

November 29, 2018

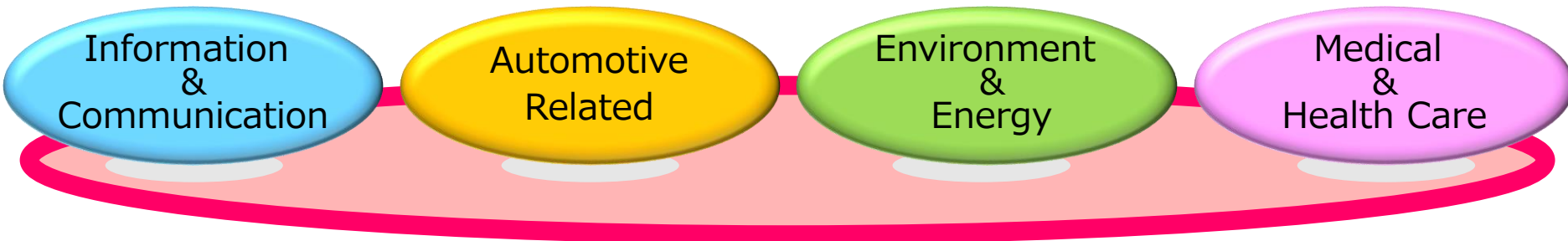
# Kyocera IR Day

Hideo Tanimoto  
President and Representative Director

**KYOCERA Corporation**

# Basic Policy for Business Growth

**FY3/21 Target: Sales revenue 2 trillion yen  
Profit before income taxes ratio 15%**



**Double productivity,  
Process innovation**

**Accelerate internal synergies  
and external collaboration**

Expand business fields and improve added value

**Expand  
existing businesses**

**Create  
new businesses**

# Enhance Management Foundation ( 1 )

## 1. Aggressive Capital Expenditures ▶ Expand Existing Businesses

**FY3/19 Capital Expenditures Forecast : 110 Billion Yen**

Kyocera Document Technology China 10<sup>th</sup> plant



(Start mass-production Aug. 2018)



Organic Photo Conductor (OPC) drum

New facility at Kagoshima Kokubu Plant



(Plan operations from H2 FY3/19)



Parts for SPE

Kyocera Document Technology Vietnam 3<sup>rd</sup> plant



(Plan operations from FY3/20)

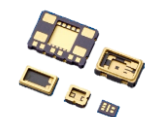


MFP Printer

New facility at Kagoshima Sendai Plant



(Plan operations from FY3/20)



SMD ceramic packages



Ceramic packages for image sensors

# Enhance Management Foundation ( 2 )

## 2. Utilize State-of-the-Art Technology ▶ Strengthen Competitiveness **Double Productivity and Cost Reduction**

**Production**

### AI Laboratory

Provide AI utilization tools to each business division



Design

Automated design



Production process

Automate equipment preventive maintenance



Inspection

Enhance inspection accuracy

**Production**

### Robot Utilization Center

Support robot utilization in each business division



Advance verification

Concept and technology verification via simulations



Introduction support

Support for advance technology verification and introduction

**Create model lines ⇒ Deploy in each division**

Indirect departments

## Business Innovation Project

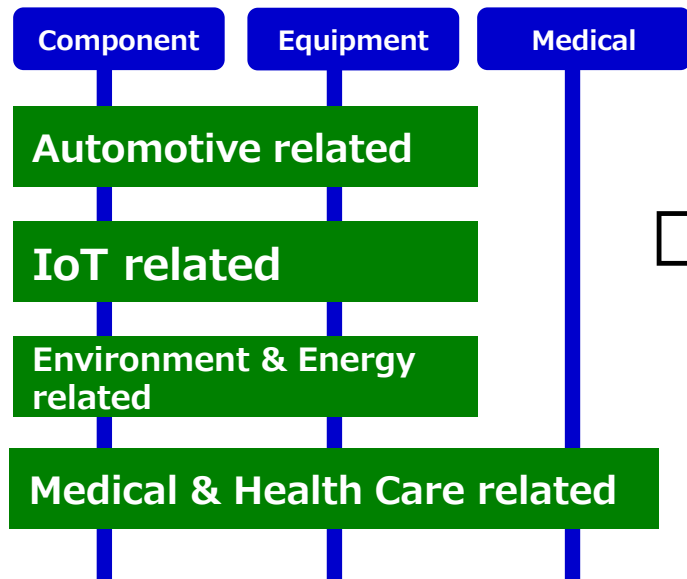
# Enhance Management Foundation (3)

## 3. Strengthen Internal Synergies & External Collaborations ▶ Create New Businesses

### Strengthen R&D Structure

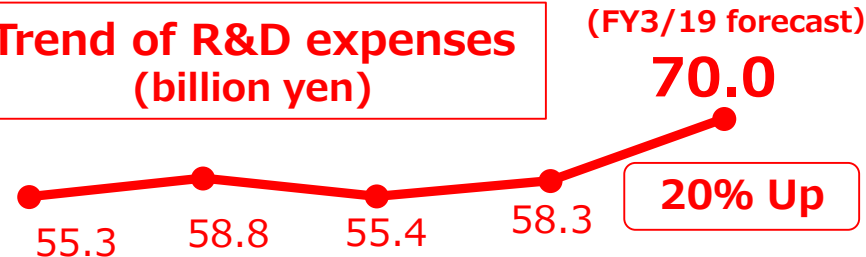
Create a cross-organization development system for each core theme

### R&D Structure

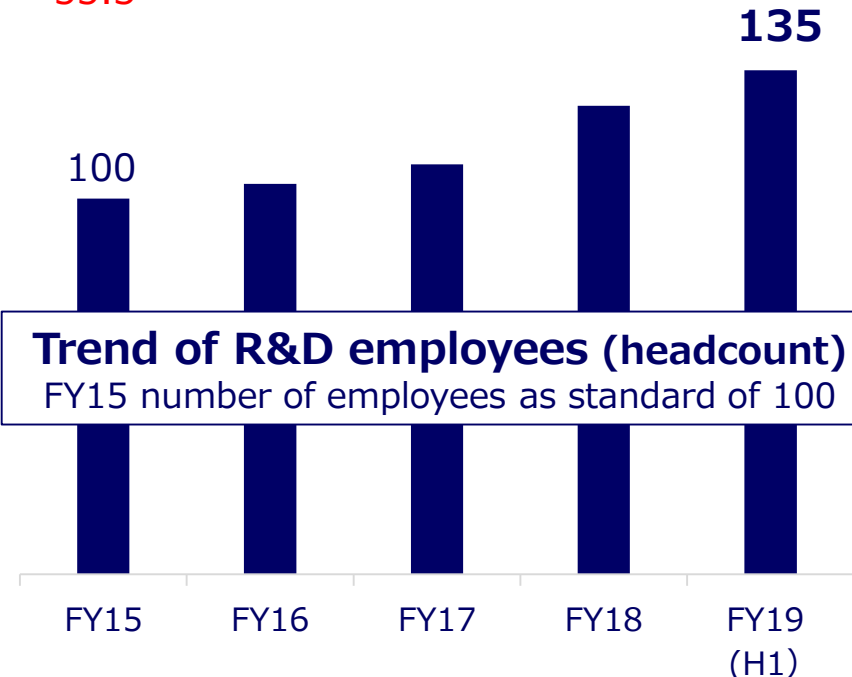


External collaborations

Trend of R&D expenses (billion yen)

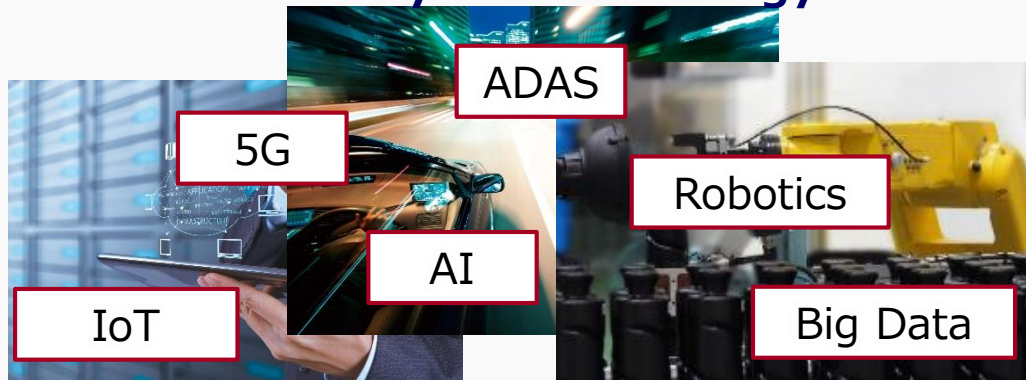


Trend of R&D employees (headcount)  
FY15 number of employees as standard of 100



# Challenges to Achieving Mid- to Long-Term Growth

## Technological innovation and integration of industry and technology

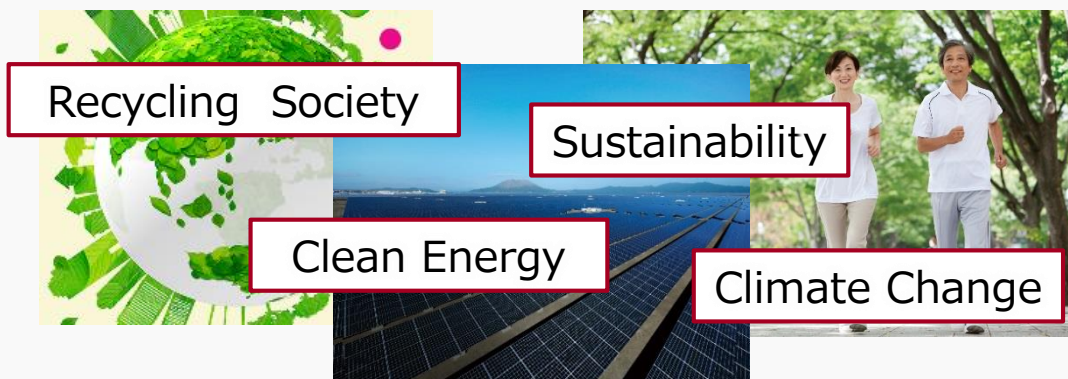


- Innovate productivity
- Expand business fields



**Reform manufacturing and create business by using AI and IoT**

## Economic growth and response to environment/energy issues



- Create added value
- Craft a new business model



**Establish energy solutions business**

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1. Reform manufacturing and create businesses by using AI and IoT

# Enhance Production Efficiency through AI and Line Automation

## Ex: Fine ceramic parts

[Double productivity promotion project]

Production div.

Production & technical development div.

KCCS\*

Other hardware/software manufacturers

\* Kyocera Communication Systems Co. Ltd.



[Introduce automated processes in parts to model business div. and line]

Scheduler

Operating system



Auto drawing, Sorting, Grinding, Processing, Estimation of shrinkage rate, etc.

Data collection / analysis

Reduce headcount via automation: Down to 1/5

Increase utilization rate via AI: 1.5x

Effect

## Ex: Kyocera Document Solutions

Fully automated toner container line (Tamaki Plant)

- Started operation of second line in July
- From molding to assembling, filling, inspection and packaging operation



Fully automated line for OPC drums (China plant)

- Started mass-production in August



Reduce headcount via

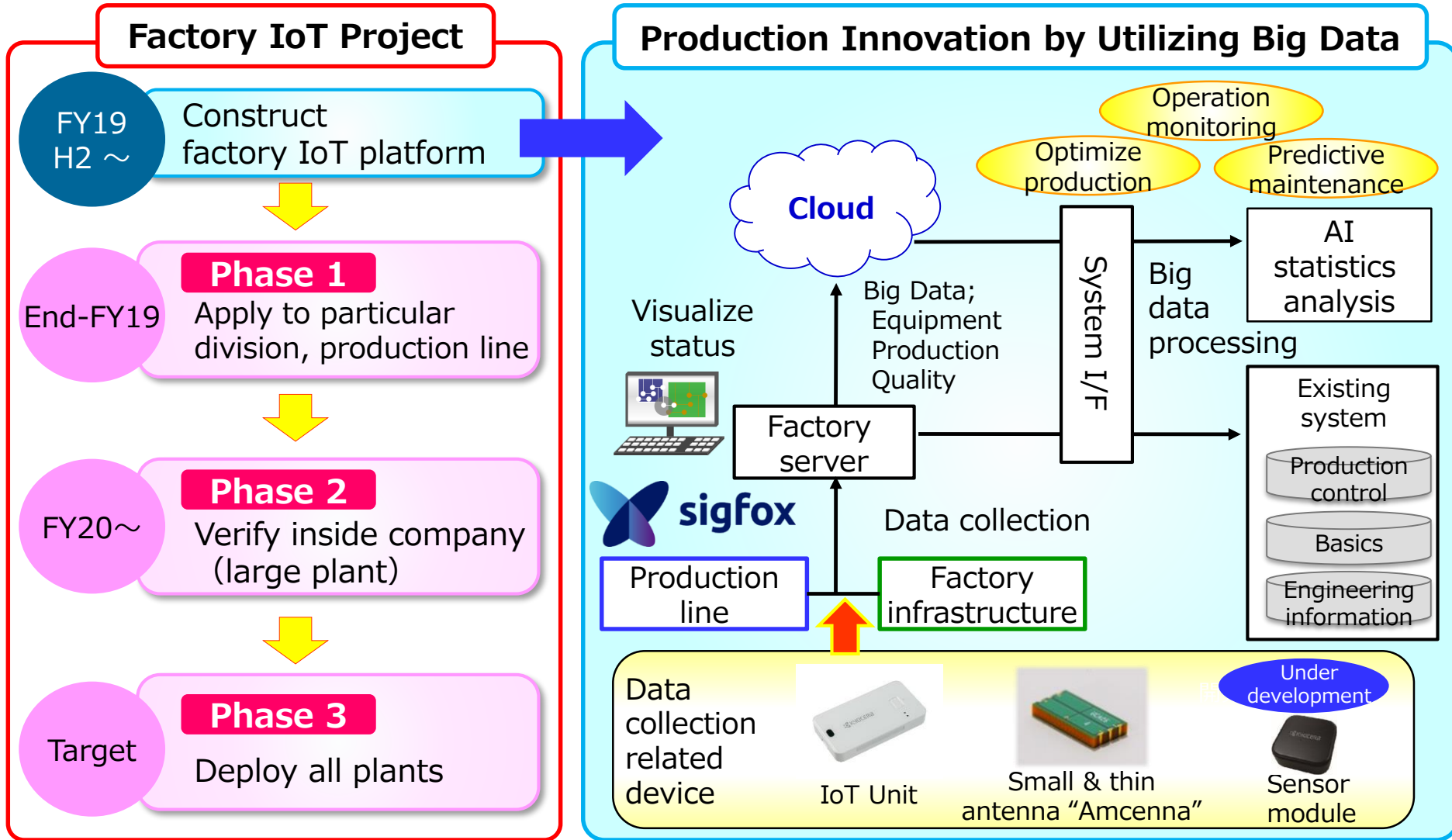
automation at both sites: Down to 1/10

Effect

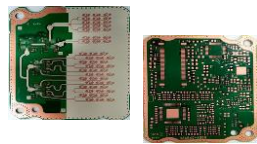
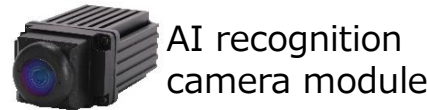
**Aim to double productivity through deployment across entire Group**



# Boost Competitiveness by Promoting Factory IoT Project



# Connected Car Solution Proposed by Kyocera



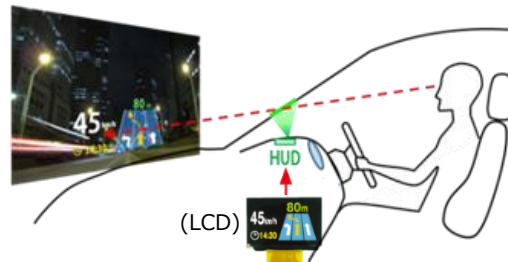
Millimeter-wave substrate



Fused sensor of camera and LIDAR



Haptic transmission CID

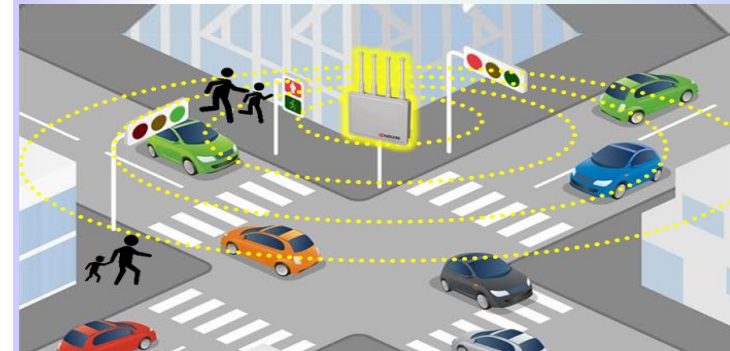


Head-up display

Develop unit/system compatible with V2X

Business opportunity

Create infrastructure system via 5G etc.



Enter into mobility service such as MaaS etc.

**Use and deploy internal/external management resources from automotive systems to infrastructure**

## 2. Establish energy solutions business

# Rising Awareness of Environment/Energy Issues

## **COP21 (21<sup>st</sup> Conference of the Parties of the United Nations Framework Convention on Climate Change)**



Japan: Reduce greenhouse gas emissions by 26% by 2030 compared with 2013

## **RE100 Project (Renewable Energy 100% Project)**



Supply 100% renewable energy across operations



Expand environment/energy market to realize carbon-free society

**Consider launch of systems service business supporting self-consumption of power**

# Business Development Aimed at Self-Consumption

## Create business model linked to changes in demand

Stimulate demand via Feed-in Tariff



User: Obtain highly efficient system at low cost and gain revenue by selling power  
 Maker: Business model based on panels



Rising self-consumption mind

User: Each person uses highly efficient system reliably over long term  
 Maker: Shift to maintenance/management service business model supporting long-term stable supply



### PV System

- Boost price competitiveness
- High conversion efficiency



### Battery

- Large capacity
- Long-life



### SOFC

Roll out from parts to commercial system



### HEMS

- AI-embedded
- Link with heat pump



### IoT unit

Collect and measure various data



### O&M service

Monitoring, checking and maintenance services

Component / Equipment / System

Construction • Monitoring • Maintenance Services



**Create new business model and invigorate solar energy business via ties with business partners**

# Creation of VPP Solutions

## Kyocera's VPP creation verification scheme

Demand-supply adjustment market

General transmission and distribution operators, retail electricity operators, power producers

Demand-supply adjustment  Control

Aggregation coordinator

Power companies, power supply-demand management companies, etc.

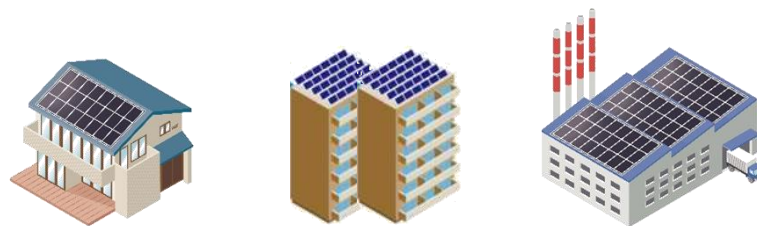


Resource aggregator

**Kyocera**  
**Integrated control of multiple dispersed energy resources**



Consumer



Discharge ⇔ charge in each household, facility

### 【 VPP 】

Maintain balance in energy supply and demand to ensure efficient use

### Feature of Kyocera

1. Provide high-precision power sensor\* and storage battery to each household \*Product of Energy Gateway, Inc.
2. Identify power consumption, etc. of each appliance via IoT
3. Unique control storage battery with POM SYSTEM

### Reform sales model by creating VPP business

- Add storage battery to solar power generation following FIT cessation
- Shift to service & maintenance business, incl. power

### 3. Aggressive investment to expand business

# Capital Expenditure

**Capital expenditure**

**Earmark over 100 billion yen from FY20**

- Expand production capacity
- IT related investment
- Support for environmental issue

**FY19**  
Plan operation



**New facility at Kagoshima Kokubu Plant**  
(Fine ceramic parts)

**FY20**  
Plan operation



**New facility at Kagoshima Sendai Plant**  
(Ceramic packages)

**FY20**  
Plan operation



**Kyocera Document Technology Vietnam 3<sup>rd</sup> plant**  
(MFP, Printer, related-parts)

**FY21**  
Plan operation



**Dongguan Plant, China**  
(Parts for lenses)

**FY21**  
Plan operation



**Kanagawa Kawasaki Plant**  
(Organic chemical materials)



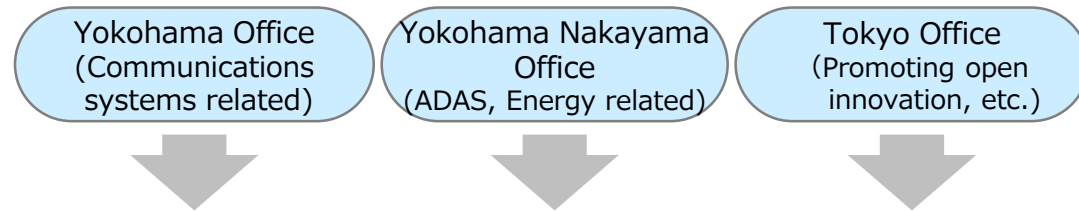
# R&D

**R&D**

**Build new software-related research facility in Yokohama Minato Mirai 21**  
 (Plan to start operation from the end of May 2019 onward)



**OCEAN GATE MINATO MIRAI  
 ( 1F・3F・5F・6F )**



**Minato Mirai Research Center  
 (provisional name)**

- Strengthen development system for software
- Further accelerate open innovation



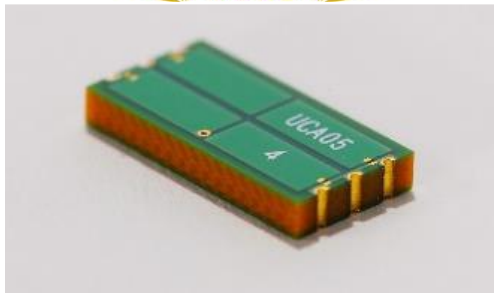
**Speed up new business creation through  
 reorganization of R&D structure**

# New Products Development, M&A

## New products

Increase development items and external collaborations

Key device supporting IoT spread



Amcenna  
small, thin antenna

Contributing to longer life of artificial hip joints

Prize of the Minister of Economy, Trade and Industry at 2018 National Invention Awards



Aquala® surface-processing technology for artificial hip joints developed in collaboration with The University of Tokyo

Contributing to automation of inspection and analysis in life sciences field



Cell separation and concentration measurement device and optical sensor (upper right)

## M&A

Aim to secure new projects with annual revenue of 100 billion yen

## Cautionary Statements with respect to Forward-Looking Statements

Certain of the statements made in this document are forward-looking statements, which are based on our current assumptions and beliefs in light of the information currently available to us. These forward-looking statements involve known and unknown risks, uncertainties and other factors. Such risks, uncertainties and other factors include, but are not limited to the following:

- (1) General conditions in the Japanese or global economy;
- (2) Unexpected changes in economic, political and legal conditions in countries where we operate;
- (3) Various export risks which may affect the significant percentage of our revenues derived from overseas sales;
- (4) The effect of foreign exchange fluctuations on our results of operations;
- (5) Intense competitive pressures to which our products are subject;
- (6) Fluctuations in the price and ability of suppliers to provide the required quantity of raw materials for use in our production activities;
- (7) Manufacturing delays or defects resulting from outsourcing or internal manufacturing processes;
- (8) Shortages and rising costs of electricity affecting our production and sales activities;
- (9) The possibility that future initiatives and in-process research and development may not produce the desired results;
- (10) Companies or assets acquired by us not produce the returns or benefits, or bring in business opportunities;
- (11) Inability to secure skilled employees, particularly engineering and technical personnel;
- (12) Damages on our information security systems from cyberattacks, etc. and significant costs in order to recover and maintain the systems;
- (13) Insufficient protection of our trade secrets and intellectual property rights including patents;
- (14) Expenses associated with licenses we require to continue to manufacture and sell products;
- (15) Environmental liability and compliance obligations by tightening of environmental laws and regulations;
- (16) Unintentional conflict with laws and regulations or newly enacted laws and regulations;
- (17) Our market or supply chains being affected by terrorism, plague, wars or similar events;
- (18) Earthquakes and other natural disasters affecting our headquarters and major facilities as well as our suppliers and customers;
- (19) Credit risk on trade receivables;
- (20) Fluctuations in the value of, and impairment losses on, securities and other assets held by us;
- (21) Impairment losses on property, plant and equipment, goodwill and intangible assets;
- (22) Unrealized deferred tax assets and additional liabilities for unrecognized tax benefits; and
- (23) Changes in accounting principles.

Due to such risks, uncertainties and other factors, our actual results, performance, achievements or financial condition may be substantially different from any future results, performance, achievements or financial condition expressed or implied by these forward-looking statements. We undertake no obligation to publicly update any forward-looking statements included in this document.