

# Electronic Components



By creating the future of power electronics through speedy global development of electronic components that support high efficiency and high reliability, we will contribute to the realization of a decarbonized society



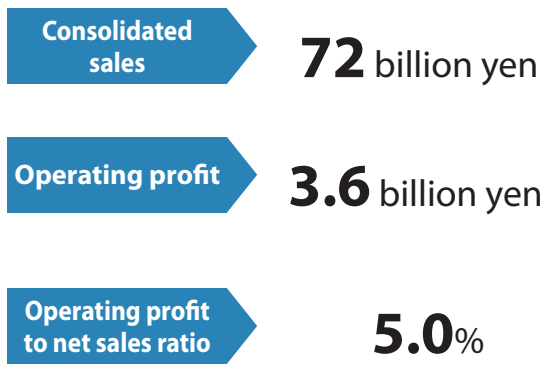
Ryo Nakatsu

SVP  
Director of Electronic Components Business Sector

### Our hopes for medium- to long-term growth

As market needs undergo rapid change aimed at the realization of a decarbonized society, our division aims for sustainable business growth through the speedy global deployment of electronic components that support high efficiency and high reliability in the power electronics market and in the electric railway and other mobility markets. Particularly in the European and U.S. regions where markets aimed at the realization of a decarbonized society are growing, we will work to further enhance our global presence through the provision of total solutions that include current sensors and gate driver modules for semiconductor drives together with large transformers and reactors. Amid the progress of technological innovation in the next-generation power semiconductors that promise to achieve power saving, we will reinforce our business foundation by strengthening our initiatives to develop products that support higher frequencies and larger capacities, and by optimizing our global production structure, including supply chains.

### Financial Targets for FY2024



### Core competencies (business strengths)

- Technologies**
  - Technical capabilities that meet market needs for key parts used in power conversion equipment
  - Provision of wide-ranging solutions that span magnetic materials to components and modules
- Production**
  - Global production structure adapted to local content requirements
- Sales**
  - Building of strong relationships of trust with customers
  - Account management capabilities for global customers
- Structures**
  - Global supply and service structure
- Human Capital**
  - Fusion of young employees and senior management with extensive global experience
  - National staff well versed in characteristics of their areas at overseas bases

### Business Strategy

- Aim to expand business by flexibly meeting diverse needs in an uncertain business environment
- Work to expand the semiconductor drive module business and large transformers and reactors business through product development and geographical market expansion

Robust of CN market × Market and geographical growth × Profitability improvement

#### Robust carbon-neutral market

- Mobility: boosting reactors, transformers/coils for battery chargers (in-vehicle and stationary types)  
High voltage/frequency gate drivers, EMC enhanced current sensors
- Energy: large-size transformers and reactors, gate drivers

#### Market and geographical growth

- Europe and U.S.:  
Large transformers and reactors for the renewable energy market and data center market  
Gate driver modules and current sensors for the renewable energy market and HVDC market

#### Profitability improvement

- Increase of high value-added modules
- Differentiation through the development of high-frequency dust cores
- Production footprint reorganization to satisfy local content requirements

## Business highlights

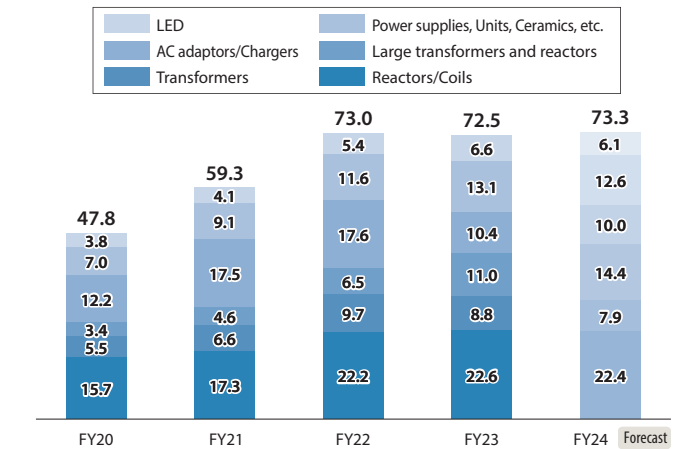
### Business summary for FY2023

Against the backdrop of stay-at-home demand running its course and slowdown in the Chinese market, chargers for power tools, reactors for air conditioners, and transformers and reactors for industrial machinery remained sluggish throughout the fiscal year as the impacts of inventory adjustments by major customers continued. At the same time, sales of automotive boosting reactors and LED products for vending machines increased as semiconductor shortages eased. In the U.S., large transformers and reactors for data centers remained strong. As a result, sales decreased to 72.535 billion yen (down 0.6% year-on-year), while segment profit increased to 2.959 billion yen (up 12.0% year-on-year) due to improved sales composition.

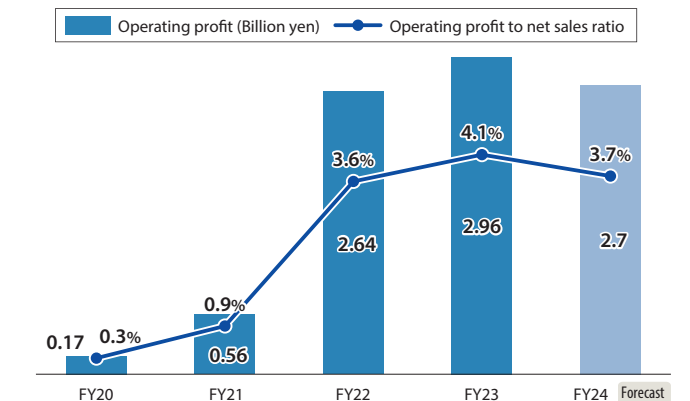
### Business performance forecast for FY2024

Orders are recovering in products including chargers for power tools, reactors for air conditioners, and transformers and reactors for industrial machinery, and we expect increases heading into the second half of the fiscal year. Demand for large transformers and reactors for data centers in the U.S. is expected to remain strong. To meet growing demand, we increased production capacity for products in Mexico, launching full-scale production in March 2024. At the same time, we expect sales of LED products for vending machines to decrease as upgrade demand runs its course. Based on the above, we expected increased sales but a slight decrease in profit.

### Sales by Product (billion yen)



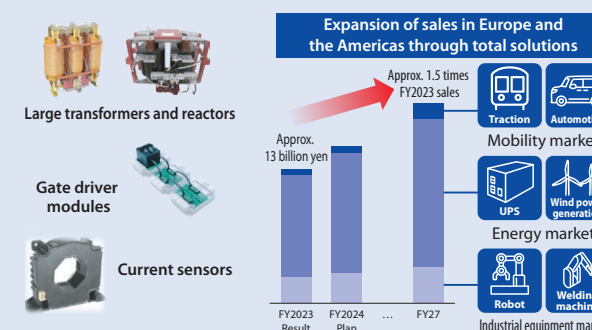
### Operating Profit/Operating Profit to Net Sales Ratio



## TOPICS

### Sales expansion strategy in the European and U.S. markets

In the European and U.S. markets, we are expanding sales by positioning large transformers and reactors, gate driver modules, and current sensors as strategic products. These components are the primary determinants of the characteristics of power electronics systems. Leveraging the strength of our ability to comprehensively supply key components, we aim to expand sales to railway and other mobility markets, power generation and power distribution system markets, and factory robot and other industrial equipment markets.



#### Large transformers and reactors

In the North American market, renewable energy-related demand is growing following the enactment of the 2022 U.S. Inflation

Reduction Act, along with data center-related demand amid the proliferation of generative AI. To meet increasing orders for large transformers and reactors due to the market expansion, we have increased the production capacity of our Mexico factory.

#### Expansion of production capacity at Mexico factory

- From March 2024:  
Approx. 1.5-fold expansion in production capacity (compared to FY2023)
- From second half of 2024:  
Approx. double production capacity expected (compared to FY2023)



#### Gate driver modules

We are aiming for growth in the power semiconductor market, which is expected to expand five-fold between FY2022 and FY2035. We are engaged in technical collaboration in product development, joint matching evaluations, and other forms of collaboration and co-creation with a number of domestic and overseas power semiconductor manufacturers. In Europe in particular, we are targeting markets for renewable energy and for mobility, including electric railways.

# Electronic Chemicals/FA Systems



We contribute to the advancement of a sustainable electronics industry by providing environmentally friendly materials and equipment through the mastery of high-reliability joining technologies and insulation technologies that support high-density mounting.



**Yoshiharu Soga**

SVP Director of Electronic Chemicals/FA Systems Business Sector

### Our hopes for medium- to long-term growth

Our Electronic Chemicals/FA Systems business consists of two businesses – soldering systems (mounting systems) and materials including solder (joining material) and solder resist (insulating material) – that are capable of generating synergistic effects on the circuit boards used in electronic products. Our long track record of supplying reliable products for the automotive, communication equipment, and semiconductor industries has yielded strong relationships with customers. We will continue to aim for growth of our businesses by capturing new business opportunities. In recent years, however, growth in our electronic chemicals business has been affected by outside forces, particularly fluctuations in exchange rates and base metal markets. The FA Systems business, which mainly handles high-performance models centered on flux recovery capabilities, has been affected by customers' constrained capital investment due to stagnating business conditions in China. Looking ahead, we are committed to vigorously advancing technology and product development that will allow us to support technological innovations in high-frequency devices and power semiconductors, provide customers with more compelling, high-performance products, and create a foundation for our next-generation businesses.

### Financial targets for FY2024

**Consolidated sales** 33 billion yen

**Operating profit** 3.3 billion yen

**Operating profit to net sales ratio** 10.0%

### Core competencies (business strengths)

- Technologies**
  - Technical capabilities that have developed resists for flexible substrates and lead-free solder, and that meet market needs
  - Patent strategy and utilization closely aligned with our businesses
- Production**
  - Global production structure based on mother factories in Japan
  - Field-oriented manufacturing that builds quality into products
- Sales**
  - Strong trust from customers
  - Sales personnel equipped with deep technical knowledge
- Structures**
  - Supply structure with global capabilities
  - Solid quality control structure capable of supporting advanced industries
- Human Capital**
  - Development teams in which veteran and young employees create synergies
  - Senior management with extensive global experience

### Business Strategy

- Implement flexible pricing strategies in response to material price fluctuations
- Increase profit by developing high value-added products and reducing costs and create markets with custom-in approach into growth areas

New product development

New markets

Production improvement

#### New products

- High heat resistant soldering materials for next-generation power semiconductors
- Coverlay market products
- Solder paste for new semiconductor construction method
- Energy saving reflow soldering systems

#### Production improvement

- Reorganization of production footprints for local supply

#### New market expansion

- Seeking approval of US and European customers for automotive solder paste
- Sales expansion of solder resists for Mini LED market
- Sales expansion of reflow soldering systems for non-Japanese customers

### Business highlights

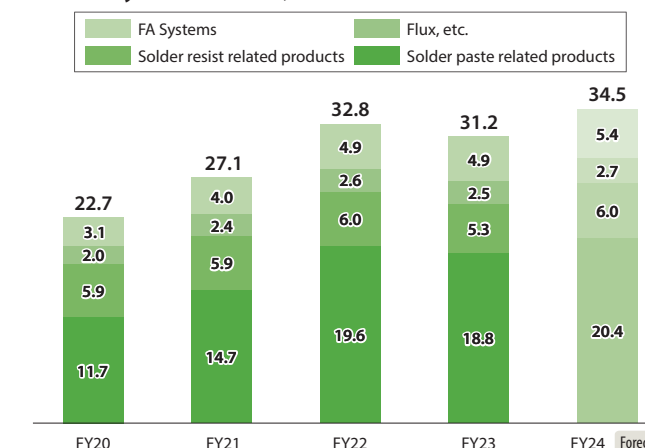
#### Business summary for FY2023

In the Electronic Chemicals business, automotive-related demand began to recover. Due to stagnation in the Chinese market and slowing demand for information equipment, however, sales of solder paste and solder resists declined from the previous fiscal year. Sales of solder paste for semiconductors also softened amid the slowing of semiconductor demand. The FA Systems business secured sales on par with the previous fiscal year by expanding sales to Japanese companies and strengthening maintenance service activities, despite the impacts of constrained capital investment in China. As a result, sales were 31.244 billion yen (down 4.6% year-on-year) and segment profit was 2.463 billion yen (down 6.2% year-on-year), resulting in a decrease in sales and profit.

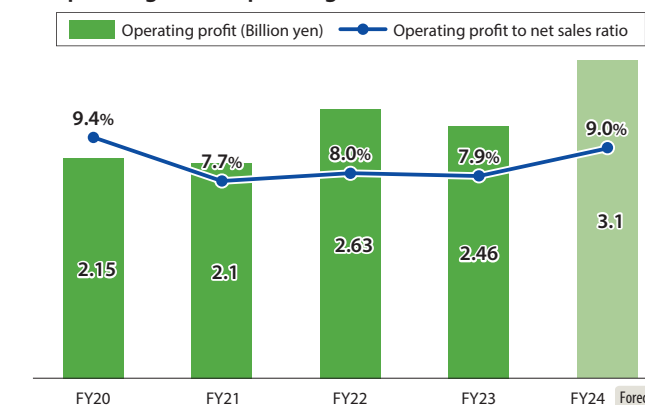
#### Business performance forecast for FY2024

In the Electronic Chemicals business, recovery of the automotive-related market continues, with recovery expected in the semiconductor-related market as well in the second half. In the FA Systems business, we expect that constrained investment by customers will continue in the Chinese market but upgrade demand will continue in other regions. Accordingly, we expected increases in sales and profit.

#### Sales by Product (billion yen)



#### Operating Profit/Operating Profit to Net Sales Ratio



### TOPICS

#### High heat resistant soldering materials for power electronics

For power electronics-related markets, we have developed and offer to customers superior joining materials that do not require pressurization and that feature high TCT resistance. In line with growing demand for wide-band gap semiconductors, the need for joining materials with even more outstanding characteristics is expected. In response, we are conducting research and development aimed at next-generation joining materials.

Item	Required properties		High heat resistant soldering materials
	Low	Energy conservation	
Joining temperature	Low	Energy conservation	△
Pressurization need?	None	Shortening of processes	○
Environmental burden	Low	Environmental contribution	○
TCT resistance <sup>1)</sup>	High-temperature	High heat stress compatibility	○
PCT resistance <sup>2)</sup>	High	High humidity compatibility	△
Thermal conductivity	High	Superior heat dissipation	△
Cost	Low	Cost reduction	△

<sup>1)</sup> TCT: Temperature Cycling Test A test that checks resistance to thermal stress due to temperature changes  
<sup>2)</sup> PCT: Pressure Cooker Test A test developed for the evaluation of moisture resistance



#### Support for use of logic semiconductor chiplets

Given demands for enhancements to the performance of logic semiconductors, we expect that the use of chiplets in logic semiconductors will further progress. In soldering using plating, microballs (μ-Balls), and other conventional methods, a number of issues are expected, such as unevenness in solder amount. In cooperation with semiconductor substrate manufacturers, we are conducting research and development aimed at new soldering methods and joining materials that are superior to conventional methods in terms of alloy composition, productivity, and cost.

Soldering methods	Changes due to use of chiplets	Issues in soldering	New methods under development		
			Plating method	μ-Ball method	μ-Ball method
Plating method	Scaling up of circuit boards Division of I/O Die shrinking	Alloys	○	△	○
μ-Ball method		Unevenness	○	△	△
		Bump pitch	○	○	×
Metal mask printing method		Productivity	○	×	△
		Cost	○	×	△
		Carbon neutrality	○	×	○
		Missing bumps	△	○	△
		VOIDS	△	○	△

Address through composition

By delivering quality sound, we aim to improve the safety and security of social infrastructure and deliver value and excitement to customers.



**Kazuyoshi Ishida**

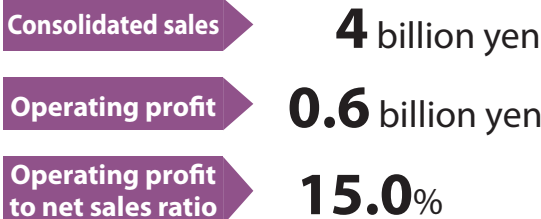
VP Director of Information Equipment Business Sector

### Our hopes for medium- to long-term growth

In the Information Equipment business, we are working to secure independent profitability (business value creation) and stable profitability as a priority strategy under the 13th Medium-term Management Plan. Following the launch of the NTX Series next-generation audio mixing console, we began development of a compact audio mixing console and launched sales activities with the intent to go outside of Japan. In future-oriented collaboration with industry and academia, we are also conducting audio-related research and development that we expect will lead to the development of new products.

Our business unit will act as one and without fear to undertake the challenge of transforming mindsets focused on existing markets, creating new social value, and growing our business.

### Financial targets for FY2024



### Core competencies (business strengths)

- ◆ **Structures** Maintaining an integrated structure as Japan's only manufacturer engaged in development, production, and maintenance of high-end audio mixing consoles at domestic business bases
- ◆ **Sales** Deep relationships of trust with customers built up through over 60 years of initiatives in the audio mixing console business
- ◆ **Production** Safe and reliable product capabilities and manufacturing capabilities that support public broadcasting infrastructure even during emergencies
- ◆ **Technologies** Development capabilities and proposal capabilities tailored to customers' requirements
- ◆ **Service** Capabilities for prompt, appropriate maintenance support

### Business strategy

- ◆ Cope with changes in needs and technologies such as network-based broadcasting equipment
- ◆ Seek to expand our business from existing markets to new markets through product development and regional expansion

### Seize market opportunity by responding to the needs of key customers in a timely manner

#### NTX Series next-generation audio mixing console

- Compatible with IP-based next-generation broadcasting systems
- Solid response to upgrade demand in the broadcasting market



#### Development of a new compact audio mixing console

- A product with exceptional cost performance, equipped with features needed for radio broadcasting
- Scheduled for rollout in Japan and ASEAN regions

### Business highlights

#### Business summary for FY2023

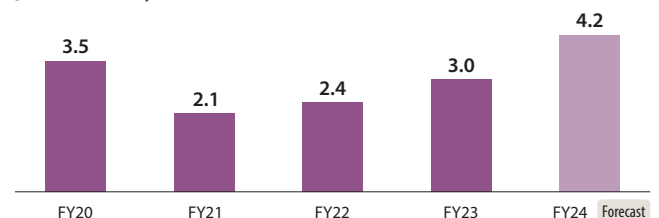
In response to upgrade demand by broadcasters, full-scale sales of our IP-compatible next-generation audio mixing consoles have yielded significant increase in both sales and profit.

Sales were 3.016 billion yen (up 23.4% year-on-year) and segment profit was 474 million yen (compared to a loss of 6 million yen in the segment in the previous fiscal year), resulting in increased sales and a shift to profitability.

#### Business performance forecast for FY2024

We expect an increase in sales, including sales of next-generation audio mixing consoles under upgrade demand by broadcasters. However, we also expect a decrease in profit due to worsening of the sales composition and increased costs.

#### > Sales (billion yen)



#### > Operating Profit/Operating Profit to Net Sales Ratio

