Business Briefing

Automotive Products Business

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Teruyoshi Uchida
General Manager
Automotive Products Division
Furukawa Electric Co., Ltd.

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Agenda

1. Business strategy toward 2030
2. Delivering solutions that accelerate vehicle advancement
3. Promoting carbon neutrality and the circular economy
4. Enhancing customer strategy and manufacturing framework
5. Net sales and operating profit trends

Appendix　Business and product overview

1. Business strategy toward 2030

(1) Vision 2030

(2) Business strategy roadmap

(1) Vision 2030

By providing value that supports the realization a safe, secure, convenient mobility society and promotion of carbon neutrality & a circular economy, achieve both sustainable growth and contributions to solving the social issues

Changes in the business environment
► Revenue opportunities • Gradual growth of vehicle electrification • Rapid transformation of vehicles • Expanding mobility market • Safe, secure next-generation urban planning ► Risks • Extreme demand volatility • Growing geopolitical risk • Confusion within the supply chain or logistics networks • Supply chain disruptions

Categories	Vision 2030
Delivering solutions that accelerate vehicle advancement	• Respond to new needs arising from vehicle transformation, including environmentally-friendly and electrification • Contribute to preventing accidents, and create products that support safe, secure, convenient mobility • Contribute to building social infrastructure that is connected to various mobility services • Create new products that combine information, energy and mobility
Promoting carbon neutrality and the circular economy	• Expand the products with low environmental impact throughout the product lifecycle • Promote the use of renewable energy such as solar power and geothermal power • Enhance energy saving production through the use of data
Customer strategy and manufacturing framework	• Respond to needs in accordance with the customer's products and regional strategy, and expand into growth domains • Rebuild a more resilient supply chain that minimizes geopolitical risks • Develop products that enable automation and reduced manpower from the design stage, and automate production

(2) Business strategy roadmap

① Strengthen the ability to respond to change and competitiveness, promote CN/CE and respond to the needs arising from the transformation of vehicles
② Provide new value for a safe, secure, convenient mobility society through the company's products and technologies

New markets ↑ Existing market

C Expand into new markets and applications

- Peripheral monitoring radar that contributes to safe societies
- Increase SRC sales in Europe and South America

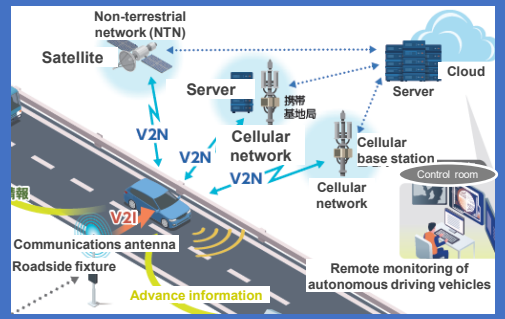

BSS®


SRC


Peripheral monitoring radar

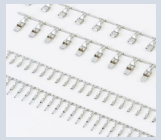
※BSS＝Lead battery state sensor
SRC= Steering roll connector

D Create new products that contribute to realizing a safe, secure, convenient mobility society



A Aluminum WH that contribute to CN/CE, and functional components that support safe, convenient mobility


Aluminum WH


Terminals


Connectors

※WH= wire harness

B Develop new products that respond to the new needs arising from vehicle transformation

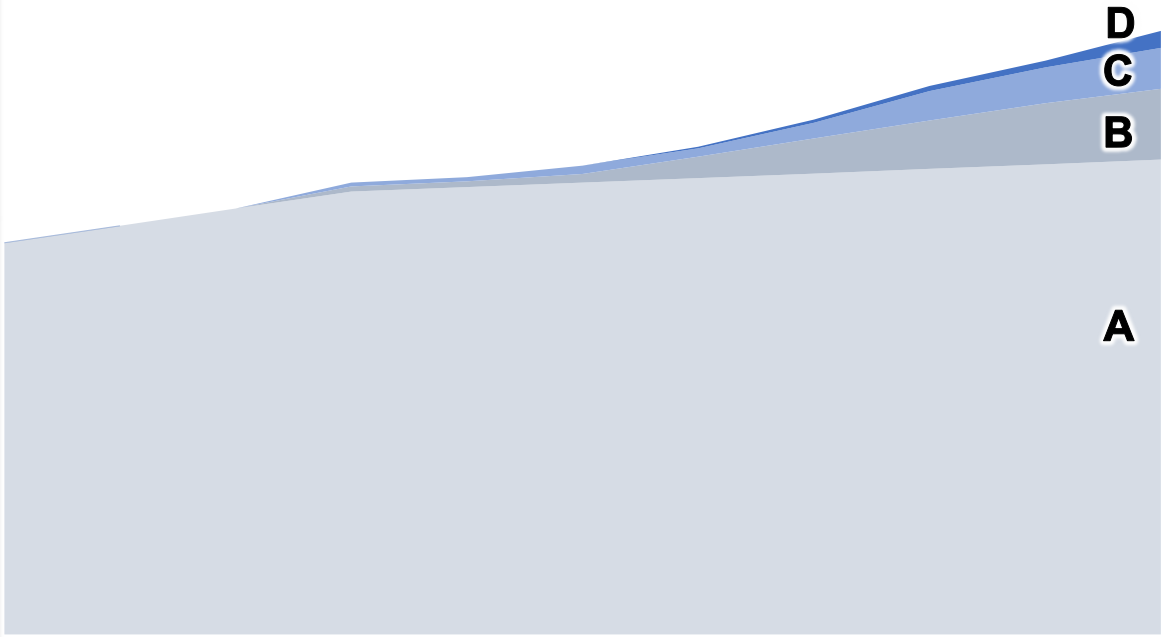
- Expand high voltage products for the xEV market
- Enhance the lineup of products with increased performance for steer by wire, new cockpits and high speed communications


Connector for high voltage WH


High voltage power distribution components

Existing products → New products

2022	2025	2030
① Strengthen competitiveness Enhance the ability to respond to change		② Provide new value that contributes to solving the issues in the mobility society



※CN: Carbon neutral, CE: Circular economy

2. Delivering solutions that accelerate vehicle advancement

(1) Product strategy roadmap

(2) Strategy by theme

①Increased adoption of aluminum

②High voltage and large current

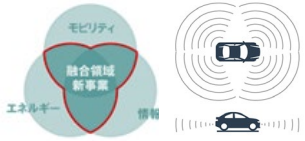
③High reliability sensing technology

④Combination products (V2X and next-generation transmission)

(1) Product strategy roadmap

Focus on creating value that solves customer issues such as high speed communications and high output, and increase product value

Aim for CN/CE by improving recycling technology, using renewable energy and improving the production methods

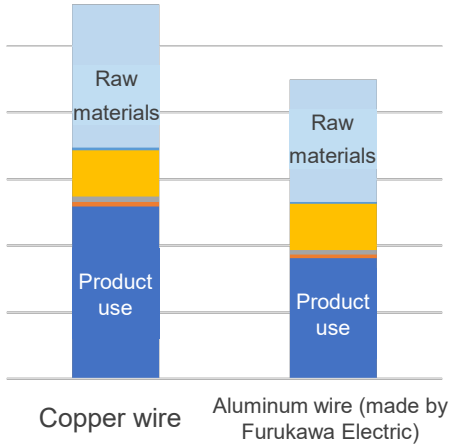
Products	Main points	2025	2030–
Wire harnesses (WH) 	Increased adoption of aluminum (the environment, cost) Transform manufacturing (BCM, quality) High speed communications (Respond to next-generation vehicles)	Increased adoption of aluminum power cables⇒⇒⇒⇒⇒⇒⇒⇒2035 Maximize adoption of aluminum power cables WH automation Phase1(Introduce)⇒Phase2(Expand) Ethernet 100M ⇒⇒⇒ 1G ⇒⇒⇒⇒⇒⇒⇒ Multi Giga	
High voltage products 	High output (high voltage/ large current) Noise countermeasures	Components that are smaller and generate less heat Lightweight, smaller (shift to aluminum and flat)	
SRC (Steering roll connector) 	Products that support high speed communications and new functions Products that support next-generation cockpits	Support CAN communications	Support high speed communications and steer by wire Respond to new requirements such as stowable steering columns
BSS® (Lead battery state sensor) 	Functional safety and ASIL compliance	Expand the markets, including for xEV/FCEV Improve sensing performance when battery is deteriorated	
Peripheral monitoring radar 	NCAP compliance Improved algorithms and robustness	Promote new NCAP compliance Expand the range of applications	Support advances in ADAS systems (Semiconductor shift to SoC)
Combined domains, New products 	Wireless in-vehicle communications and power transmission V2X communication control system Infrastructure connections	Products that support wireless vehicles Products that support V2X systems Traffic monitoring radar	Next-generation urban planning and safety systems

■BCM: Business continuity management ■ASIL: Automotive Safety Integrity Level ■NCAP: New Car Assessment Program
■CAN：Controller Area Network ■xEV/FCEV: Electric vehicle/ fuel cell vehicle ■ADAS: Advanced driver assistance system ■SoC：System-on-a-chip ■V2X: Communications technology for connecting vehicles to other objects

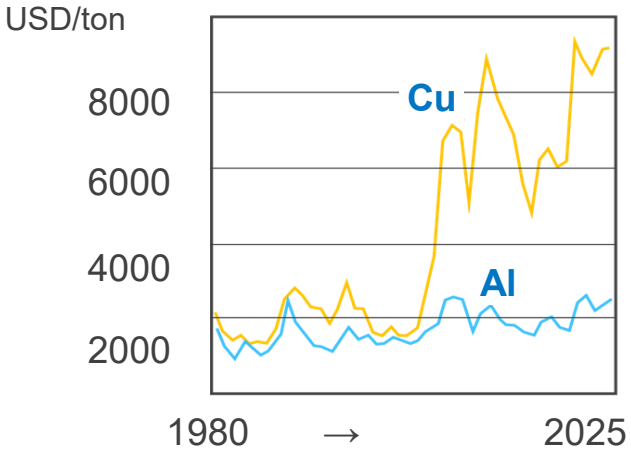
(2) Strategies by theme ① Increased adoption of aluminum

Furukawa Electric's aluminum power cables continue to be superior to copper both in terms of the environment and cost
By successively developing elemental technology and expanding the product lineup, maximize the adoption of aluminum power cables in 2035

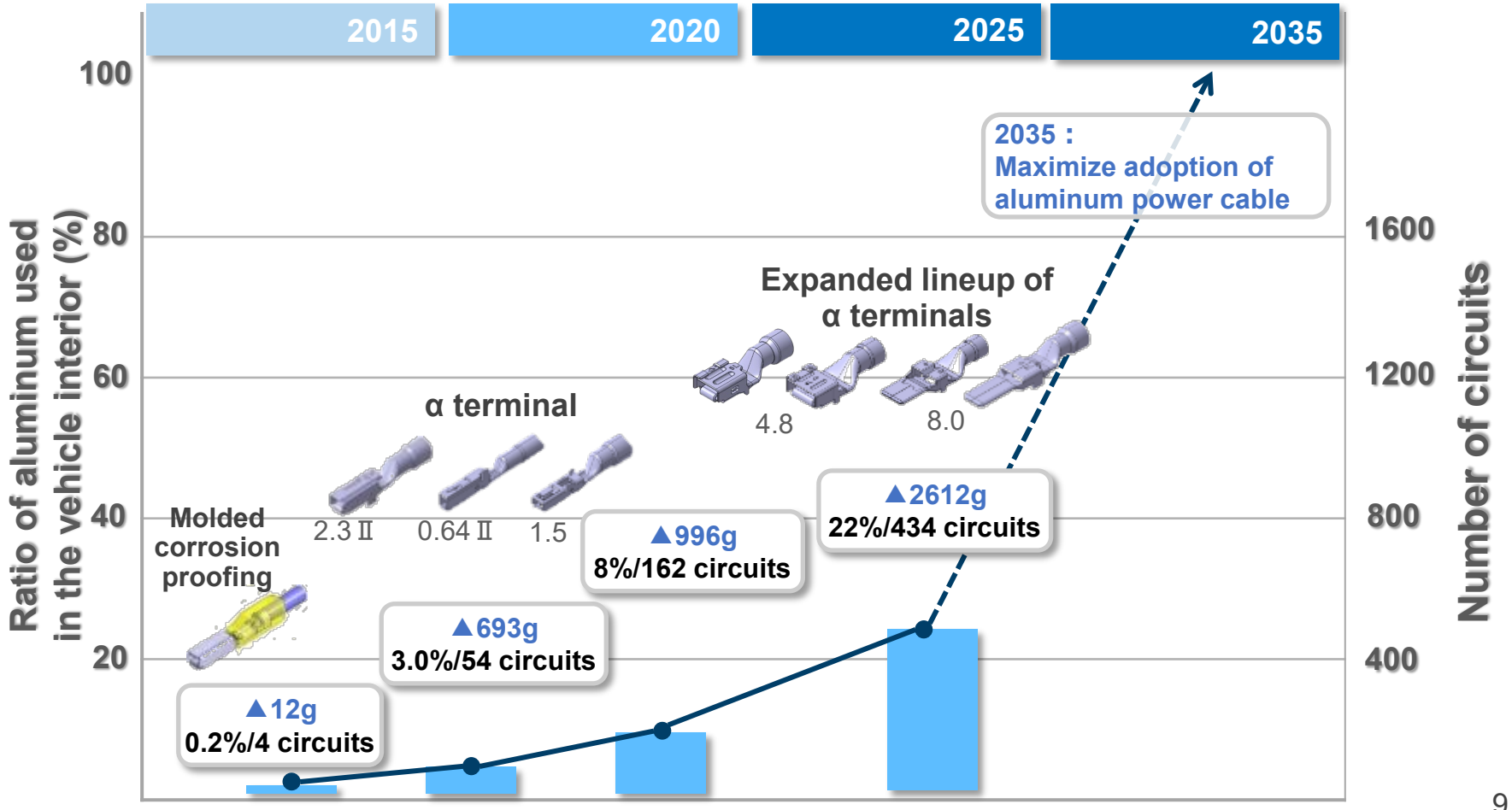
Wire harness CO2 emissions



Changes in quoted prices of aluminum and copper



Successive development of elemental technology and expansion of the product lineup



(2) Strategies by theme ② High voltage and large current

In the growing electric vehicle market, expand the high voltage products that leverage the company's technological strengths in materials capabilities and processing technology

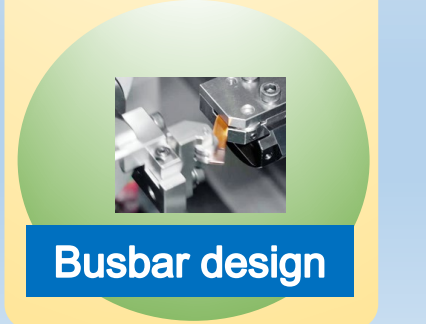
<Major changes in EV>

- •Engine ⇒ Replace with or add an electric motor
- •Fuel system ⇒ Replace with or add a battery pack (xEV)/ hydrogen tank (FCEV)
- •Vehicle weight ⇒ 10-30% heavier (※Survey by Furukawa Electric)

Materials capabilities

×

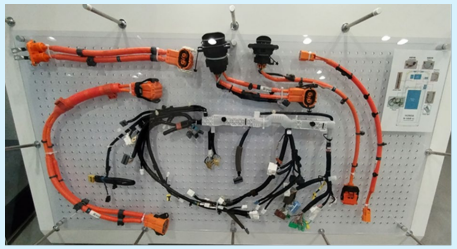
Busbar technology



<Respond to the growing EV market>

Increase in high voltage system products following the change to vehicle systems

High voltage, large current connectors



High voltage WH/ Harness in the battery pack

※WH= Wire harness
※JB = Junction box

High voltage JB

High voltage busbar

(2) Strategies by theme ③ High reliability sensing technology

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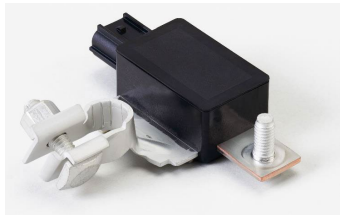
Contribute to realizing a safe, secure, convenient mobility society through sensing technology

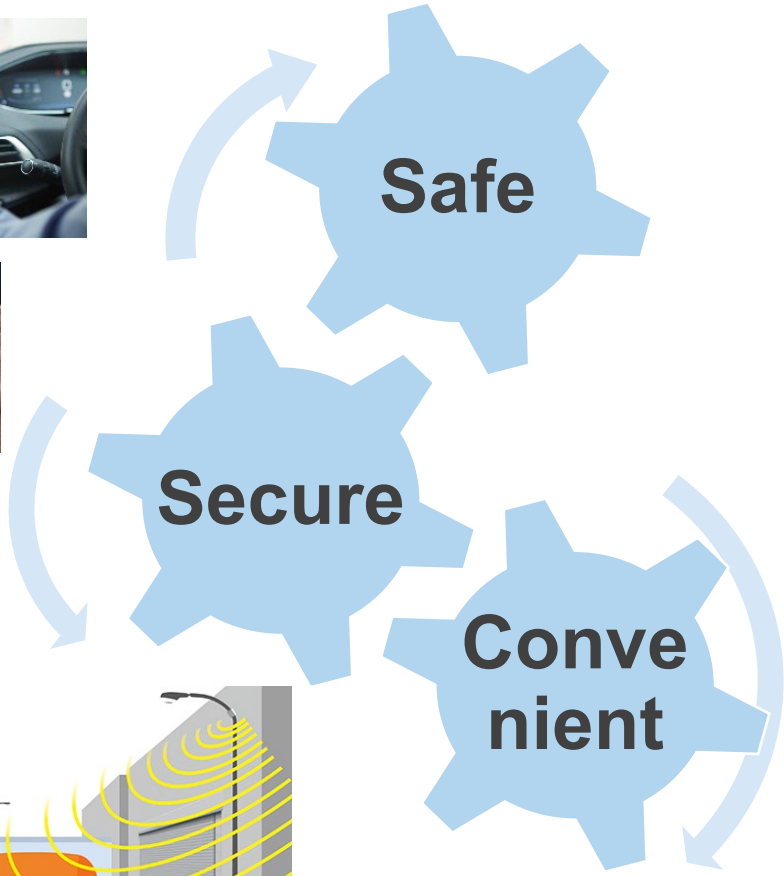
BSS® (Lead battery state sensor)

Definitely prevent power supply failures by monitoring the battery state

- BSS® prevents dead batteries and safely activates high voltage systems in xEV/FCEV
- Monitor the battery state while parked



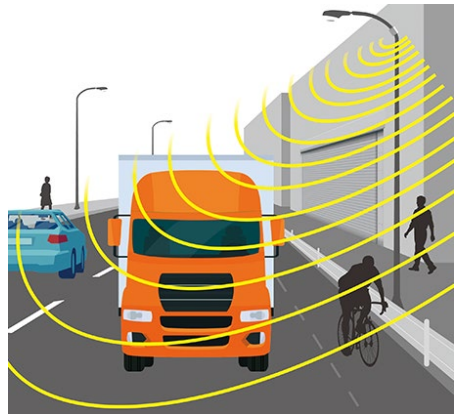
※xEV/FCEV: Electric vehicle/ Fuel cell electric vehicle



Peripheral monitoring radar

Detect danger that is difficult to see with a camera

- **For mobility**
  Through improvements to sensing performance, make it conformable to new NCAP
  Realize peripheral monitoring for construction equipment and industrial vehicles
- **For infrastructure**
  Detect vehicles driving in the wrong direction on expressways



(2) Strategies by theme
④Combination products (V2X and next-generation transmission)

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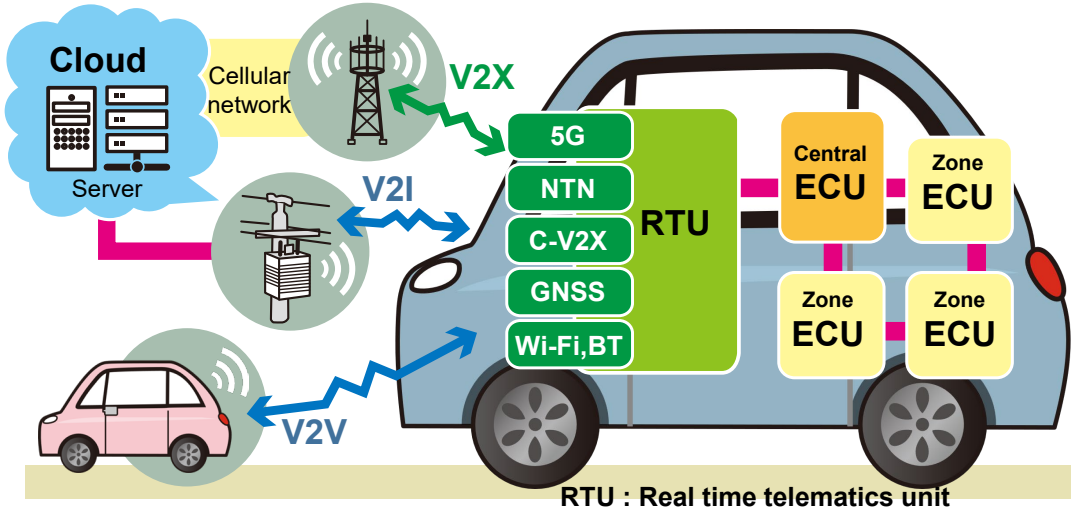
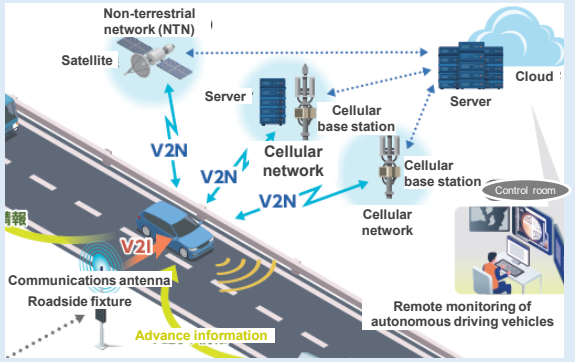
In line with the increased vehicle layout freedom in xEV, respond to next-generation mobility that will be realized through advances in autonomous driving and connected technology



V2X

- ✓ Contribute to realizing next-generation mobility through V2X communications that link vehicles with everything
- ✓ Leverage router technology and wireless communications technology to build a low latency, high quality V2X communications system

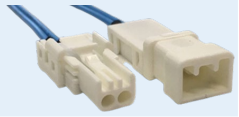
■ Vehicle – Infrastructure communications (Image)



In-vehicle optical communications

- ✓ Respond to high speed, large volume communications required for connected and autonomous driving

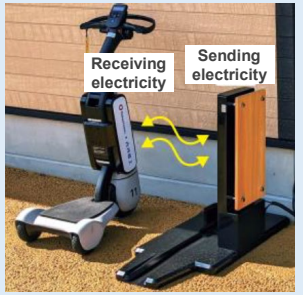
	2025	2030	2035
IEEE/ISO compliant standard optical harness ✓ Respond to high speed, large volume communications through an in-vehicle optical harness capable of speeds exceeding 10Gb/s	2026 Start providing samples for evaluation	2030 Start mass production	
Multi-connection harness with optical fiber and power cable ✓ Unique combined cable/ connector structure makes harness assembly easier			2035 Start mass production



Wireless power transfer (WPT)

Wireless power transfer system for micro-mobility

- ✓ Increase convenience by enabling charging when parked
- ✓ Wireless charging system that is high efficiency and does not require a permit to install
- ✓ Conduct a demonstration trial for an attachment that converts existing micro-mobility to WPT



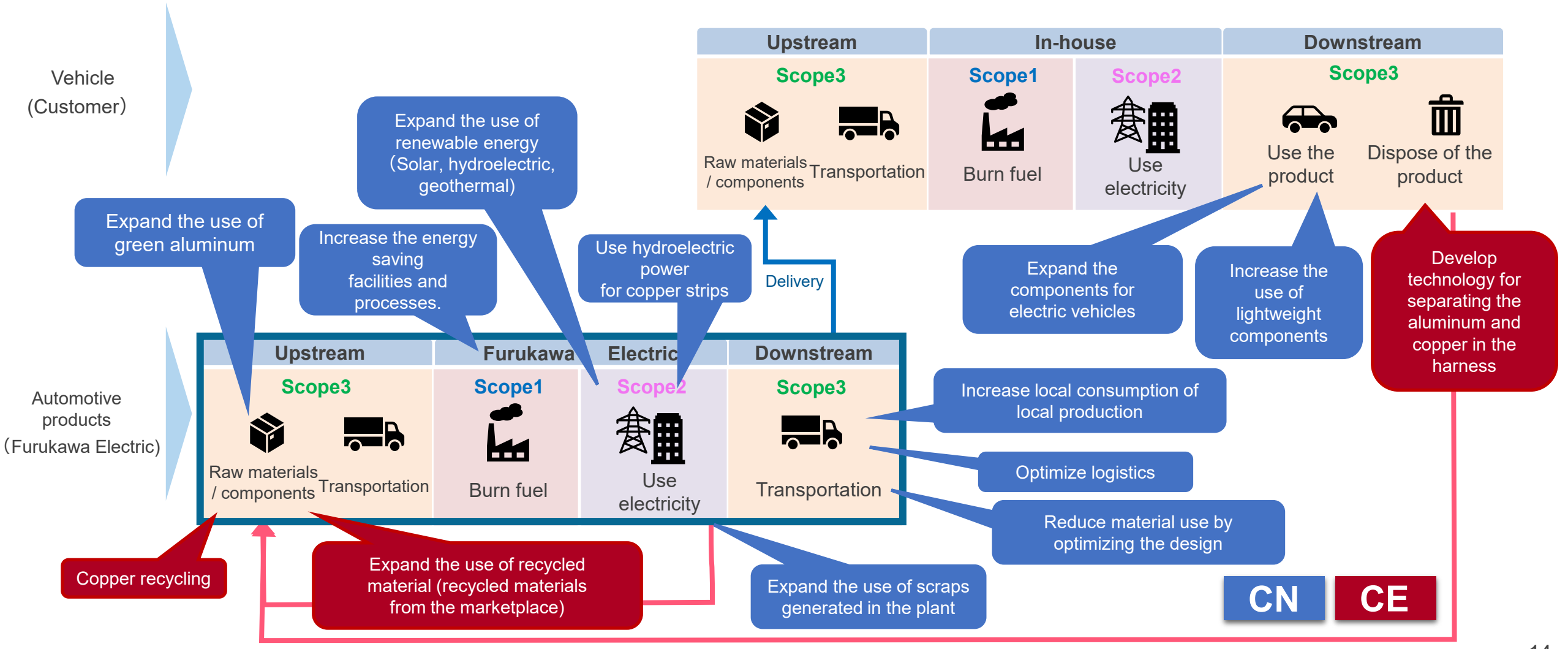
3. Promoting carbon neutrality and the circular economy

Note: Hereafter, Carbon Neutrality will be abbreviated as CN, and Circular Economy as CE.

Promoting CN / CE ①

※CN: Carbon neutrality, CE: Circular economy

Promote the development of technology for CN/CE within the overall lifecycle of the vehicle (completed automobile)



Promoting CN / CE ②

※CN: Carbon neutrality, CE: Circular economy

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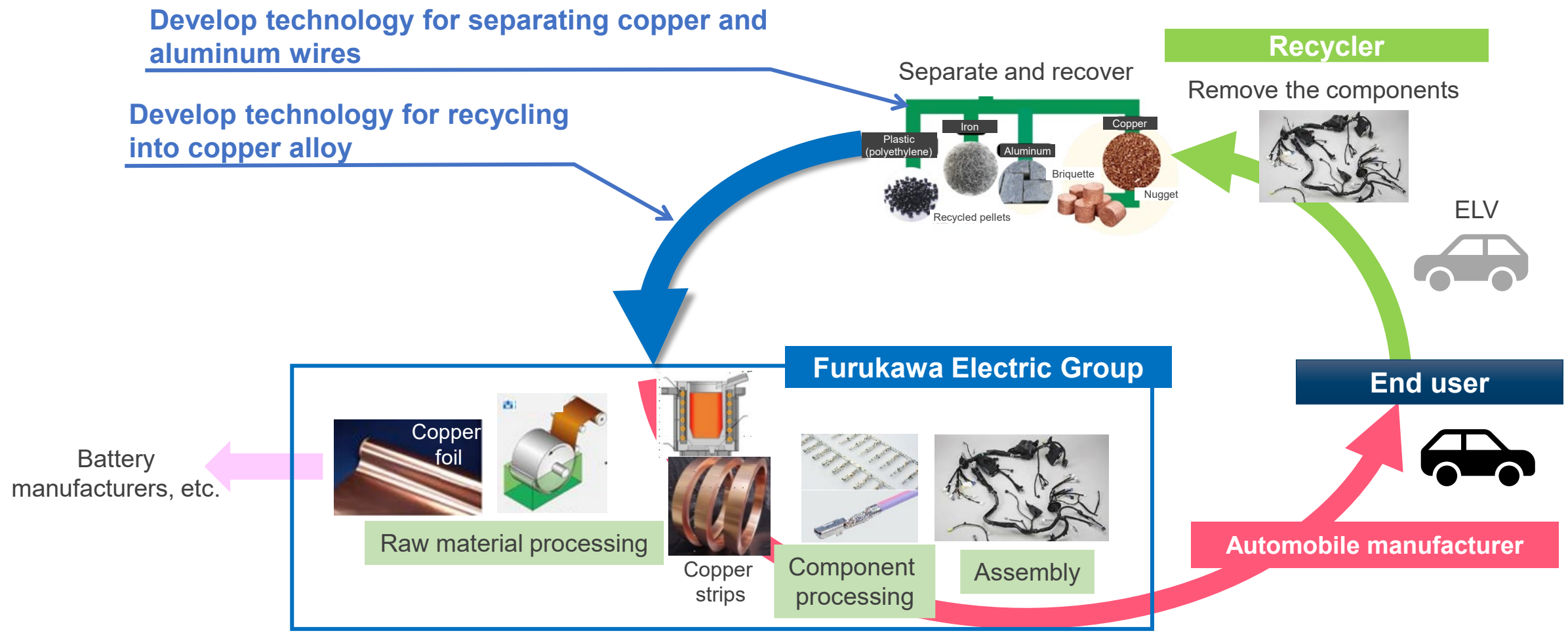
Aim for the optimum resource cycle, and build a system together with partners

- Promote recycling technology with low CO2 emissions, and in particular, promote the efficient use of copper resources



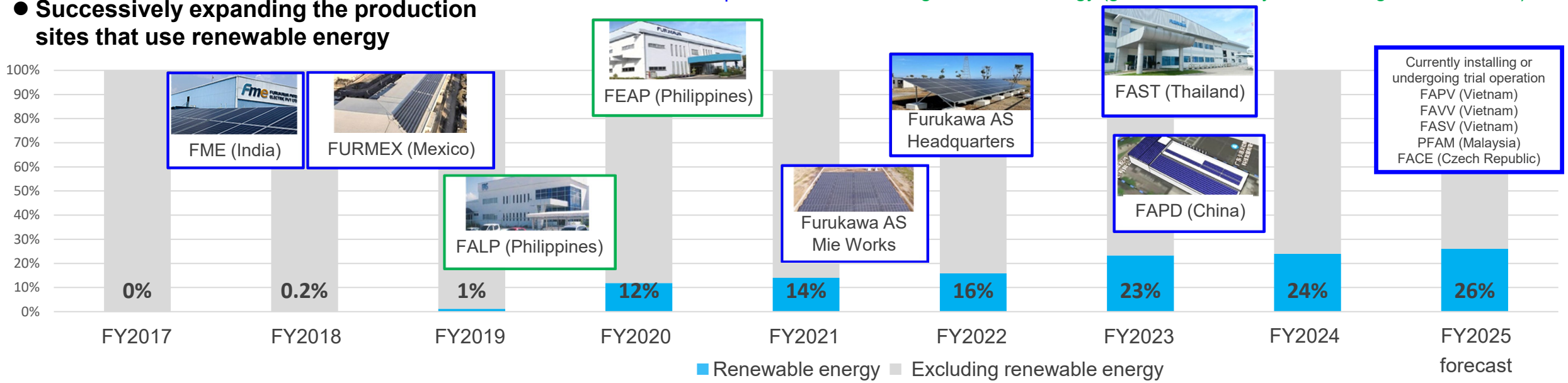
Promoting CN / CE ③

※CN: Carbon neutrality, CE: Circular economy

Promote the use of solar power, geothermal power and other renewable energy sources around the world

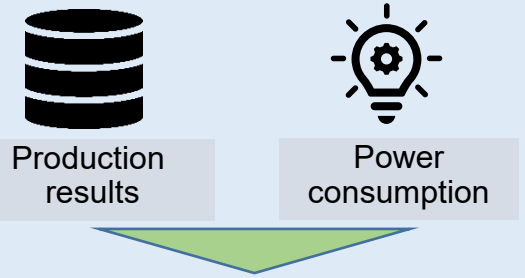
□ : Installed solar power □ : Purchasing renewable energy (generated from hydroelectric, geothermal, etc.)

- **Successively expanding the production sites that use renewable energy**



Enhance efficient, energy-saving production through the use of data

- ✓ **Automatically calculate CO2 emissions tied to the products**
- ✓ **Improve energy use per unit of production by increasing productivity**
- ✓ **Promote the installation of energy-saving equipment**



4. Enhancing customer strategy and manufacturing framework

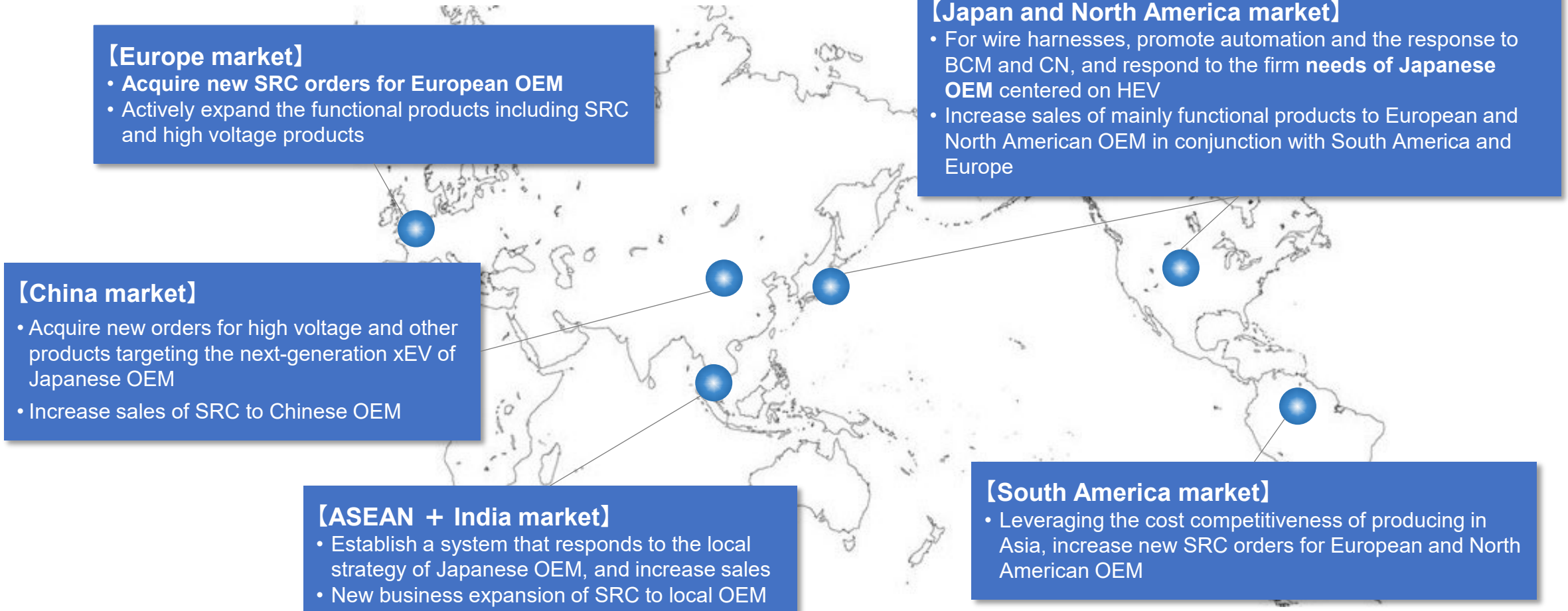
(1) Response to markets and customers

(2) Global production network

(3) Wire harness automation

(1) Response to markets and customers

Wire harnesses: Target Japanese OEM. Conduct sales activities that respond to the customer's products and regional strategy.
Functional products (SRC, high voltage products, etc.): Target customers around the world, and achieve growth while expanding into new regions.



【Europe market】
- **Acquire new SRC orders for European OEM**
- Actively expand the functional products including SRC and high voltage products

【Japan and North America market】
- For wire harnesses, promote automation and the response to BCM and CN, and respond to the firm **needs of Japanese OEM** centered on HEV
- Increase sales of mainly functional products to European and North American OEM in conjunction with South America and Europe

【China market】
- Acquire new orders for high voltage and other products targeting the next-generation xEV of Japanese OEM
- Increase sales of SRC to Chinese OEM

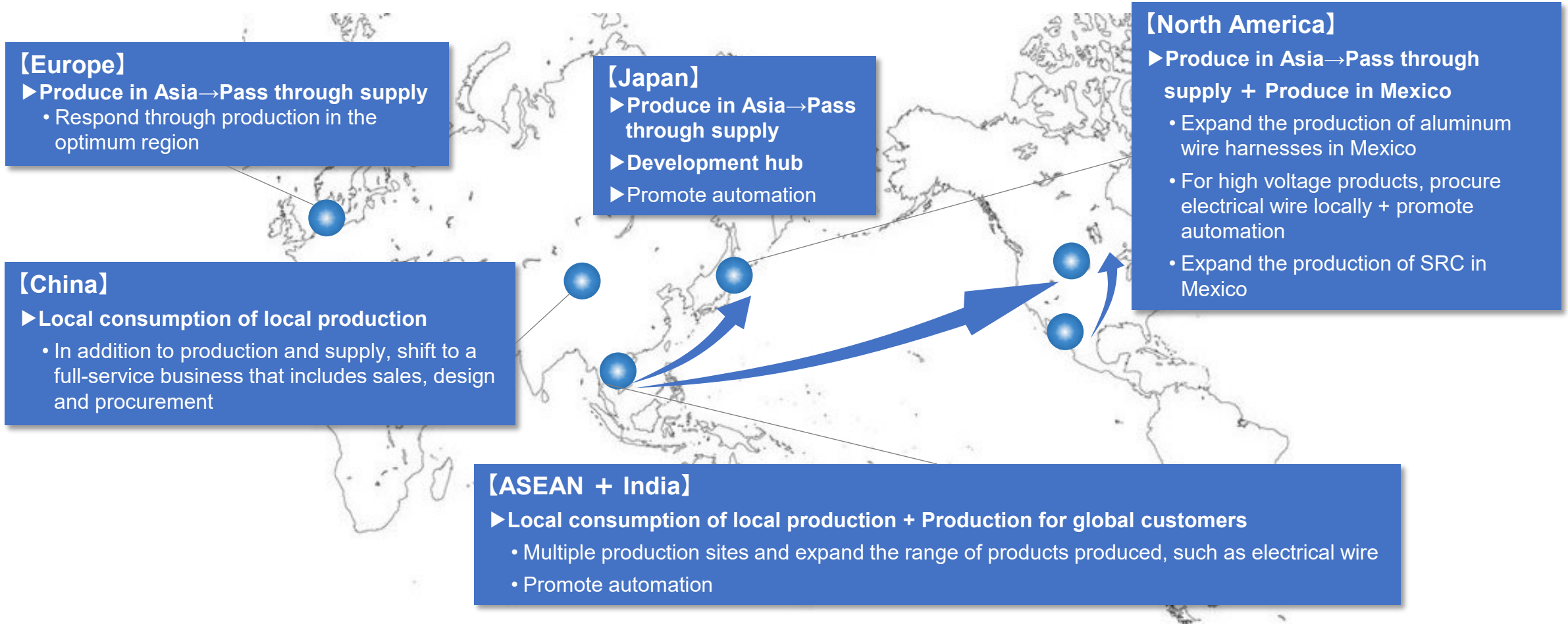
【ASEAN ＋ India market】
- Establish a system that responds to the local strategy of Japanese OEM, and increase sales
- New business expansion of SRC to local OEM

【South America market】
- Leveraging the cost competitiveness of producing in Asia, increase new SRC orders for European and North American OEM

※OEM: Automobile manufacturer ※BCM: Business continuity management
※CN: Carbon neutral ※SRC: Steering roll connector

(2) Global production network

Wire harnesses: Local consumption of local production + Cost Functional products (SRC): Centralized production ➡ Swiftly respond to geopolitical risk and changes in the market environment



【Europe】
▶Produce in Asia→Pass through supply
- Respond through production in the optimum region

【China】
▶Local consumption of local production
- In addition to production and supply, shift to a full-service business that includes sales, design and procurement

【Japan】
▶Produce in Asia→Pass through supply
▶Development hub
▶Promote automation

【North America】
▶Produce in Asia→Pass through supply ＋ Produce in Mexico
- Expand the production of aluminum wire harnesses in Mexico
- For high voltage products, procure electrical wire locally + promote automation
- Expand the production of SRC in Mexico

【ASEAN ＋ India】
▶Local consumption of local production + Production for global customers
- Multiple production sites and expand the range of products produced, such as electrical wire
- Promote automation

※SRC: Steering roll connector

(3) Wire harness automation

Realize local consumption of local production through *monozukuri* that does not rely on manual operations, and reduce lead time and logistics risks

Phase 0 - Phase 2: Automate without greatly altering the current harness form

Phase3: Consider revising the harness design to better suit automation

2025 Phase 0 Develop

Build a model line on a trial basis

- **Fully automated**

2027- Phase 1 Introduce

Establish technology for simple harnesses, and realize manufacturing that does not rely on manual operations

Seat WH
Battery pack WH
Bumper WH, etc.

Up to 20 circuits

2029- Phase 2 Rollout

Based on the technology established in Phase1, expand the types of WH that can be automated

Door WH
Roof WH
Floor WH (Small vehicles)

20-100 circuits

- **Expand the scope of WH forms**
- **Use manual operations for some processes**

2030 - Phase 3 Expand

Eliminate the impediments to automation through design changes, and expand to include highly difficult large wire harnesses

Instrument panel WH
Floor WH
(Large vehicles)
Engine room main WH

100 circuits+

- **WH forms suited to automation**
- **Optimize the automated/ manual processes**

※WH: Wire harness

5. Net sales and operating profit trends

(1) Revenue and operating profit trends

(2) Net sales plan by product

(1) Net sales and operating profit trends

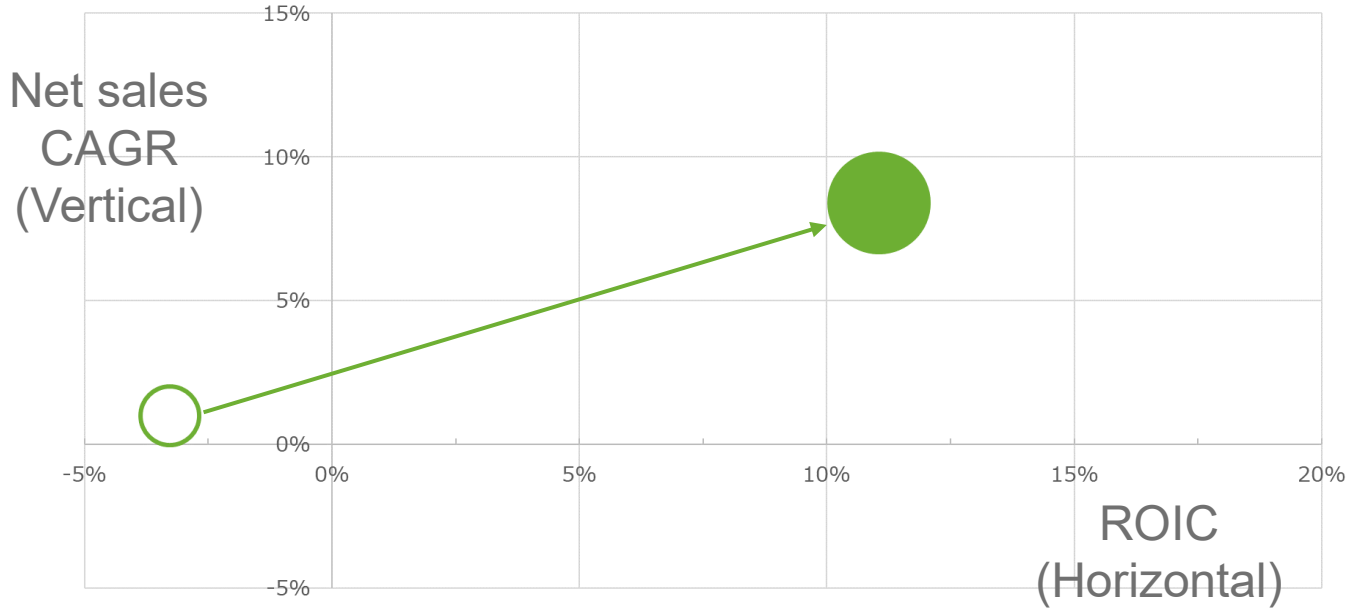
Net sales

(JPY billion)

Operating profit

(JPY billion)

ROIC (FY21 result ➡ FY25 forecast)



Vertical ↑ : Net sales CAGR (FY17-FY21 → FY21-FY25)
Horizontal → : ROIC (FY21 → FY25)
Bubble○ : NOPAT (FY21 → FY25)
※Negative value for the white balance of the bubble

※ CAGR: Compound annual growth rate, ROIC: Return on invested capital (after taxes)
NOPAT: Calculated as net income + interest expenses after taxes in accordance with IFRS

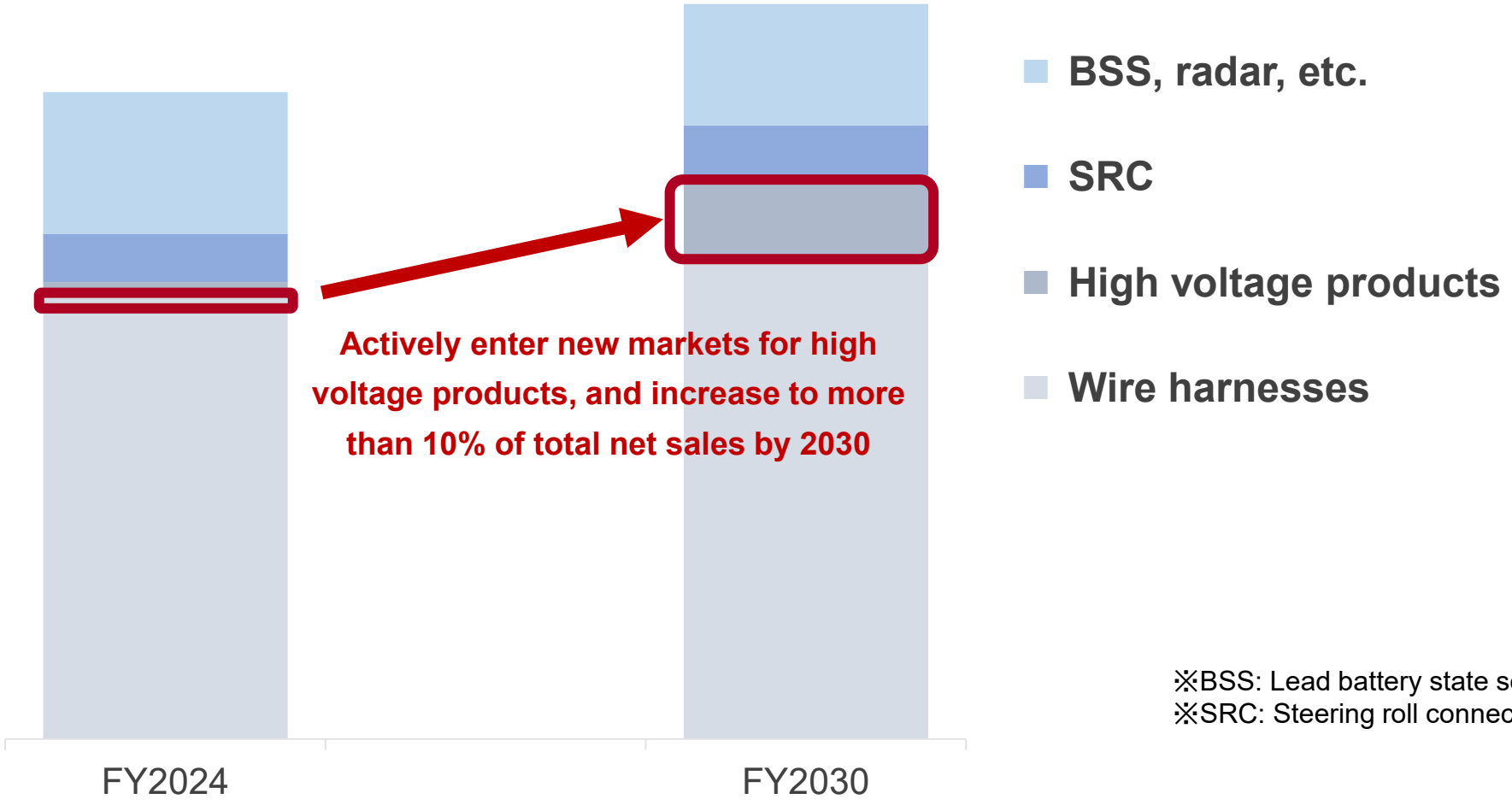
* Changes to segments and sub-segments, as well as partial changes to head office expenses allocated from FY25. As a result, actual results for FY24 were restated

- Industrial laser business will be transferred from the Infrastructure segment (Communications Solutions) to the Service & Developments, etc. segment
- Metal power cable business will be transferred within the Infrastructure segment (from Communications Solutions to Energy Infrastructure)

(2) Net sales plan by product

Wire harnesses: Achieve definite growth by acquiring orders for the demand arising from the shift to aluminum
High voltage products: Actively enter new markets and increase sales following growth of the EV market

Net sales by automotive product lineup



※BSS: Lead battery state sensor
※SRC: Steering roll connector

Thank you

FURUKAWA ELECTRIC GROUP PURPOSE

Composing the core of a brighter world.

Appendix

- Business overview
- Product overview

Appendix – Business overview

[2025 Mid-term Plan (Road To Vision 2030 – Transform and Challenge-) Basic policy]

As decarbonization accelerates toward becoming carbon neutral, evolve the existing products and create new businesses in response to the requests for low environmental impact and safety, and contribute to power management, lightweight, response to safety and vehicle electrification.

[Business environment, strengths and issues]

Business environment Main revenue opportunities	Strengths as a division
• New opportunities from diversification of vehicle functions resulting from advances in CASE, including xEV and MaaS, and responding to requirements for modularization • Expand the products for the acceleration toward EV directed at achieving carbon neutral, products with low environmental impact and future wiring systems that respond to vehicle safety	• Technological capability to create products that combine the group's accumulated core technology and automobile technology • Directed at advances in electrification as a response for CN, products with low environmental impact such as products that contribute to lightweight and power management through aluminum wire harnesses (Alpha terminal) manufactured using green energy
Business environment Main menaces and risks	**Issues as a division**
• Increased geopolitical risk • Promotion of automation and reduced manpower • Sudden changes to customer production volumes • Sustained high raw material prices	• Creation of next-generation products that combine information, energy and mobility through co-creation with partners • Strengthen the response to BCM, and promote automation for achieving stable supply of high quality products

[Main business strategy for achieving the 2025 Mid-term Plan]

(Wire harnesses)

Expand the application of aluminum wire harnesses leveraging the superiority and high reliability of the α terminal, and promote lightweight

(SRC)

Development that responds to high speed communications and the evolution of automobiles

(BSS)

Improve fuel efficiency and power consumption, and secure power source reliability

(Rader)

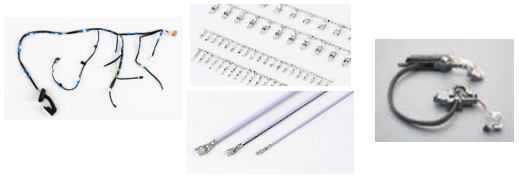
Increase adoption of high performance next-generation products (including response to cybersecurity)/ Enter the construction equipment, industrial vehicle and traffic infrastructure markets

(High voltage products)

Utilize the company's technological strengths (processing technology and materials capabilities) for the increased use of high voltage components following the changes to vehicle systems resulting from the shift to high voltage/ large current and EV

Social issues Reduce traffic accidents, Realize a carbon-free society, and Realize more resilient traffic infrastructure

Appendix – Products overview

	Automotive Products				
	Wire harnesses	High voltage products	Functional products		
					
Safety	●	●	●	●	●
Lightweight	●	●		●	
Electrification	●	●		●	
CN/CE	●	●	●	●	●
Main products	● Aluminum wire harness ● Corrosion-proof terminal (α terminal@) ● Products using flat cable	● High voltage wire harness ● High voltage junction box ● High voltage busbar products ● Large current, high voltage connectors ● Wire harness inside the battery pack	● SRC (Steering roll connector)	● BSS® (Lead battery state sensor)	● Peripheral monitoring radar
Main applications	● Wiring inside vehicles ● Electrical supply and signal transmission for sliding doors and long slide seats	● Power distribution of high voltage circuits for xEV vehicles ● Power distribution in high voltage circuits for xEV vehicles	● Airbags ● Controls for audio and cruise control	● Vehicle power management	● Advanced driver assistance systems (ADAS)
Main customers	● Japanese OEM	● Japanese OEM	● Japanese OEM / Tier 1 ● Foreign OEM / Tier 1	● Japanese OEM	● Japanese OEM ● Construction equipment manufacturers, etc.

OEM: Automobile manufacturer, Tier1: Primary supplier