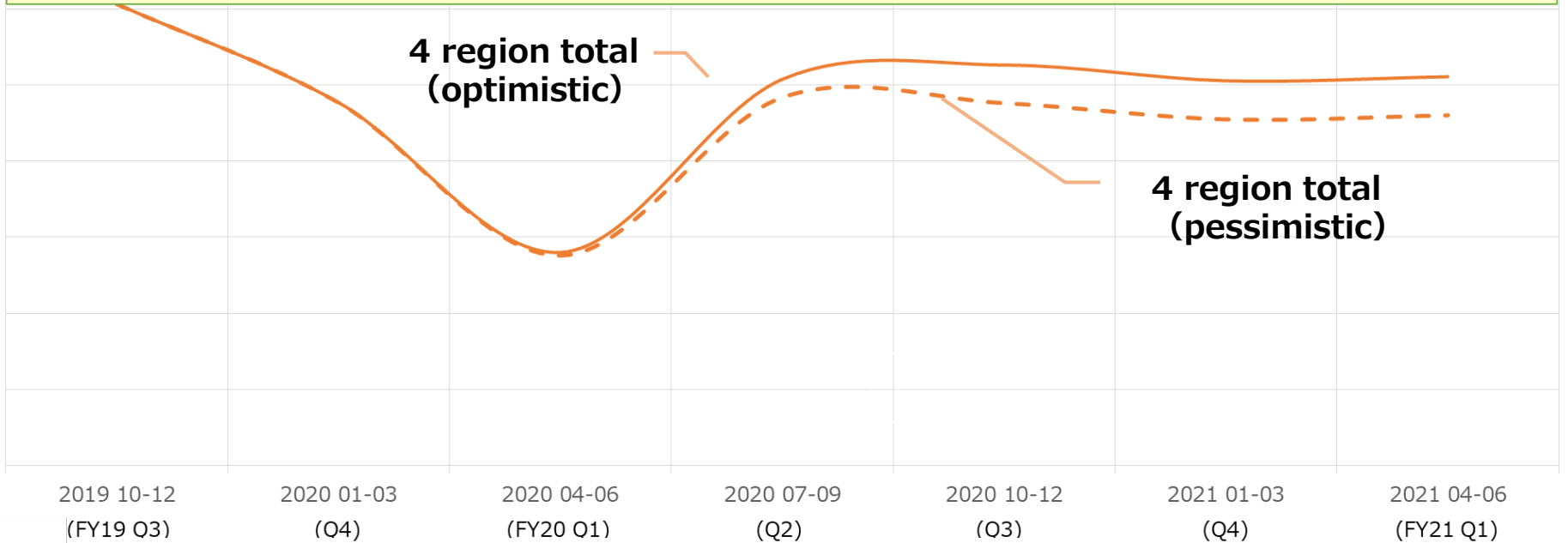


※1 : Network products (Network system products such as FTTH system devices, Network routers)

※2 : Steering Roll Connector, ※3 : Lead Battery State Detection Sensor

Recovery scenario - Automotive industry

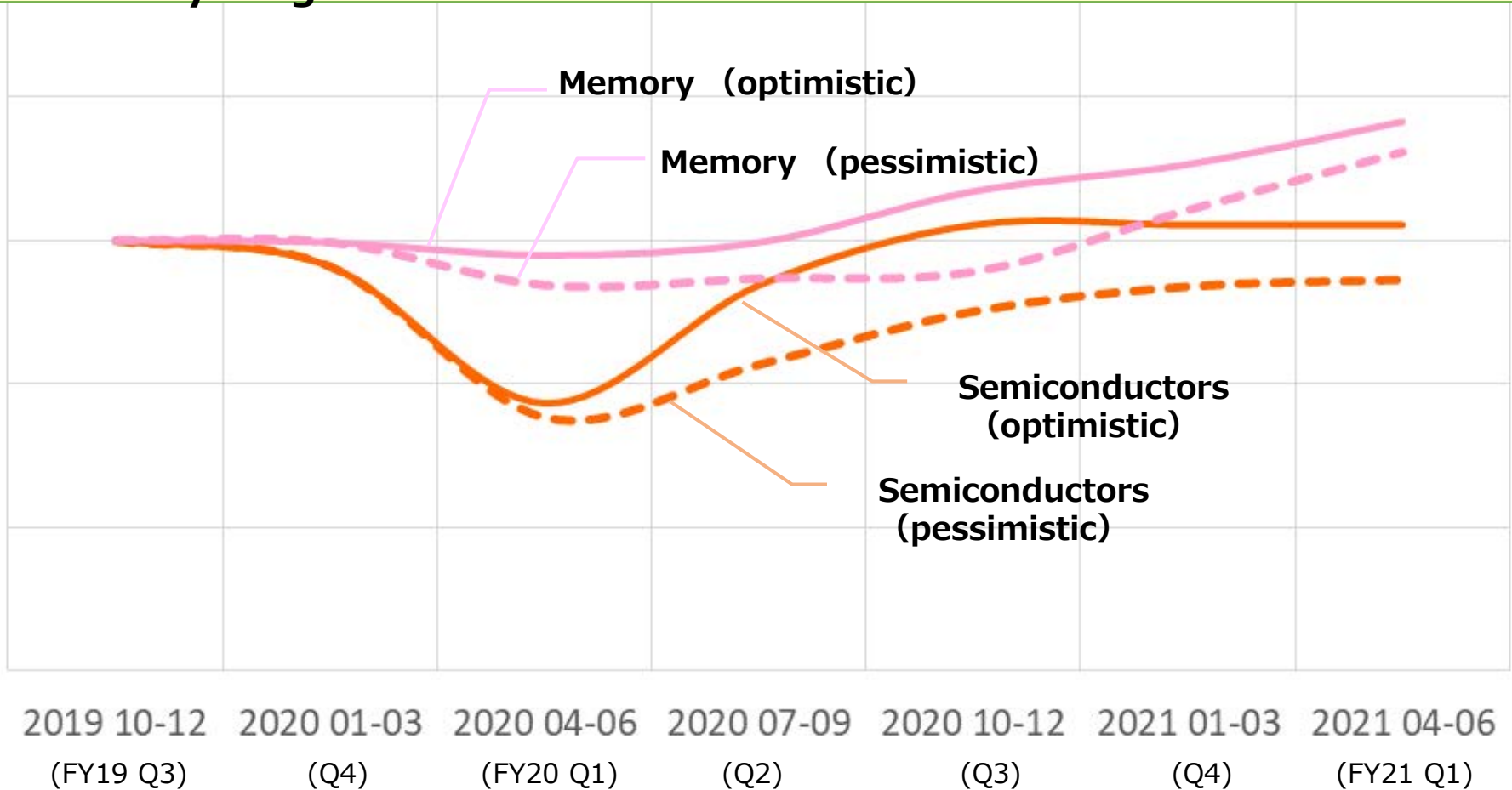
**Will recover in FY2020 H1 and then remain flat.
(Will not recover to pre-COVID-19 levels for some time)**



※The above graphs are estimated by the company, and the scales are set independently in this slide.

Recovery scenario - Semiconductor industry

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※The above graphs are estimated by the company, and the scales are set independently in this slide.

Image of net sales in FY2020

Assumption: Establish baseline and risk scenarios, and estimate net sales in each business segment

【Baseline scenario】

Chaos caused by COVID-19 comes to an end in late September of this year, and economic activity normalizes over the following six months

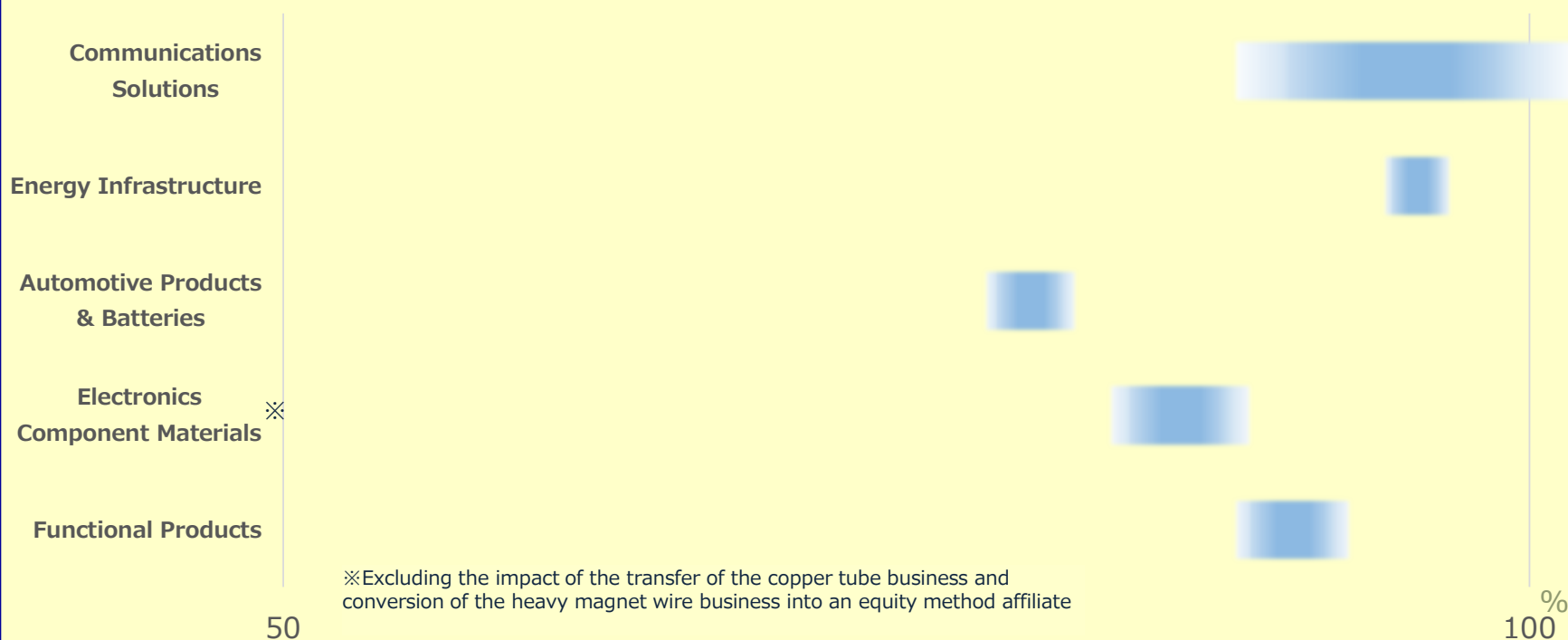
【Risk scenario】

Chaos caused by COVID-19 is prolonged, economic activity does not normalize in FY2020 and the recovery to pre-COVID-19 levels does not occur until mid-FY2021 or later

(Exchange rate: 105 JPY/USD (FY2019: 109 JPY/USD), Copper: 640 yen/kg (FY2019: 682 yen/kg))

- If the above assumptions change, there may be significant impact on the net sales estimate.
- Even if the assumptions do not change, there is no guarantee that the net sales estimates will be achieved.

Image of net sales compared to last year



**Already commenced the following responses.
Accelerate additional responses under the leadership of the group-wide
Emergency Response Team.**

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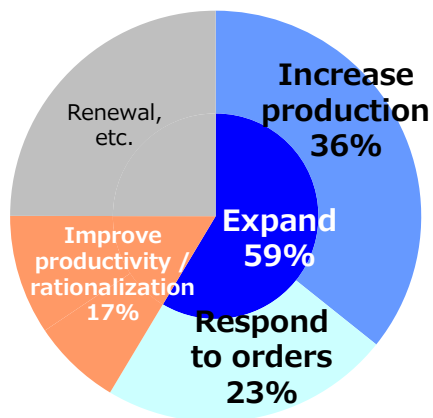
Reduce fixed expenses (currently reviewing the capital investment levels)

• In FY2019, investments aimed at improving productivity and rationalization increased (reap the benefits from FY2021).

Concerning investments for business expansion, focus on response to orders that have already been received centered on automotive related orders (respond to orders for FY2021 and beyond).

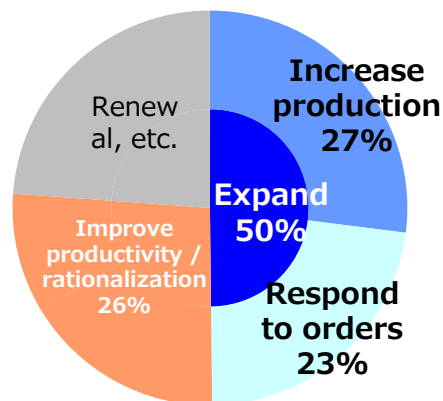
• In FY2020, focus investments on orders already received and IT infrastructure.

FY2018 :
50.0 billion yen



Breakdown of the major capital investments

FY2019 :
53.1 billion yen



FY2020 levels are being revised based on the effect of COVID-19

**Thank you very much
for your attention.**

Bound to  ***Innovate***