# HIOKI E.E. CORPORATION Financial Results Briefing for the Fiscal Year Ending December 31, 2019

(Securities Code: 6866)

February 2020



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# 1. Company Overview

HIOKI

### **Overview**

Name
HIOKI E.E. CORPORATION

Businesses
Development, manufacture, sale, and repair of

electrical measuring instruments

■ Founded June 1935

Incorporated
January 1952

■ Capitalization ¥3,299 million

Representative Kazutoshi Hosoya, President & CEO

Head Office 81 Koizumi, Ueda-shi, Nagano Prefecture

Group companies HIOKI Forest Plaza Corporation; HIOKI USA Corporation; HIOKI (Shanghai)

Sales & Trading Co., Ltd.; HIOKI SINGAPORE PTE. LTD.; HIOKI KOREA CO., LTD.; HIOKI INDIA PRIVATE LIMITED; HIOKI EUROPE GmbH; HIOKI

TAIWAN CO.,LTD. ;PT. HIOKI ELECTRIC INSTRUMENT

Employees
1,007 (consolidated-basis, including part-time workers)

(as of December 31, 2019)

# **HIOKI Product Organization and Fields of Use**

HIOKI meets customer needs ranging from advanced R&D to production lines and on-site electrical work in every industry with 300 products.

# Overall organization

R&D

### **Production lines**

Field maintenance

Automatic testing equipment

Data recording equipment

Electronic measuring instruments

Field measuring instruments

Peripheral equipment and other



Power generation and distribution Transport equipment Machinery manufacture Transport equipment manufacture



Power equipment inspections
Elevator maintenance

Alternative energy Materials, environment



Electronic component manufacture

Medical device manufacture



Package and board manufacture

Electric device manufacture

Environment Energy

Electronic devices
Transport
equipment



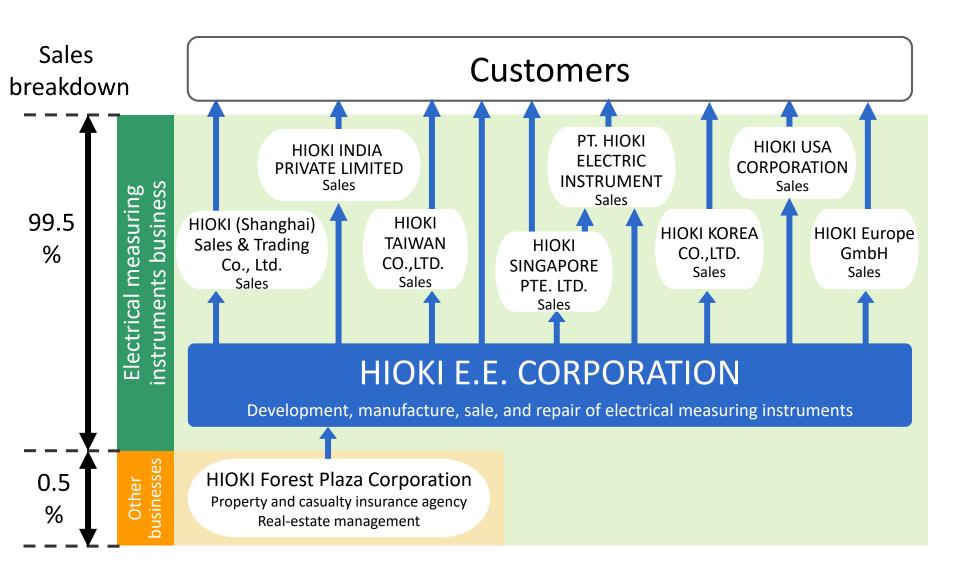
Electrical and power equipment inspections Communications equipment testing



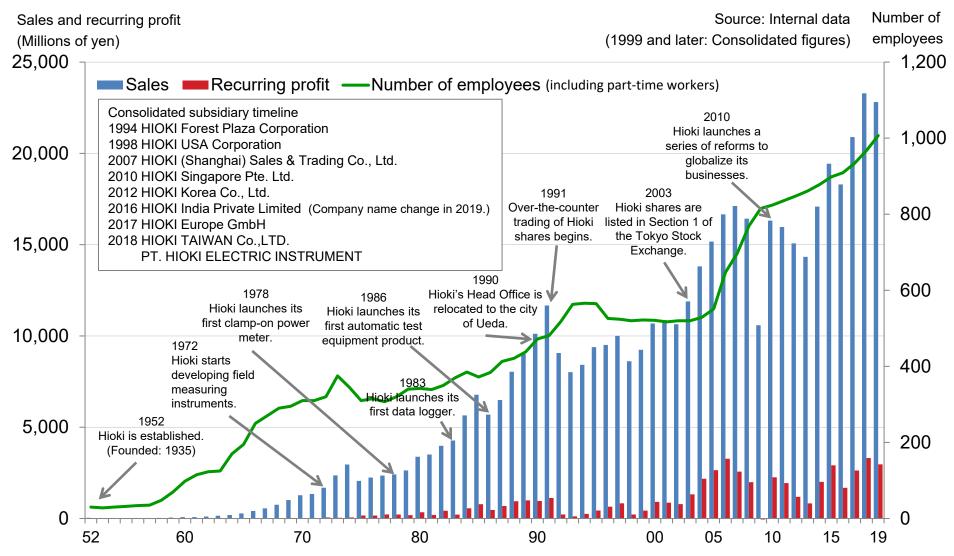
Accessories for products shown above

\*The width of each application category illustrates its relative contribution to HIOKI's sales.

# **HIOKI Group Business Diagram**



# Performance and Employee Head Count since Hioki's Establishment





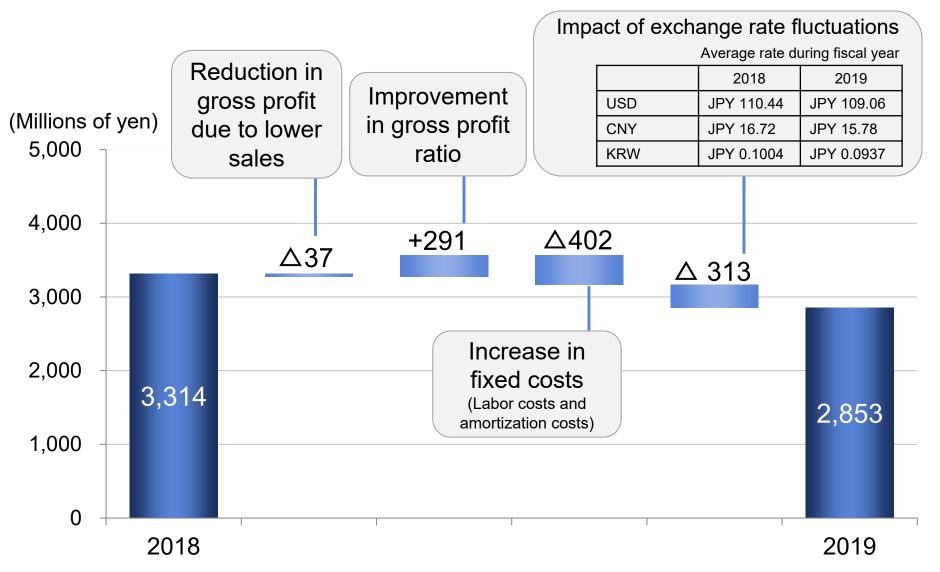
# 2. Financial Results Overview

HIOKI

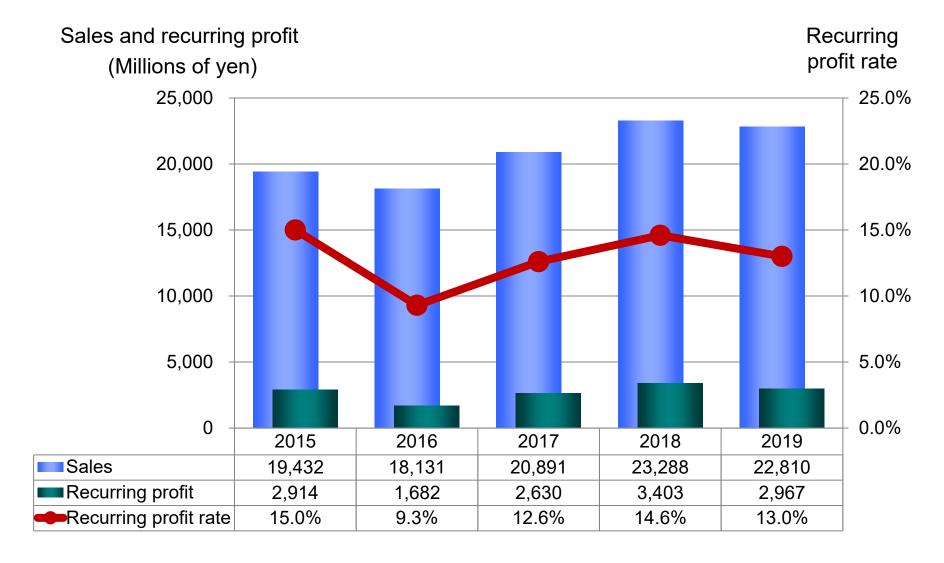
### **Overview of 2019 Results**

	2018		2019		
	Results (millions of yen)	Percent of sales (%)	Results (millions of yen)	Percent of sales (%)	Year-on-year (%)
Sales	23,288		22,810		97.9%
Cost of sales	12,924	55.5%	12,744	55.9%	98.6%
Selling, general, and administrative expenses	7,049	30.3%	7,211	31.6%	102.3%
Operating profit	3,314	14.2%	2,853	12.5%	86.1%
Recurring profit	3,403	14.6%	2,967	13.0%	87.2%
Net income	2,774	11.9%	2,197	9.6%	79.2%
Earnings per share	¥203.63		¥161.27		

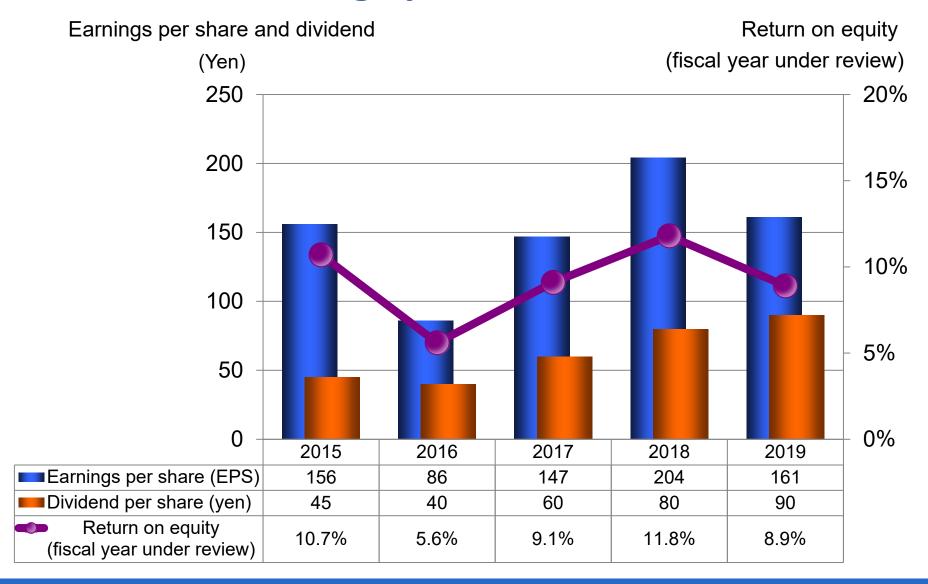
# **Factors Affecting Operating Profit in 2019**



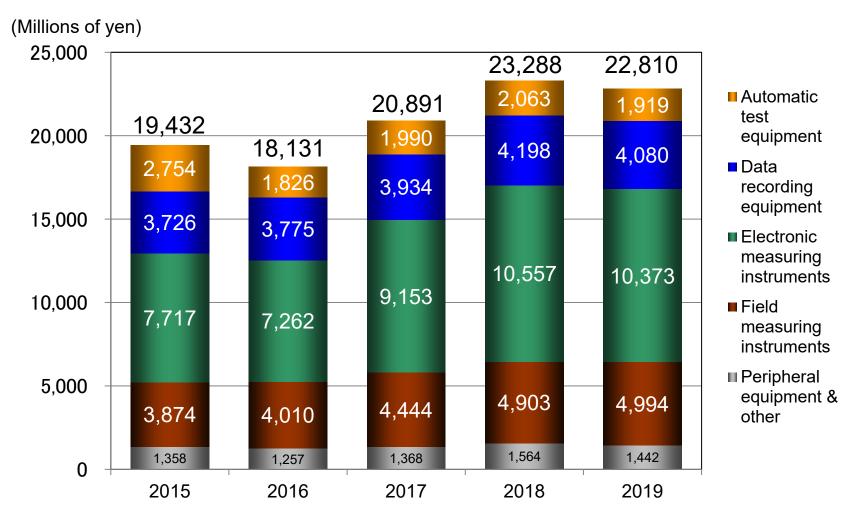
# **Trend in Sales and Recurring Profit**



# Trend in Earnings per Share and Dividend



# **Trend in Sales by Product Category**



<sup>\*</sup>Some product categories changed in 2016. Results for 2015 and subsequent years have been stated in terms of the new categories.

# **2019 Overview by Product Category**

# Automatic test equipment

- We launched a bare board testing system for high-density printed circuit boards as well as a compact, modular populated board testing system to accommodate increasing circuit density due to shrinking die sizes as well as the need for high reliability in automotive and other applications.
- Demand fell due to the effects of stagnating capital investment in industrial equipment.

# Data recording equipment

- Sales of high-voltage, multi-channel data loggers for use in battery evaluation grew.
- We launched new data loggers in December in anticipation of growth in markets such as aviation.
- Demand for memory recorders fell due to the effects of stagnating capital investment in industrial equipment.

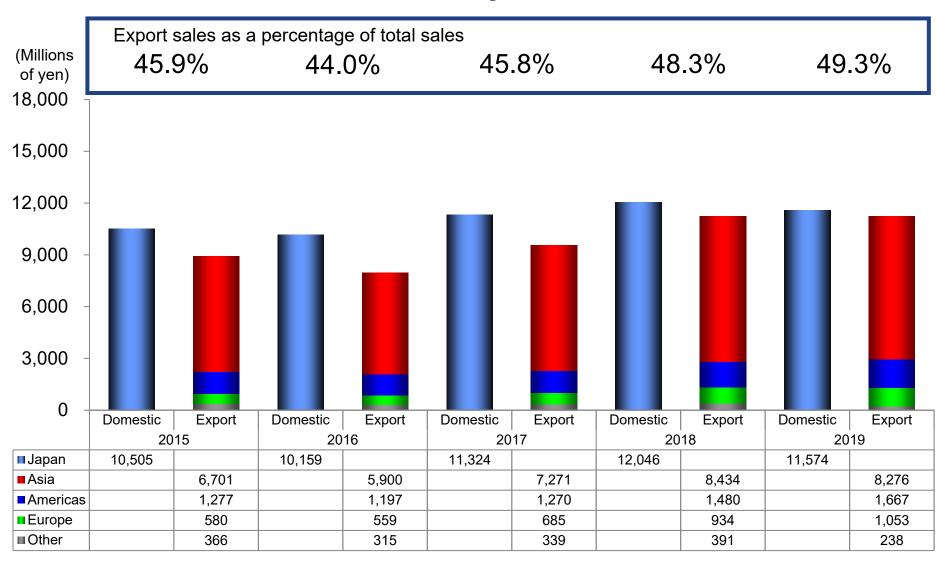
# Electronic measuring instruments

- We launched a number of distinctive new products that enjoyed steady sales growth, including high-performance current sensors for use in the automotive and battery fields and a battery electrode resistance measurement system for use in battery materials research.
- Demand for instruments used to measure electronic components fell due to the effects of stagnating capital investment in industrial equipment.

# Field measuring instruments

- We continued to launch new clamp-on ammeters with distinctively shaped sensors designed to streamline measurement of distribution panels and other circuits with increasingly dense connections.
- We brought the trend toward IoT-type networking to field measuring instruments by expanding the range of models that support functionality such as smartphone connectivity and cloud-enabled software.

# **Trend in Export Sales**



# **Environmental and Alternative Energy Markets**

(Sales of Related Products)

### Market trends

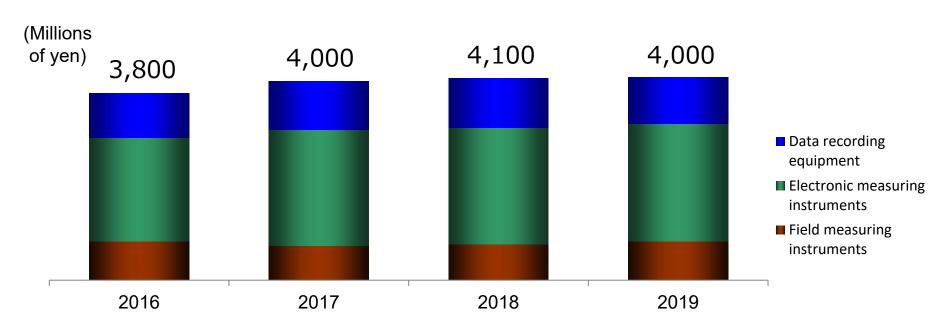
Demand for measurement is trending up in applications such as power circuit quality and safety assurance as renewable energy enters into increasingly widespread use.

These markets saw steady growth in R&D investment targeting improvements in the efficiency with which energy can be used and power interchange technologies.

**Target products: Data loggers, Remote measurement systems** 

Power meters, Power quality analyzers, Current sensors

Clamp sensors, PV megohmmeters, Battery testers



# **Electronic Components and Automotive Markets**

(Sales in Related Categories)

### Trends in the electronic components market

Investment in 5G-related technologies helped drive a recovery in capital investment in the electronic component market.

We expect to see a recovery in demand for LCR meters and ohmmeters used in component evaluation and testing.

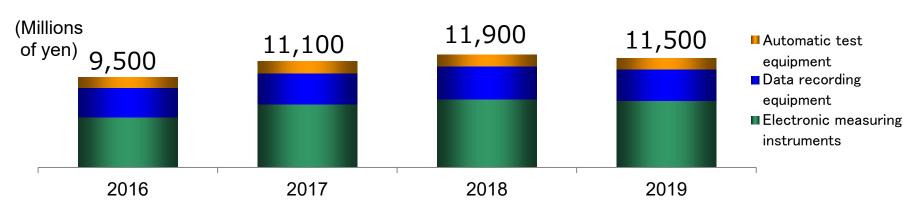
Target products: Automatic test equipment, Super-megohmmeters, LCR meters, Resistance meters, Battery measuring instruments

### Trends in the automotive market

The move toward vehicle electrification and computerization continued. Demand for sensors with high-current, high-accuracy, wideband performance remained strong.

Demand for measurement in battery R&D and production streamlining held steady.

Target products: Automatic test equipment, Memory recorders, Super-megohmmeters, LCR meters, Resistance meters, Power meters, Battery measuring instruments



<sup>\*</sup>Some product categories changed in 2019. Results for 2016 and subsequent years have been stated in terms of the new categories.

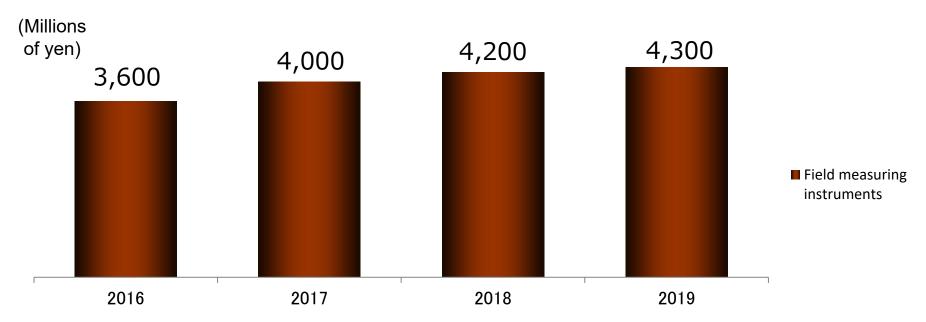
## Infrastructure Market (Sales in Related Categories)

### Trends in the infrastructure market

Demand for measurement in electrical work and facility maintenance held steady.

We expect to see increased demand for clamp-on measuring instruments with improved sensor shapes and enhanced convenience, and for measuring instruments that are designed to lower testing manpower requirements by offering additional communications functionality.

Target products: Digital multimeters, Clamp-on current meters, Grounding resistance meters, Phase detectors, etc.



<sup>\*</sup>Some product categories changed in 2019. Results for 2016 and subsequent years have been stated in terms of the new categories.



# 3.Mid-term Business Plan and Strategy HIOKI

### **Hioki's Vision**

# A company that continues to operate into the indefinite future

Striving to achieve sustained growth and development

Continuing to play an essential role in society

# **Achieving Hioki's Vision**

- Transforming Hioki into a high-value-added company
- Increasing productivity

Recurring profit ratio of **20**% or more International sales as **50**% or more of total sales

# **Priority Initiatives**

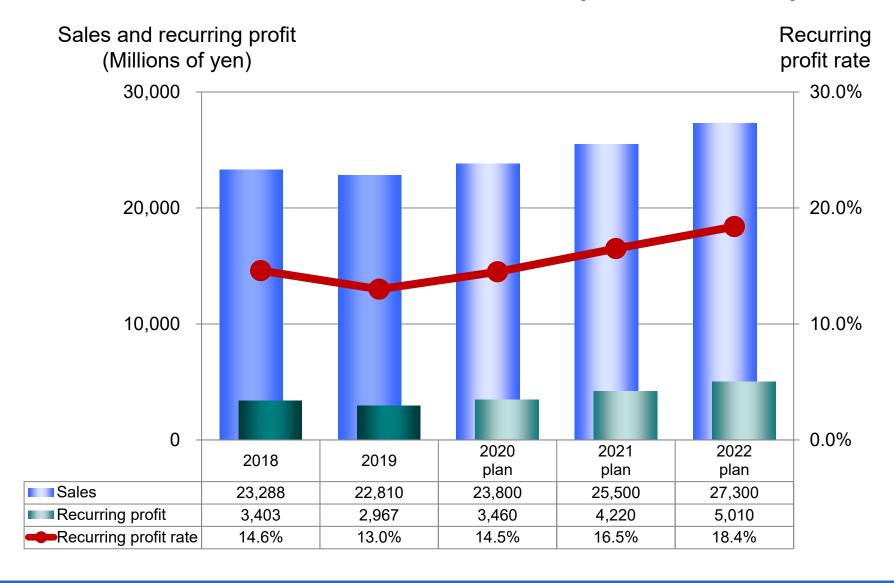
- Product development (business development)
- Market expansion (overseas market expansion)
- Productivity growth

Employee growth

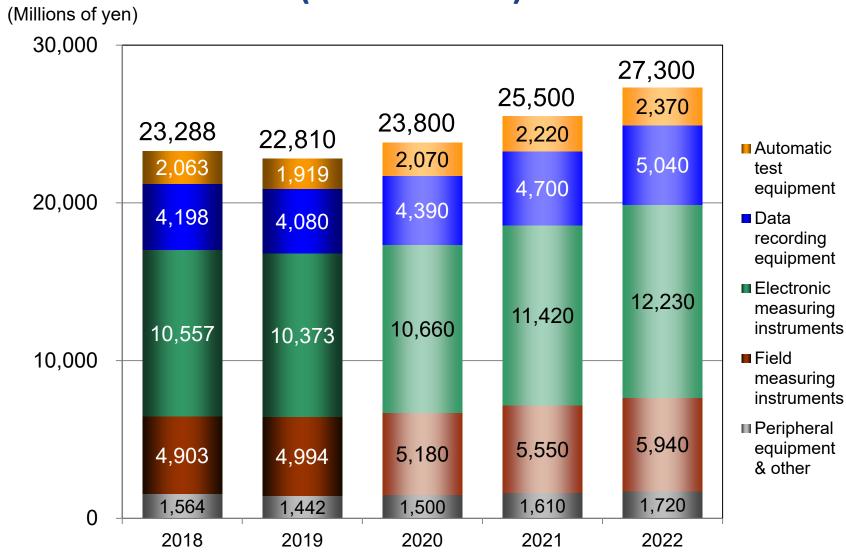
### **2020 Results Forecast**

	2019		2020		
	Results (millions of yen)	Percent of sales (%)	Plan (millions of yen)	Percent of sales (%)	Year-on-year (%)
Sales	22,810		23,800		104.3%
Cost of sales	12,744	55.9%	12,850	54.0%	100.8%
Selling, general, and administrative expenses	7,211	31.6%	7,610	32.0%	105.5%
Operating profit	2,853	12.5%	3,340	14.0%	117.0%
Recurring profit	2,967	13.0%	3,460	14.5%	116.6%
Net income	2,197	9.6%	2,600	10.9%	118.3%
Earnings per share	¥161.27		¥190.81		

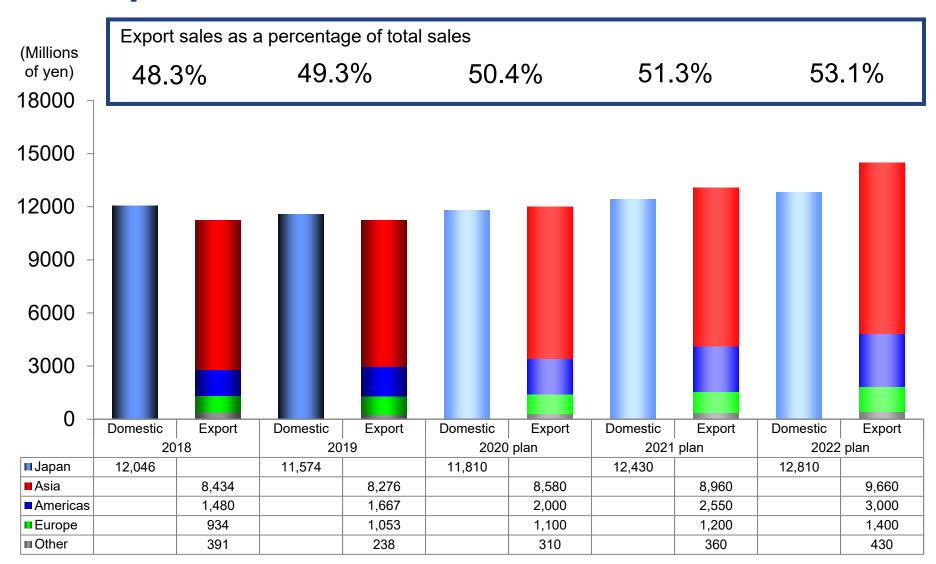
## Mid-term Business Plan (2020 to 2022)



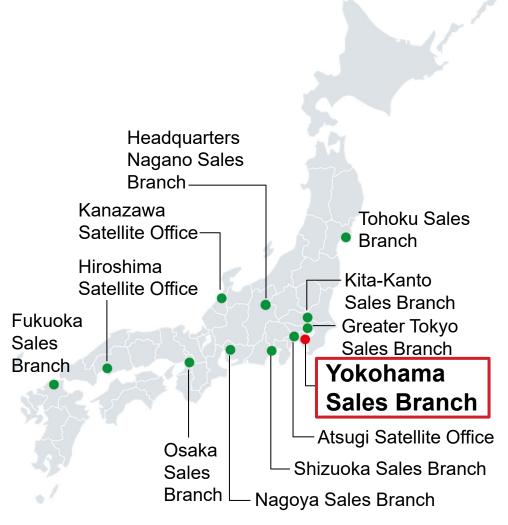
# Mid-term Sales Plan by Product Category (2020 to 2022)



# Export Mid-term Sales Plan (2020 to 2022)



# Sales and Service Structures (Japan)



### **Headquarters**

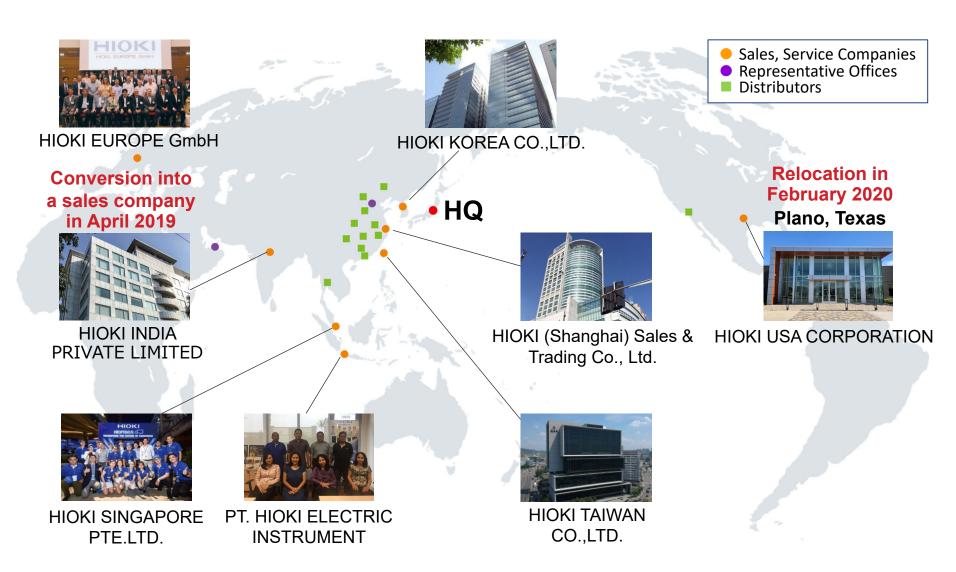
- A.T.E. Sales Engineering
   Division NEW
- Stategic Account Sales
   Division NEW

### **Domestic sales branches**

Yokohama Sales Branch NEW

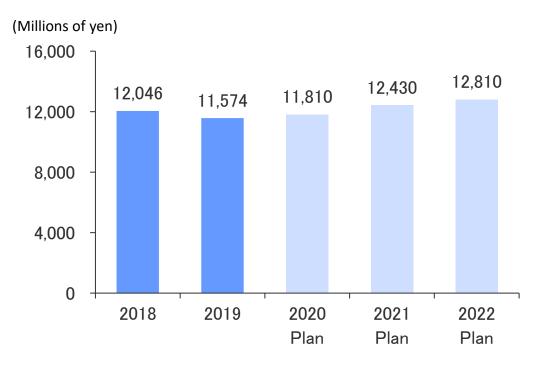


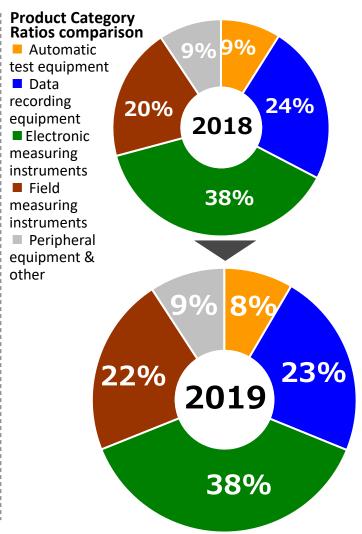
# **Pursuing Globalization**



# Actual and plan sales by geographic region: Japan

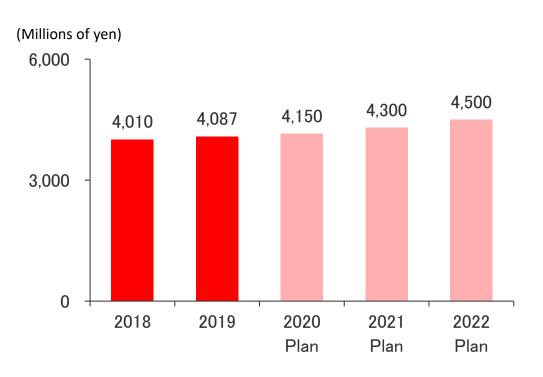
- We opened the Yokohama Sales Branch. We also formed new industry-specific and specialized sales teams and pursued more strategic sales activities.
- The electronic component market has stagnated due to the effects of trade friction between the U.S. and China. We expect to demand to firm in the automotive and infrastructure markets.

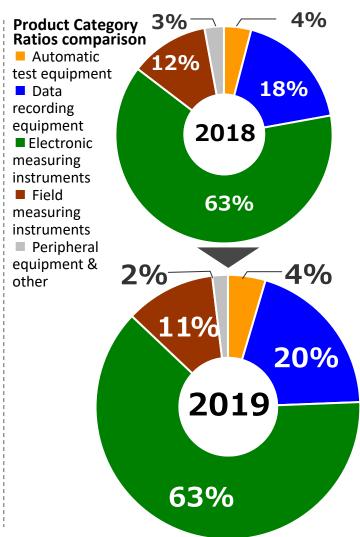




# Actual and plan sales by geographic region: China

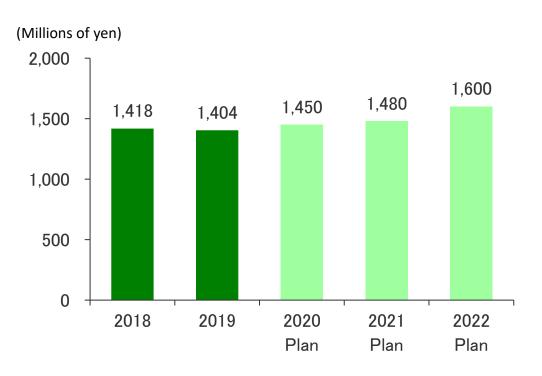
- Sales of recording instruments grew in the automotive and infrastructure markets.
- Domestic development and production of semiconductors strengthened due to trade friction between the U.S. and China.
- We will deepen our sales activities in the automotive and infrastructure markets.

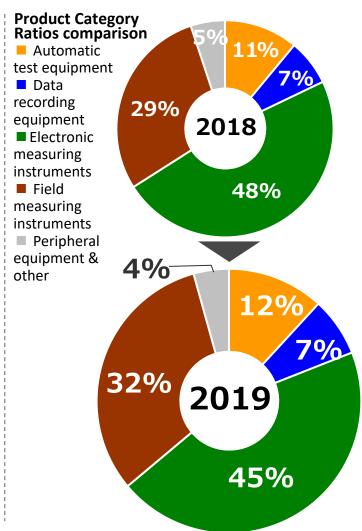




# Actual and plan sales by geographic region: Southeast Asia (including Oceania)

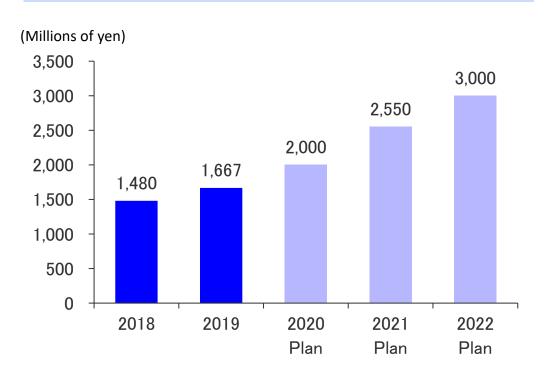
- Infrastructure investment remains strong despite a decline in automotive investment. Sales of field measuring instruments are growing steadily.
- We expect to see growth in the renewable energy market and will work to develop sales channels for related products.

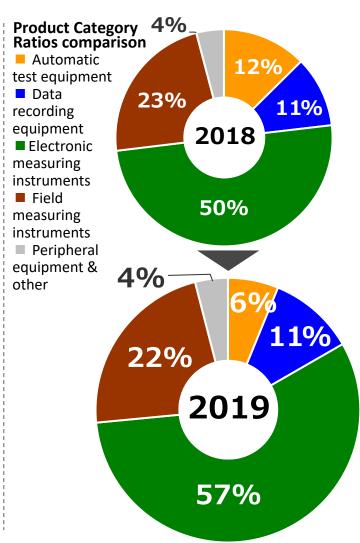




# Actual and plan sales by geographic region: U.S.A. (North and South America)

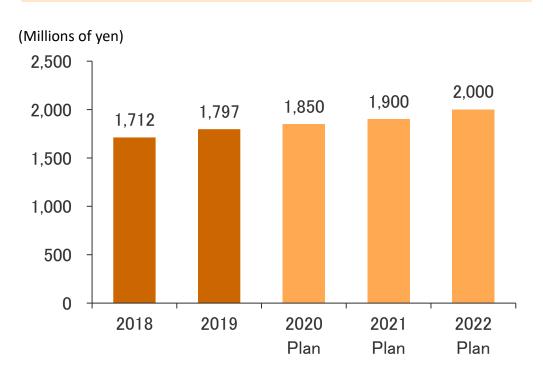
- HIOKI U.S.A. moved its Head Office to Texas. We will take advantage of the convenience of its new location to accelerate sales that center on customer engagement in growth markets.
- We will work to increase sales of power meters and field measuring instruments in the face of growth in markets such as renewable energy and batteries.

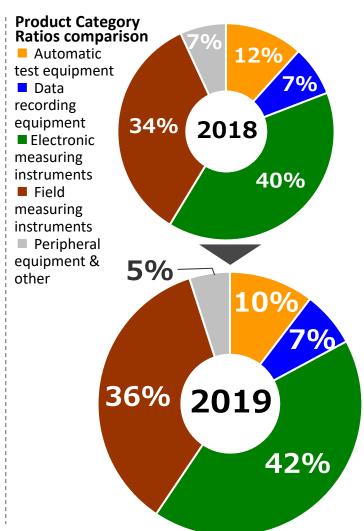




# Actual and plan sales by geographic region: Korea

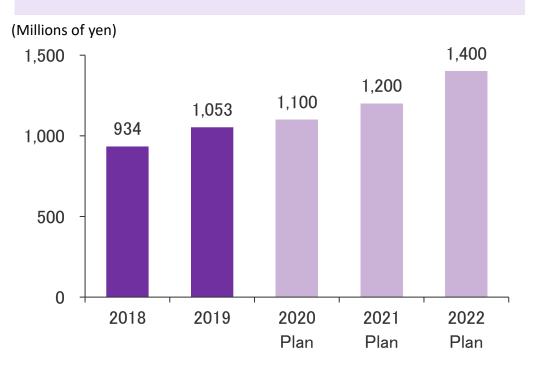
- Thanks to measures by distributors, sales in the infrastructure market have held steady.
- Investment in the battery market continues, and we saw strong sales of electronic measuring instruments and field measuring instruments.

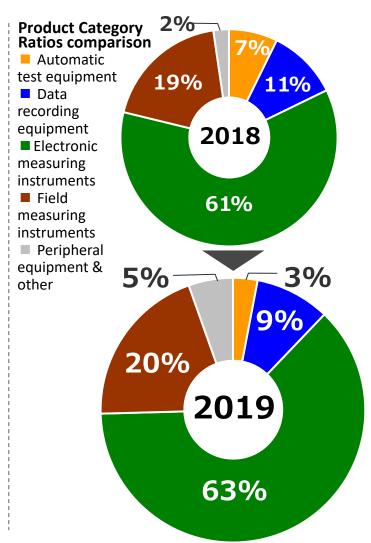




# Actual and plan sales by geographic region: Europe

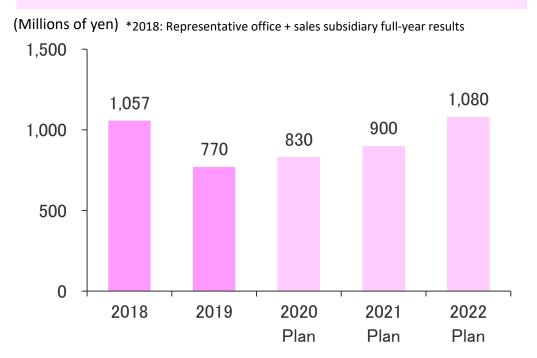
- Now in its third year, our sales company made smooth progress as it worked to increase awareness of the HIOKI brand and to build a sales network.
- We will work to increase sales of products such as highprecision power meters and current sensors in response to continued electrification in the automotive market.

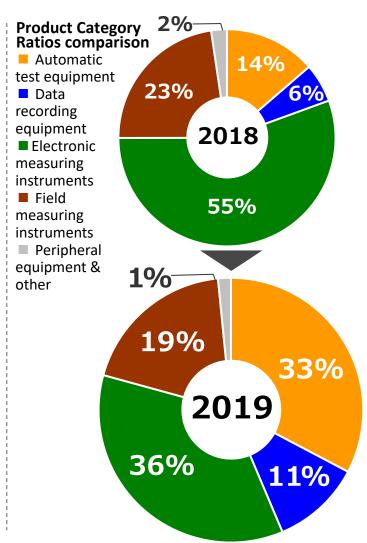




# Actual and plan sales by geographic region: Taiwan

- Sales in the electronic component market stagnated due to trade friction between the U.S. and China.
- Sales of automatic test equipment grew. We expect to see sales in the package board industry firm.



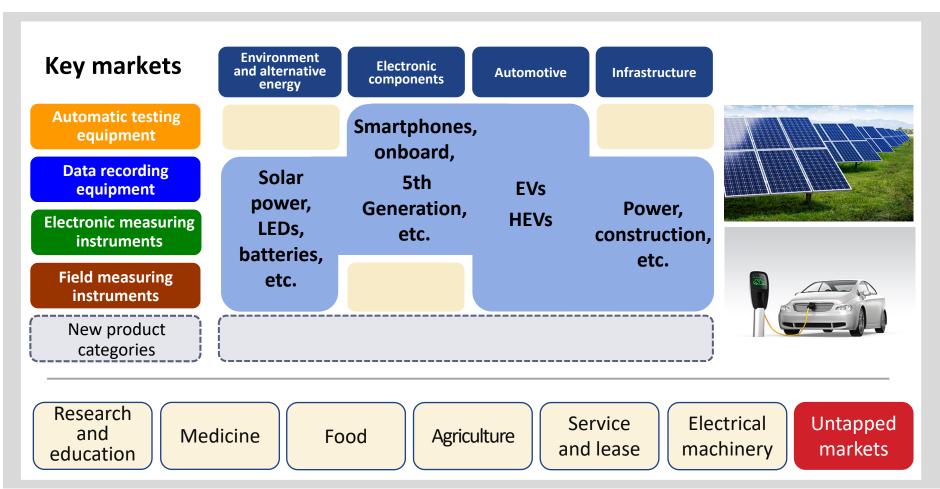


# Actual and plan sales by geographic region: Other

### 2020 plan: ¥300 million We converted our Indian subsidiary into a sales company in April 2019, and the company launched a robust program of sales India activities. Economic activity remained strong in all markets as new infrastructure, power plants, and factories were built. We will strengthen our sales activities going forward. 2020 plan: ¥180 million The rate of economic growth slowed significantly due to heightened geopolitical risk, pushing down demand for measuring instruments in the infrastructure and construction Middle East maintenance industries. We expect to see a recovery in the Middle Eastern economy, particularly in terms of demand for power plant-related products. We will also work to increase sales in Egypt and other African markets.

### **Hioki's Expanding Products and Markets**

We're working to grow and develop by expanding product launches in every market and by creating new product categories.



## Creating customer value through unique products and services

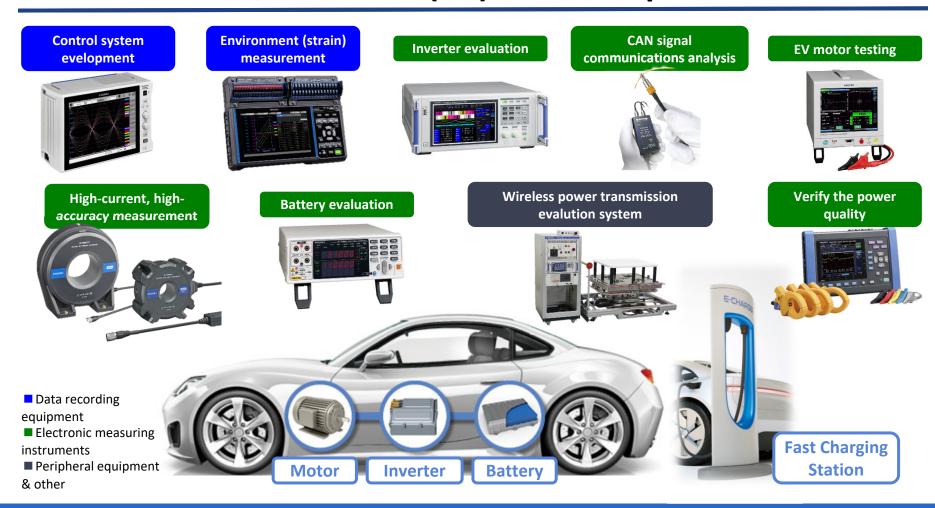


- Delivering unique customer value
- Boosting creativity and developing high-added-value products

Providing distinctive products to customers worldwide from Hioki Innovation Center

## Solutions for Vehicle Electrification and Computerization

#### For electric vehicle (EV) R&D and production



## Unique Hioki Products for the Automotive Market

#### Pursuing measurement convenience

Non-Contact CAN Sensor SP7001, SP7002

#### **Industry first**

Accurate, no-metal-contact detection of CAN signals from outside wire insulation



Memory HiLogger LR8450, LR8450-01

Best-in-class measurement speeds

1 ms sampling, even over a wireless link



### **Battery Process Solutions**

#### From R&D to field maintenance and recycling

Lithium-ion battery production processes **Electrode sheets research** Verifying the quality of Test charge and **Measuring internal Evaluate and test BMS** and development cell junctions discharge resistance



sheets



slitting

Sheet cutting and stacking



Tab welding





Electrolyte filling and impregnation



aging



Cell testing



Multichannel measurement



**Detecting contamination, separator** damage



**No-load voltage** measurement



#### Discovering and analyzing the causes of cell defects



■ Electronic measuring instruments

## Unique Hioki Products for the Battery Market

Electrode Resistance Measurement System RM2610

#### **Industry first**

Quantify composite layer resistance and interface resistance of electrode sheets using a proprietary HIOKI analytical technique to visualize these previously inaccessible properties



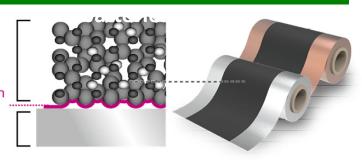
When you can visualize changes in resistance caused by materials, composition, and manufacturing conditions...

characteristics and quality trends, helping develop higher-output and longer-life

Composite layer

Interface between composite and current collector

Current collector



Electrode sheet diagram

# Solutions for Peace of Mind, Safety, and Efficiency in Infrastructure (Rail, Power, etc.)

#### Improving the productivity of measurement work in the field



Send measurement data to a smartphone and create reports on the spot.

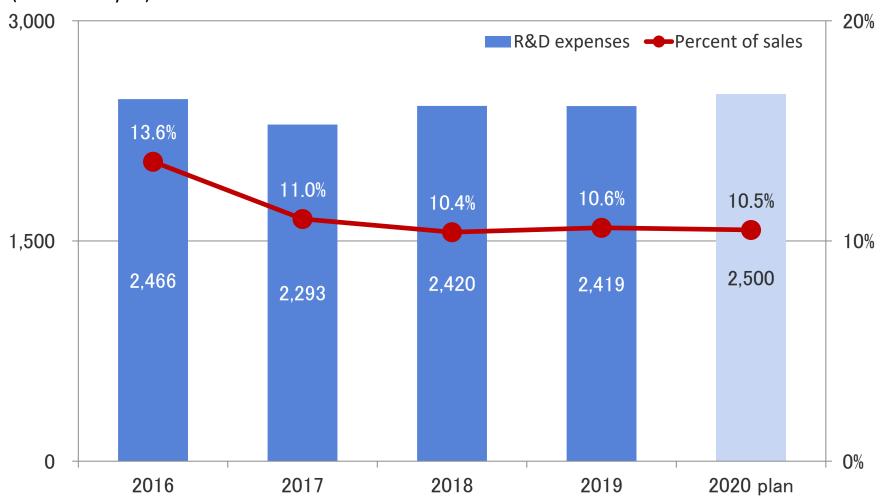
### Measures to Achieve Management Plan Goals

## Strengthening Sales Capability and Product Competitiveness

- 1 Overseas market expansion
- New product launches
  - New-product launches for FY2019
     22 for the year
     (First halve 15 products, second halves 7 products)
  - New-product launches planned for FY2020
     18 for the year
     (9 each planned for the first and second halves)

### **Trend in R&D Expenses**





### **Management Policies**

- Providing high-quality products and service of the highest caliber
- Link our dividend to business performance based on the ideal of consistently returning ¥20 of profit to investors and with a view to achieving a dividend ratio of 40%
- Increasing the transparency and objectivity of management in accordance with our corporate governance code



## 4. Reference Materials

HIOKI

### **HIOKI's Corporate Vision**

High Value-added Company

Management Vision

One and Only Products and Services

Management Policies

**Eight Management Policies** 

The HIOKI Philosophy

Respect for Humanity

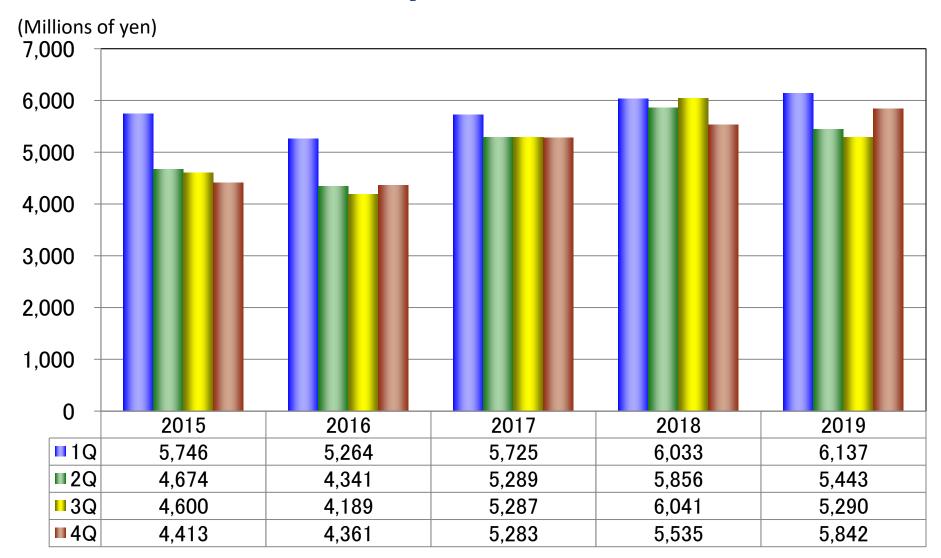
Developing potential and respecting individuality and aptitude

Contribution to Society

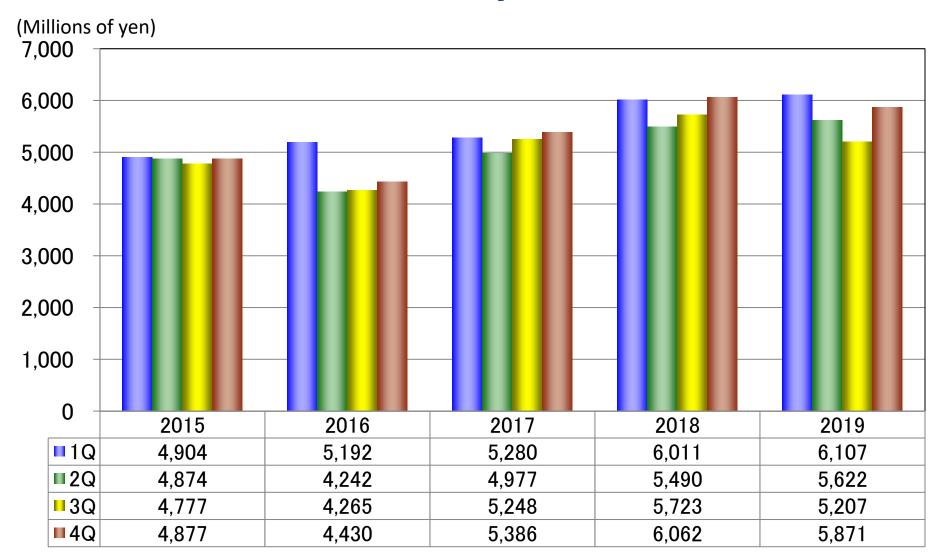
Practicing environmental management and fostering the development of the leaders of the future



### **Quarterly Order Volume**

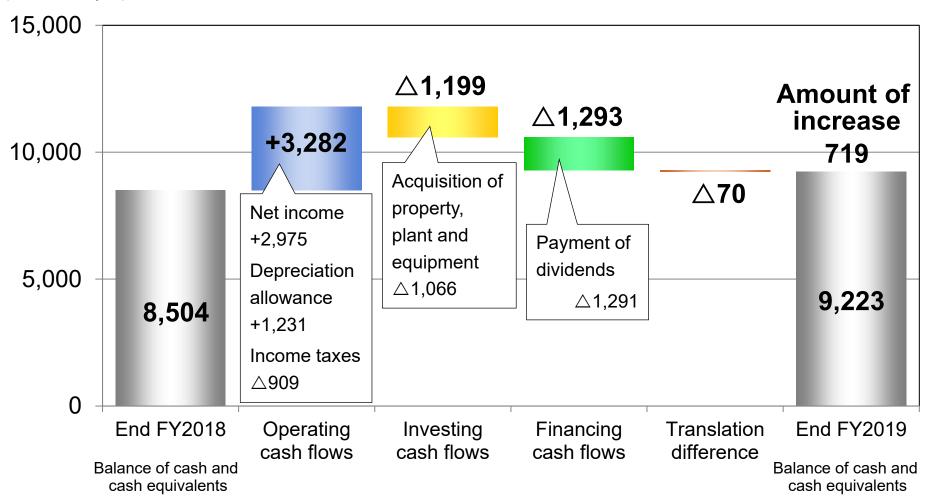


## **Quarterly Sales**

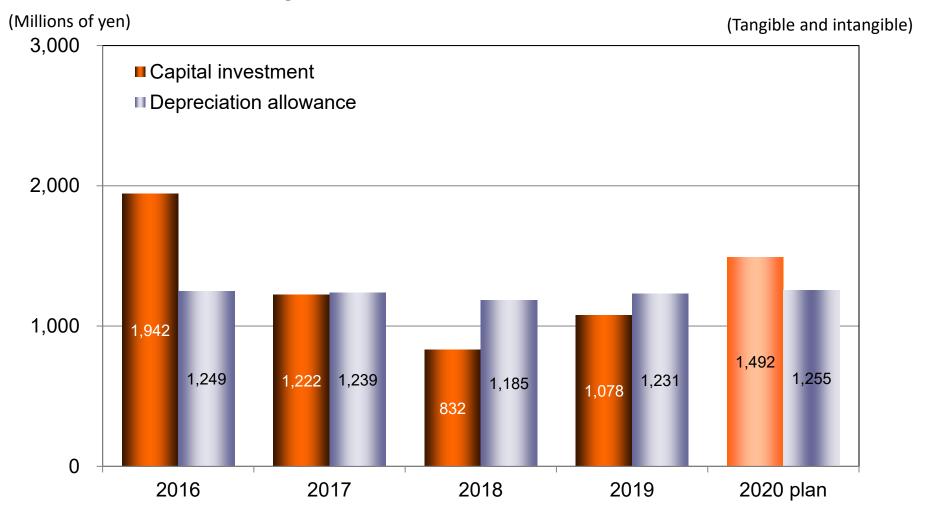


#### **Cash Flows**



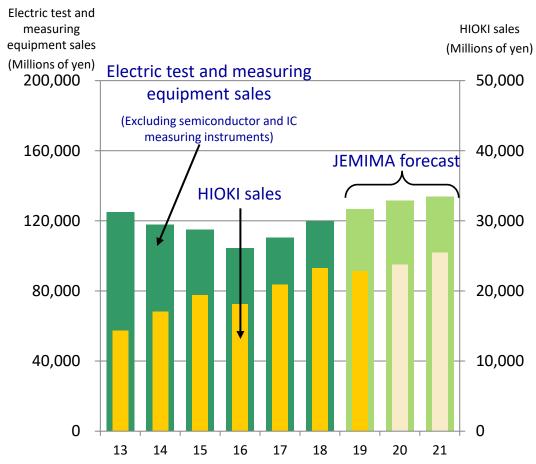


## **Capital Investment and Depreciation Allowance**



#### Reference Materials

## Business Environment in the Electrical Measuring Instruments Industry and Future Outlook



- \* As defined by JEMIMA, electric test and measuring equipment accounts for about 30% of electricity meters. Under the JEMIMA classification scheme, HIOKI's products consist of general measuring instruments, obtained by excluding semiconductor and IC measuring instruments from the electric test and measuring equipment category.
- \* Based on statistical data from the Japan Electric Measuring Instruments Manufacturers' Association. Sales figures for 2019 and subsequent years reflect JEMIMA forecasts (as of December 2019).

## \*Japan Electric Measuring Instruments Manufacturers' Association (JEMIMA) forecast

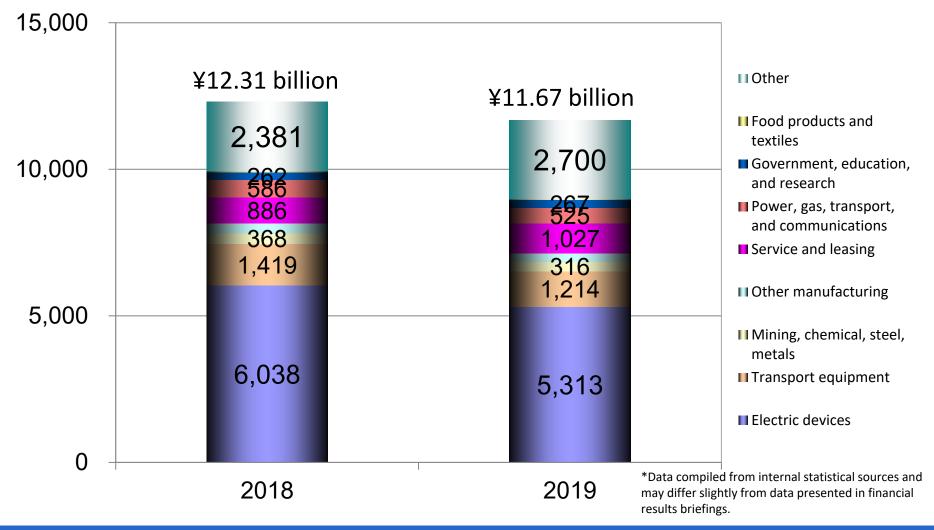
The forecast calls for an average annual growth rate of +2.8% from FY2019 to FY2023.

Underlying factors: Demand for measuring instruments will continue due to 5G-related infrastructure development and other factors until the 2020 Tokyo Olympics and Paralympics, in the immediate aftermath of which there is unlikely to be a sharp decline since the national roll-out of 5G networks will take time.

Demand for motor-, inverter-, and battery-related measurement will grow as the automotive industry continues to make large investments in xEV R&D in order to reduce CO<sub>2</sub> emissions.

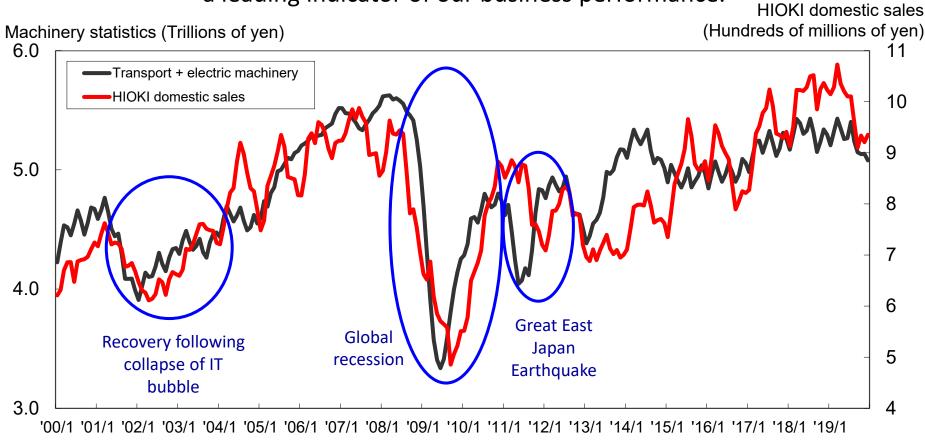
### Trend in Sales (Domestic) by Industry

(Millions of yen)



## Trend in Machinery Statistics and HIOKI Performance

We consider machinery statistics (for transport machinery and electrical machinery) a leading indicator of our business performance.



\* Machinery statistics and HIOKI domestic monthly sales calculated as six-month moving averages.

Machinery statistics reflect estimated production value based on the mining and manufacturing index.

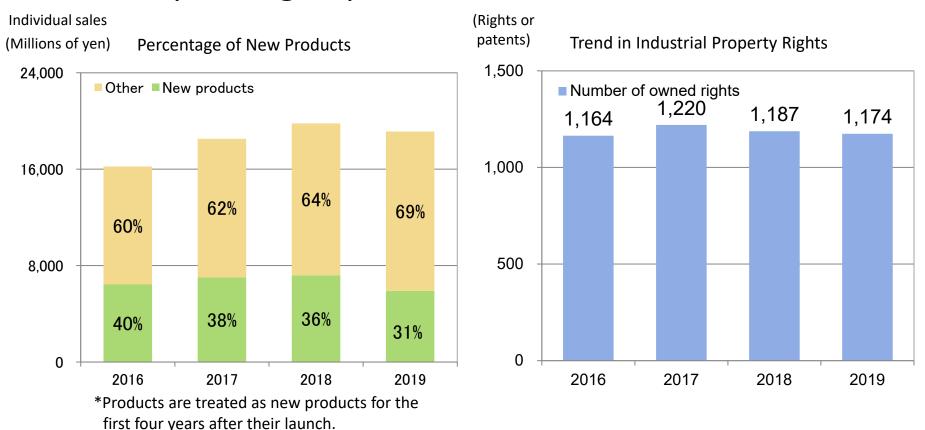
### **Improving Value-added Productivity**

#### **Concurrent engineering**

In HIOKI's approach to **Shared** product development, Development concepts departments come together organically with the goal of improving productivity. Sales and Quality service Production

## Development Capability: Unique Products Built around Core Technologies

- Patent program that motivates inventors
- R&D spending as percent of sales: Greater than 10%



## Production Capability: Manufacturing Calibrated to Sales Velocity



Aggressively practicing a "Quality First" approach from the standpoint of the Three Reality principle based on the 5S philosophy



Enhancing initiatives at the source of development Minimizing cost through leveled production



Anticipating customer information and accommodating customer requests
Shortening delivery times for after-sales service

## Sales Capability: Solutions-oriented Sales with a Customer Focus

#### **Domestic Japanese sales**

- Direct marketing targeting customers in Japan (about 55,000 companies)
- About 60 salespeople at 12 facilities in Japan
- About 20,000 sales visits per year



#### Global sales

- Eight group companies
- Two overseas representative offices
- Partnerships with international distributors (about 200 companies)



## Assessing latent customer wishes and future needs

### **Automatic Test Equipment**

Pass/ fail testing of electronic circuit boards

Principal products	Fields of use (applications)
Populated circuit board testing systems	Testing circuit boards on which electronic components have already been mounted
Bare board testing systems	Testing circuit boards with embedded active and passive devices or boards on which no components have been mounted  (Including IC packages and flexible boards used in devices such as mobile phones)



In-Circuit Tester FA1220



Flying Probe Tester FA1816



Flying Probe Tester FA1817

Reliable detection of latent defects on high-density circuit boards

### **Data Recording Equipment**

 Recording and analyzing changes in electrical signals over time

**Principal products** 

Fields of use (applications)

Memory recorders

Observing and recording waveforms for high-speed phenomena in an extensive array of applications ranging from the electric field to the machinery field



Memory HiCorder MR6000

Developed in 1983

Data loggers

Monitoring and recording long-term changes in temperature, voltage, and other characteristics across numerous channels

Capable of capturing large amounts of data over extended periods of time



Memory HiLogger LR8450

## **Electronic Measuring Instruments (1)**

Evaluating and testing electronic components and devices

Principal products

Fields of use (applications)

Circuit element measuring instruments

Testing on electronic component production lines Evaluating the performance of materials

Fast, high-stability measurement in a compact, lightweight package



Impedance Analyzer IM7585

Battery testers

Battery R&D and shipping inspections; measuring internal resistance and battery voltage

Extensive product line to accommodate a variety of batteries



Safety testers

Measuring the insulation resistance of electrical equipment and devices; withstand voltage testing

Broad product line for an array of applications



Insulation Tester ST5520

## **Electronic Measuring Instruments (2)**

 Power and power quality analysis in the environment and energy field

Principal products	Fields of use (applications)
Power meters	Evaluating and analyzing inverters and motors Reducing energy use by electrical equipment; managing power



Power Analyzer PW6001

HIOKI developed the first clamp-type meter in 1978.

## Power quality analyzers

Verifying the quality of dispersed power supplies such as alternative energy (solar and wind power, fuel cells, etc.) and cogeneration systems

Analytical devices capable of identifying the causes of power supply problems



Power Quality Analyzer PQ3198

Current probes

Observing current waveforms

For use as oscilloscope sensors

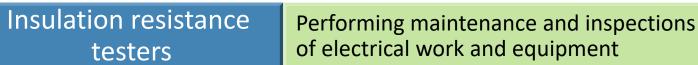


### **Field Measuring Instruments**

 Performing maintenance and inspections of electrical wiring work and equipment

Principal products	Fields of use (applications)
lamp ammeters	Performing maintenance and inspections of electrical wiring work and equipment

A powerful brand with a long history



A must-have instrument for electrical work

Digital multimeters

Measuring characteristics from voltage to current and resistance

Used in all applications





Insulation Tester for Photovoltaic Systems IR4053



Digital Multimeter DT4254

#### Note on the Information in This Presentation

Plans, forecasts, strategies, and other information in this presentation relating to future business performance were compiled on the basis of currently available data and by their nature incorporate a certain degree of risk and uncertainty. Actual performance will be determined by a variety of important factors and may vary significantly.



Inquiries related to this presentation or investor relations at HIOKI

Junko Narusawa
Assistant Manager in Charge of Public Relations
General Affairs Department
HIOKI E.E. CORPORATION

Phone: +81-268-28-0555 E-mail: ir@hioki.co.jp URL: https://www.hioki.co.jp/jp/