



KONICA MINOLTA

Imaging-IoT Solutions Business

October 6, 2021

Toshiya Eguchi,

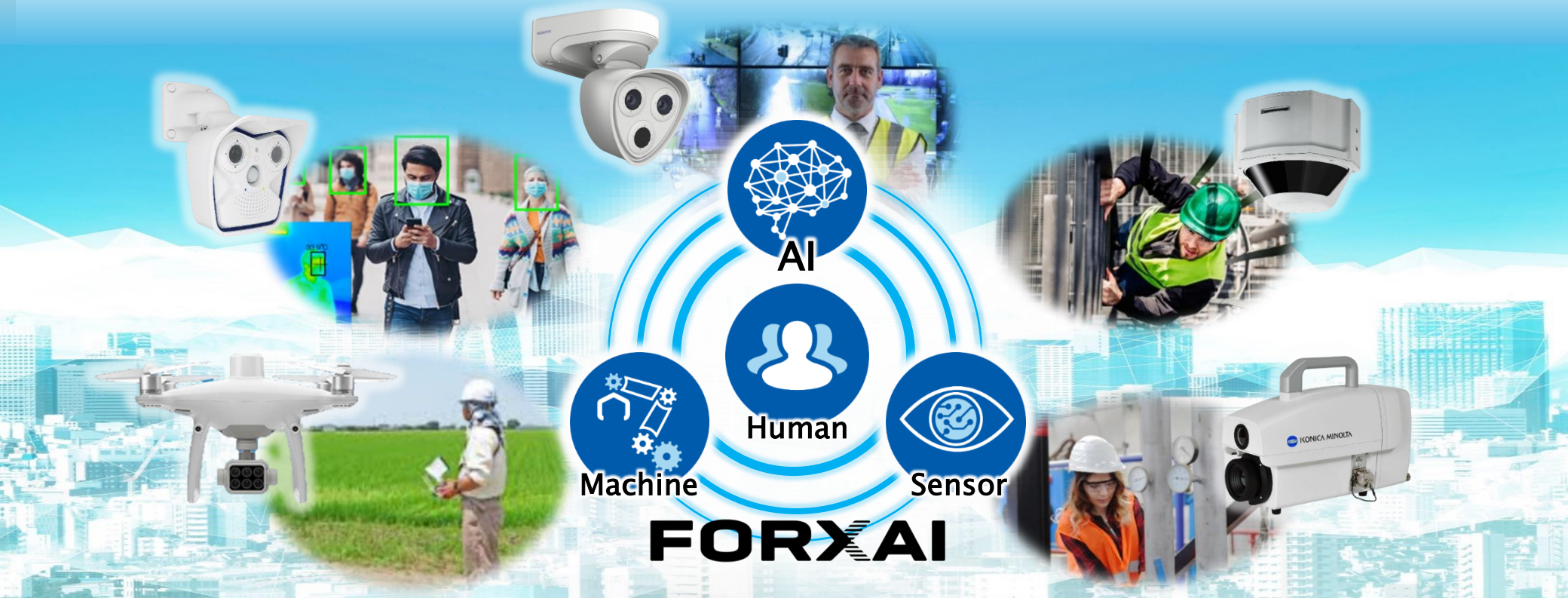
Executive Vice President and
Executive Officer

Responsible for Imaging-IoT
Solution Business Unit and
Visual Solutions Business Unit



GO BEYOND HUMAN VISION

Realization of safe and secure society by delivering Imaging IoT Technologies to the monitoring and inspection area



Macro environment



POLITICS
US-China competition for technological supremacy
FCC restrictions on Chinese companies



ENVIRONMENT
Abnormal weather and environmental measures
Disaster-prevention measures related to aging facilities



SOCIETY
Labor shortages
Shift to remote services



TECHNOLOGY
Digital twins
AI/5G/robots

There is significant global demand for digital transformation (DX) in industrial fields. In the monitoring and inspection field, we leverage our imaging IoT technology to contribute to the evolution of worksites.

Monitoring



Environment and energy

Making up for labor shortages and achieving safe and secure operations
Utilizing predictive maintenance to create continuously evolving sophisticated maintenance systems

“Decarbonization” through gas monitoring



Safety and disaster prevention

Safe and secure operations with AI-based disaster-prevention monitoring

Inspection



Smart factories

Achieving high-quality, multipolar, multi-product and small-lot production that does not rely on the expertise of skilled engineers

Sophisticated manufacturing with AI-based visual inspections



<https://video.konicaminolta.com/detail/videos/%E4%BA%8B%E6%A5%AD%E3%82%B3%E3%83%B3%E3%82%BB%E3%83%97%E3%83%88/video/6275572313001/forxai>

Konica Minolta's Strength in Imaging IoT and AI Technology

Combination of our own device, algorithm development, and high-speed implementation technology

Input device development



Behavior analysis sensor



Digital X-ray equipment



Fluorescent nanoparticles



Spectrophotometer



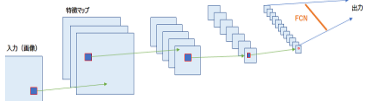
AI camera



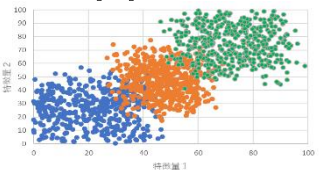
X-ray Talbot-Lau

Data learning → Algorithm development

Deep learning model creation




Machine learning




Development infrastructure

Learning environment



Data analysis Platform




AI system development

Image recognition + Data analysis

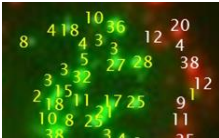
Human behavior

- Posture and behavior recognition




Advanced medicine

- Cell recognition
- Medical imaging



Inspection


- Visual inspection
- Facility inspection



Algorithm implementation technology

Hardware Optimized implementation

(CPU, GPU, FPGA)



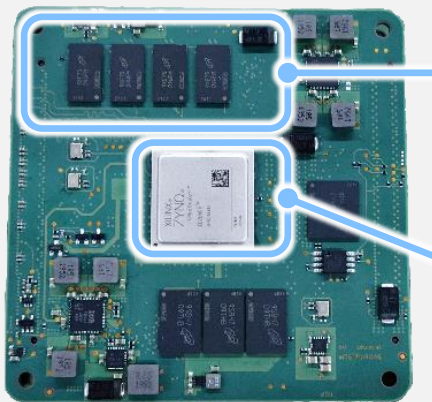



AI Technology for Monitoring Solutions

Strengthening our competitiveness in the intelligent camera field, where high growth is expected

Technology

Making more competitive products through joint development with MOBOTIX



Memory
(Capable of multistreaming on 4K cameras thanks to 4x the amount of storage)

AI processing chip
(2.4x processing capabilities compared to our conventional ones)

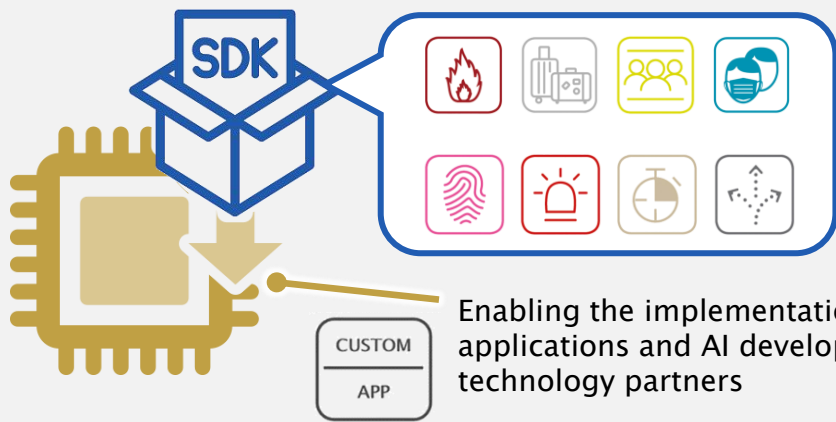
Differentiation through Konica Minolta AI technology



Object/outline/skeletal identification/person tracking (simultaneous)

Solutions

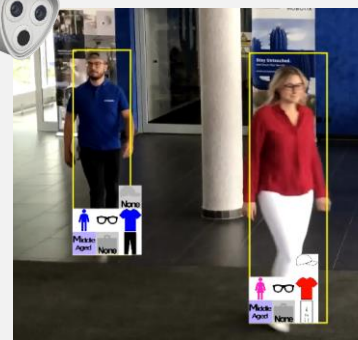
Speeding up development through co-creation with technology partners



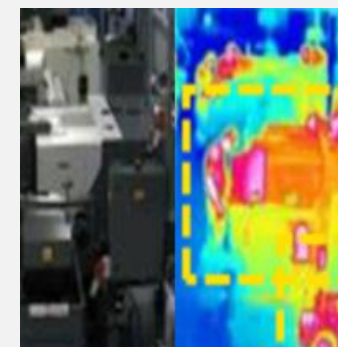
Sales growth with AI camera solutions



Recognition of human attributes

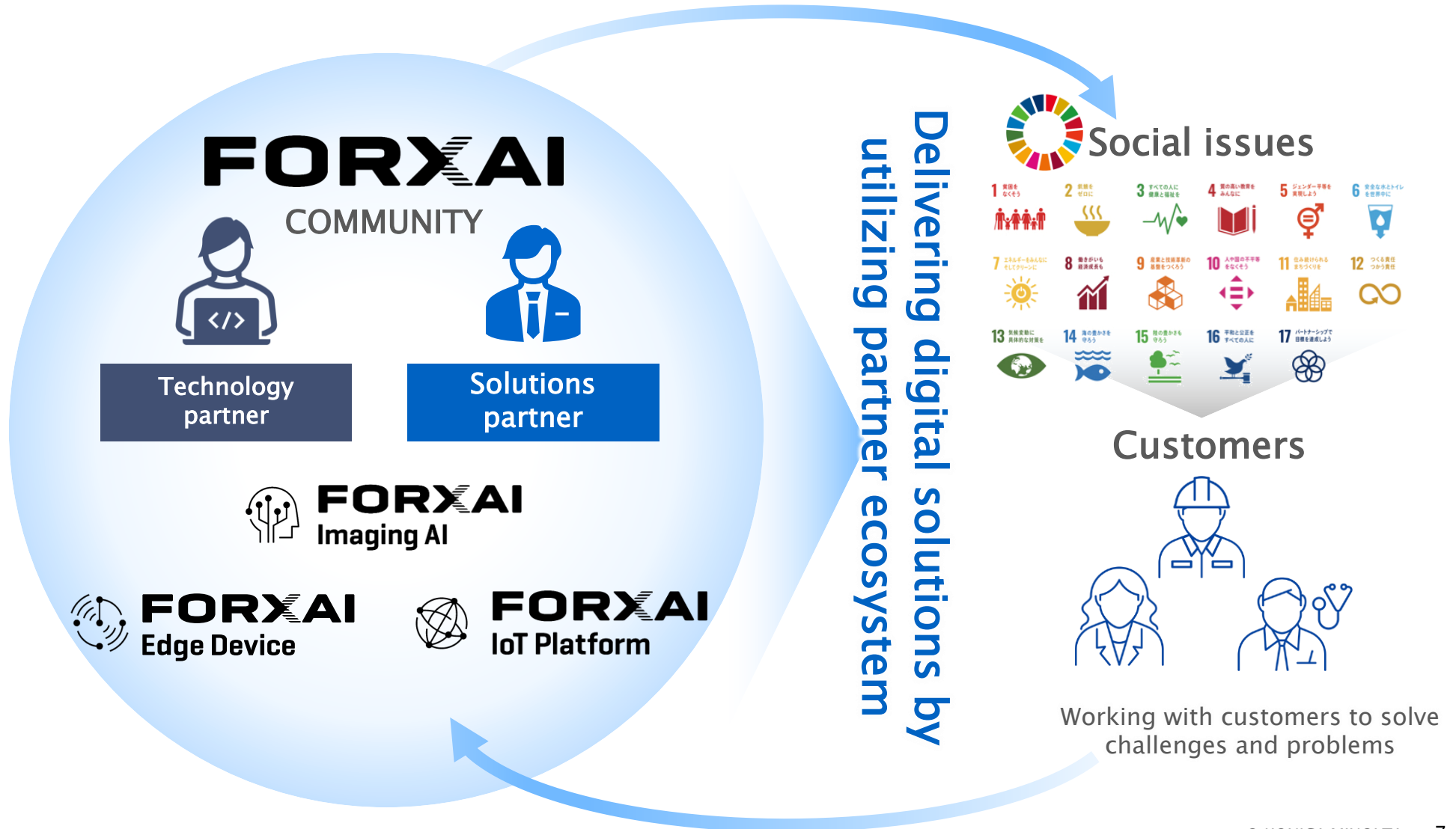


Detection of facility abnormalities



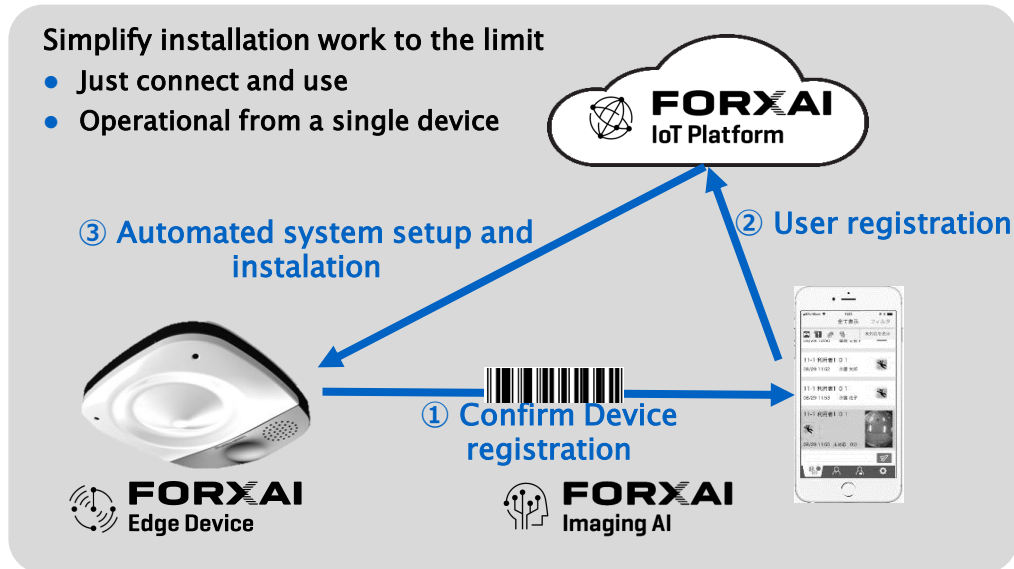
Solving Customer Issues with FORXAI (Co-creation with Partners)

Leveraging our partner ecosystem to continuously accelerate innovation

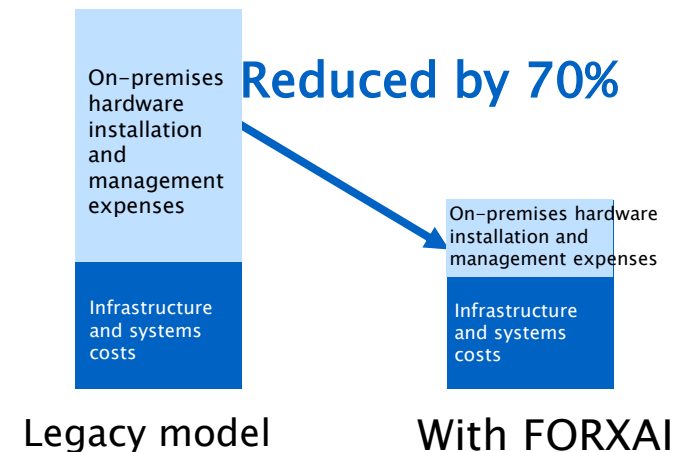


FORXAI In-house Utilization Example – Nursing Care Solutions

Utilizing FORXAI IoT platform to significantly reduce system installation costs



System installation costs



Accelerating Sales Growth and Profitability Improvements in Imaging-IoT Solutions



MOBOTIX (Germany) Organic business

- Expand in market for intelligent cameras with analytics functions, which is growing rapidly (20%+)
- Leverage “Made in Germany” messaging to strengthen presence in North American market amid US-China trade restrictions (NDAA, FCC)
- Work with FORXAI on technology, thereby creating superior competitive position (value)

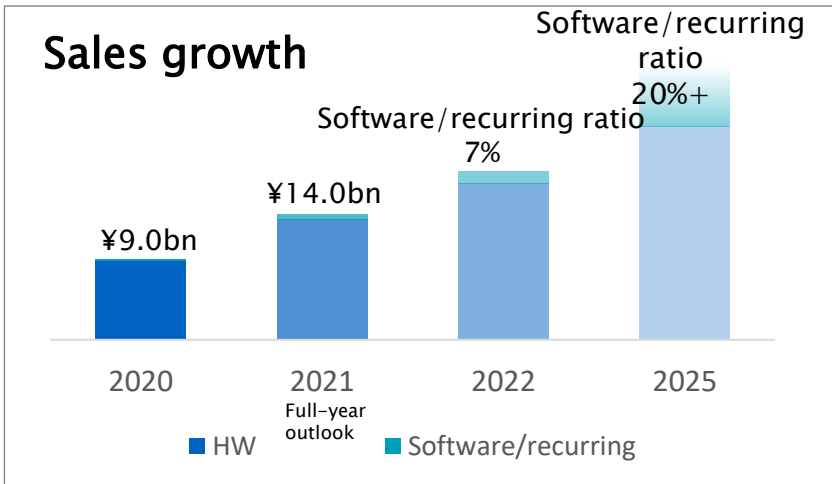


New businesses: monitoring and inspection

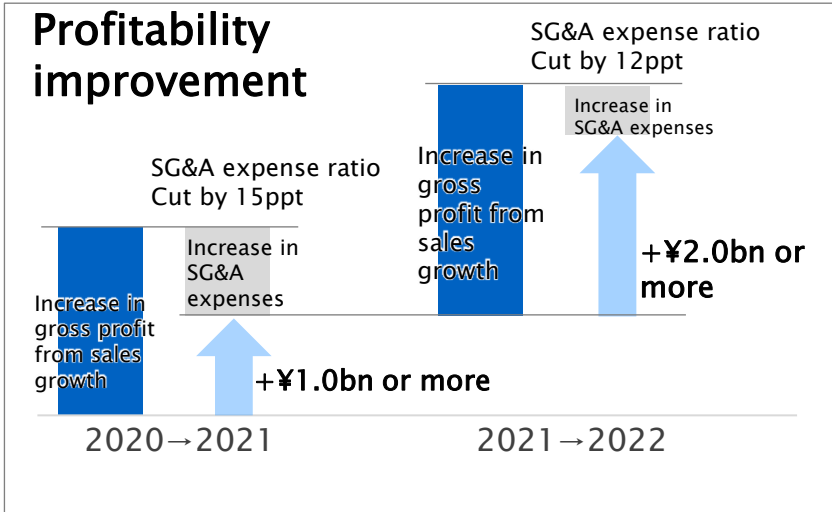
- Develop a package of solutions suitable for global development and accelerate business growth
- Work with industry players having contact with customers to accelerate rollout of vertical solutions
- Reduce SG&A expense ratio by using FORXAI to cut operating costs

KPI

- Software recurring ratio
2% (2020) → 7% (2022) → 20%+ (2025)
- FORXAI partner companies
55 (2020) → 85 (Oct. 2021) → 150 (2025)



* Excludes Visual solutions business



* Excludes Visual solutions business

FORXAI Strategic Collaboration with Partners

Quickly offering solutions by co-creating with technology and solution partners

Technology partners

Continuously enhancing our range of partners with cutting-edge technology



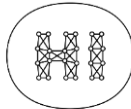
FORXAI
Imaging AI



TRUST SMITH & COMPANY



cinnamon AI



HIPERDYNE

iSiD

+ three other companies



FORXAI
Edge Device



FORXAI
IoT Platform



+ one other company

Solutions partners

Collaboration with partners utilizing FORXAI



Between announcement of FORXAI (Nov. 2020) and Oct. 1, 2021

Partnered with **30 new** companies

* Total of 85 companies, together with partners as of Oct. 2020



Diverse Range of Examples of FORXAI Utilization

Utilizing FORXAI technology to enhance and deploy a diverse range of solutions

Smart factories

Daitron Co., Ltd.



Enhancing productivity and transferring technical expertise

Safe movement support with 3D LiDAR

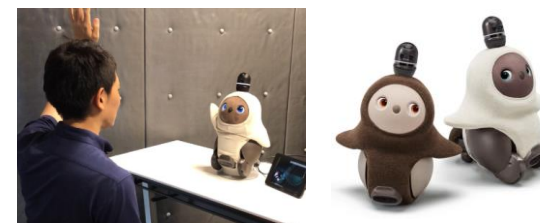
Collaborative company: Sohgo Security Services Co., Ltd.



Reducing accident risk and burden of management

LOVOT, a robot for home use

GROOVE X, Inc.



Creating a society where people and robots work together

People flow marketing

Marubeni Network Solutions Inc.



DX of marketing strategy

Remote sensing for agriculture

Kobe City, KOBE SHU-SHIN-KAN BREWERY, LTD., JA Hyogo Rokko



Regeneration of phosphorus fertilizer for highly profitable agriculture

Runalytic

Sports gyms and equipment stores



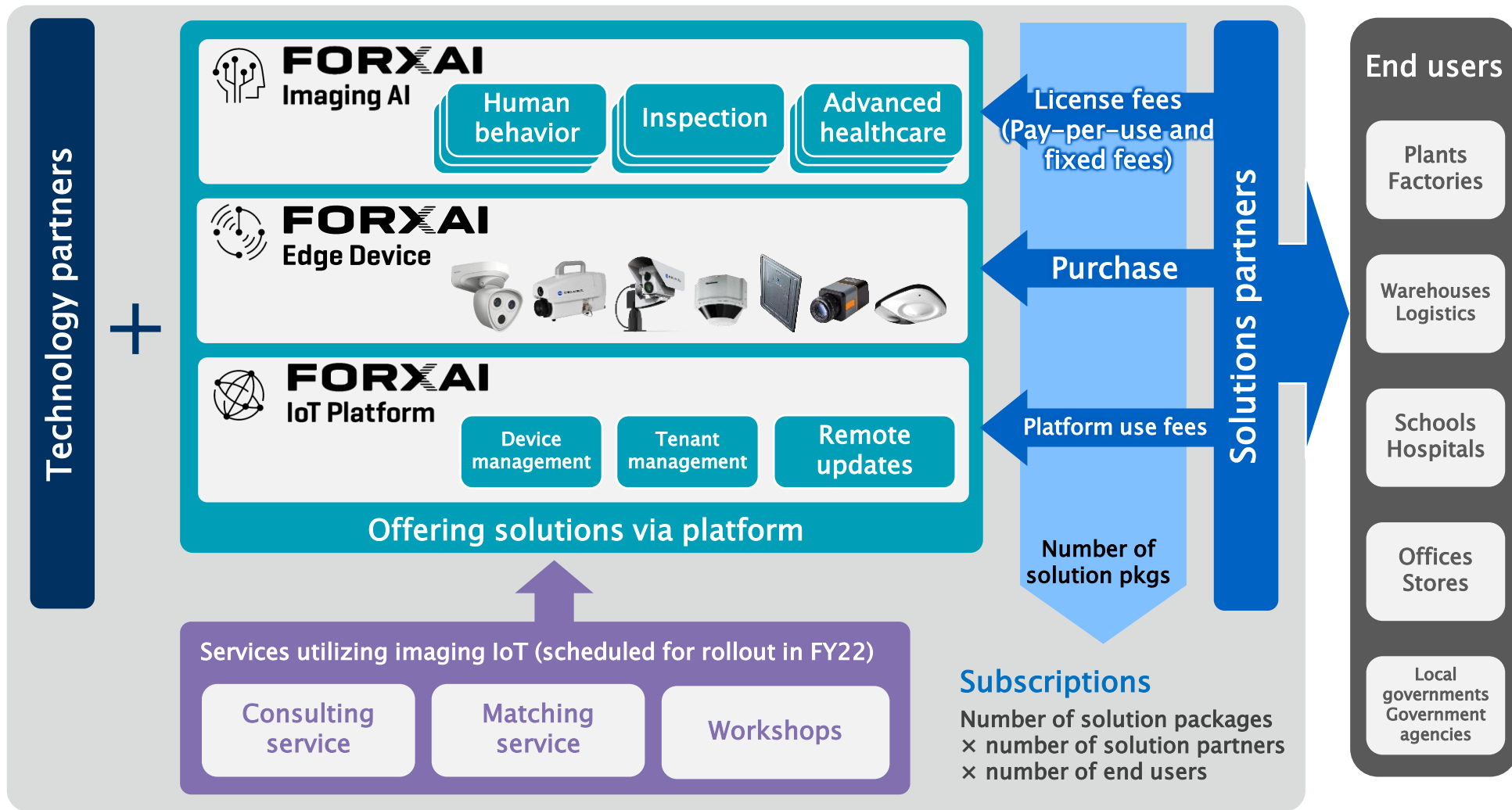
Using DX to enhance service value



FORXAI Sales Channels and Business Model

Utilizing FORXAI COMMUNITY to accelerate the rollout of solutions with partners

FORXAI COMMUNITY



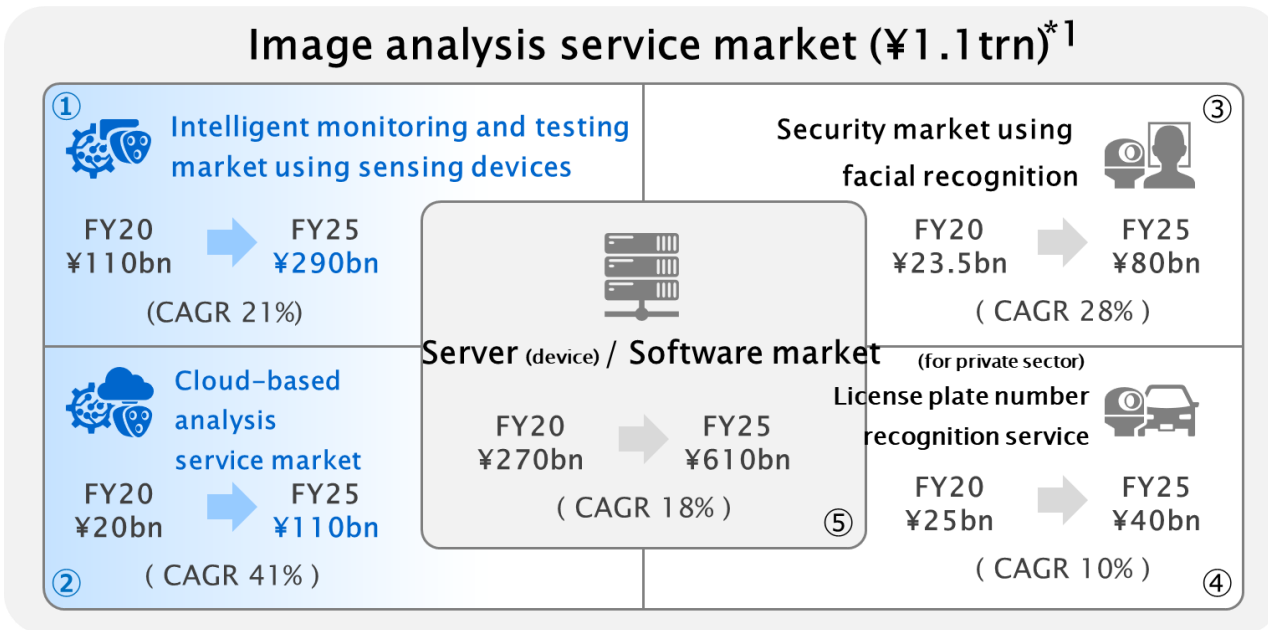


TAM and Target Customers

Focusing on target customers in intelligent image analysis service market

Image analysis service market

Target customers



- Monitoring and inspection needs**
- Security and safety on site
 - Automation, predictive maintenance
 - Extremely high reliability
- Target customers**
- Plants, factories
 - Warehouses, logistics
 - Schools, hospitals
 - Offices, stores
 - Local governments, government agencies

Total addressable market for this business*2

Image analysis service using sensing systems such as network cameras with AI processing functions and links to the cloud

TAM : ¥290bn

*1 Reference: Calculated based on "FY20 Security Camera Market Predictions and Next-Generation Strategies" (Yano Research Institute Ltd.)

*2 This business's target market: ①¥250bn + ②¥40bn (our estimate)

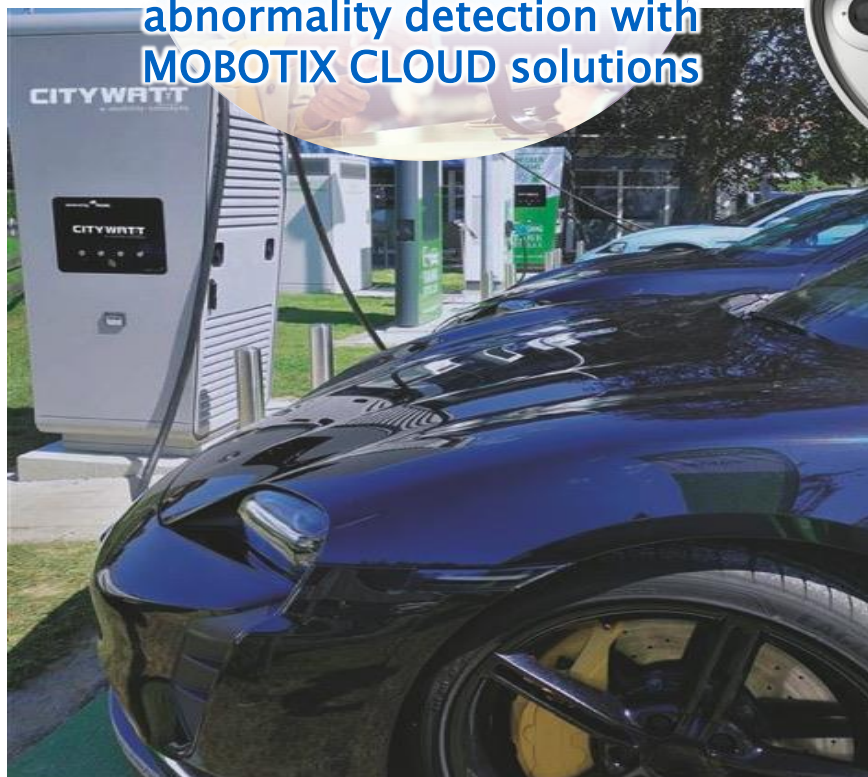


MOBOTIX (Germany) Organic Business Examples

Examples of utilization of intelligent analytics features

Europe, Germany
Charging stations for hybrid vehicles

Remote monitoring and abnormality detection with MOBOTIX CLOUD solutions



US, NY State suburban area police force

Traffic monitoring and remote monitoring with license plate solutions





MOBOTIX + Monitoring: Sales Growth with Cloud VMS*

Realizing a recurring service model (continuous fees) with Cloud VMS



Example: CheckSmart (US)
 500 stores across the US (finance)
 Rapid increase in stores as a result of acquisitions
 Cameras: 4,000 (FY21)
 \$120/yr/unit, continuous fixed fees

* VMS: Video Management System

Partner companies



Ensure profitability through expansion within the industry, increasing the number of licenses, and growth in the fee-based model



Accelerate entry into regions such as Europe and Asia



Leverage FORXAI Imaging AI to develop better solutions and increase value offered and recurring business



New business + Monitoring: Video Analytics Solution

Using imaging AI technology to solve manufacturing, logistics, and warehouse issues related to quality inspections, occupational health and safety, etc.

Imaging AI services for manufacturing, logistics, and warehouses

Automating visual inspections as part of manufacturing processes, safety and security, and workflows for inventory management, etc.



H2 FY21 sales target: €1.0m+

Pipeline: 30+ end user companies

50+ partner companies

Example

Major engineering services company

- Fortune 500 global conglomerate
- Considering simultaneous rollout across plants in North America, Europe, and APAC

Utilizing imaging AI technology to automate workflows that rely on human labor in manufacturing, logistics, and warehouses

Visual surface inspection



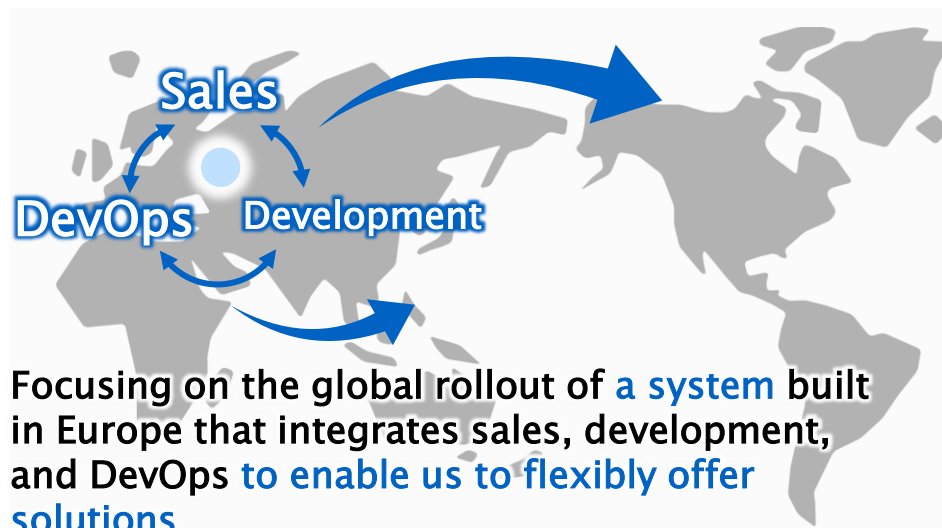
FORXAI

Video Analytics Solution

Occupational health and safety



Inventory management



Focusing on the global rollout of a system built in Europe that integrates sales, development, and DevOps to enable us to flexibly offer solutions



Disaster Prevention Diagnosis Service by Gas Monitoring

Offering a disaster prevention diagnosis service in collaboration with MS&AD InterRisk Research & Consulting, Inc.

Inquiries from manufacturing, energy, and other industries

Solving issues at plants

Disaster prevention diagnosis

MS&AD

MS&AD InterRisk Research & Consulting, Inc.

FORXAI
IoT Platform



Remote maintenance and data analysis

FORXAI
Edge Device



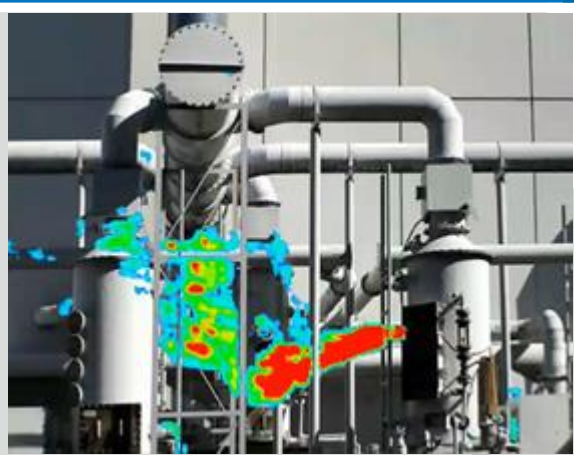
Fixed camera

FORXAI
Imaging AI

Imaging infrared absorption of gases



Portable camera



AI algorithm that visualizes the site and quantity of gas leaks

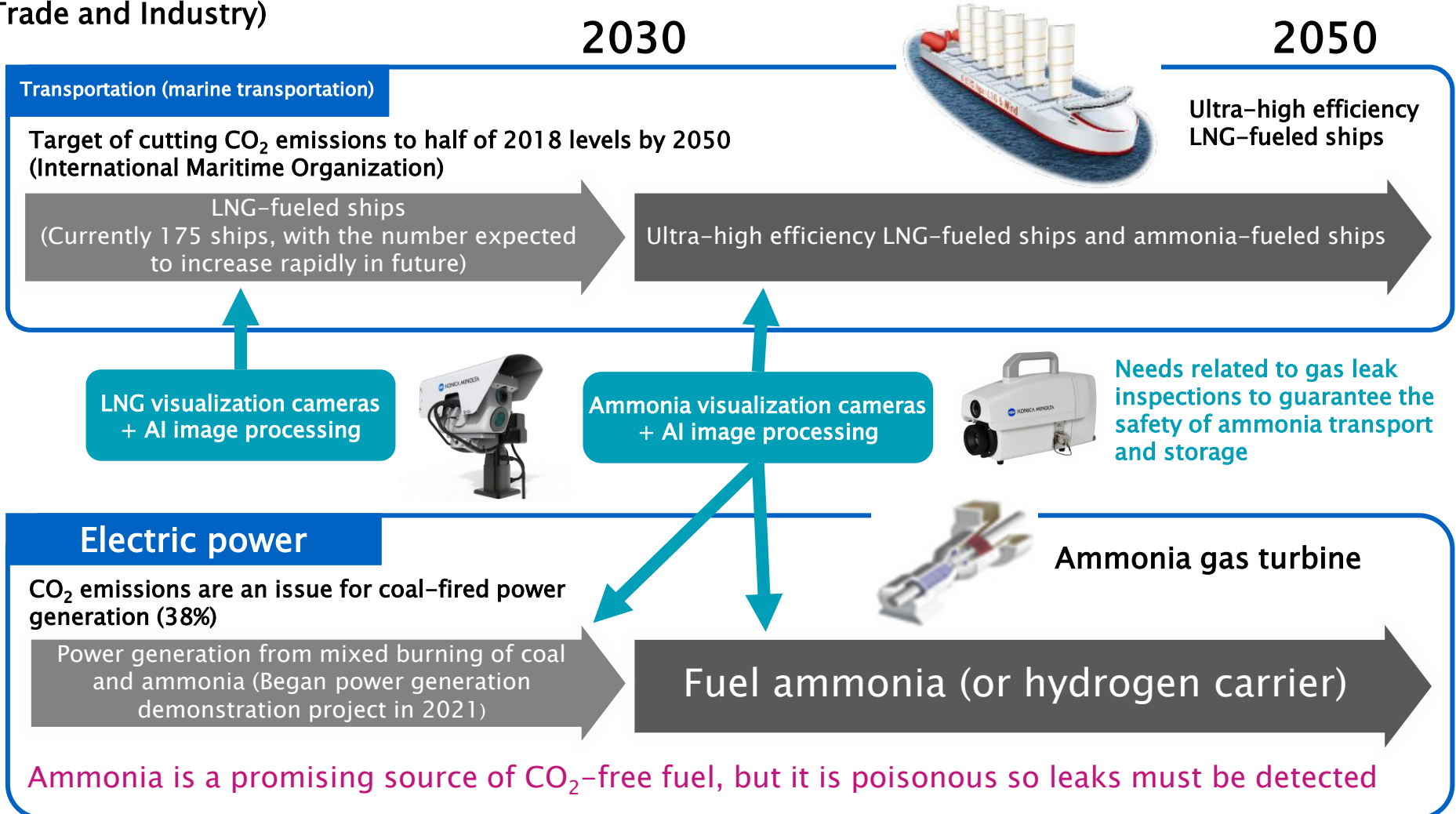


Preventing fires before they happen and preventing reoccurrence

New Initiatives to Expand Gas Monitoring Business

Contributing to achieving a decarbonized society with imaging IoT technology

“Green Growth Strategy Through Achieving Carbon Neutrality in 2050” (Ministry of Economy, Trade and Industry)

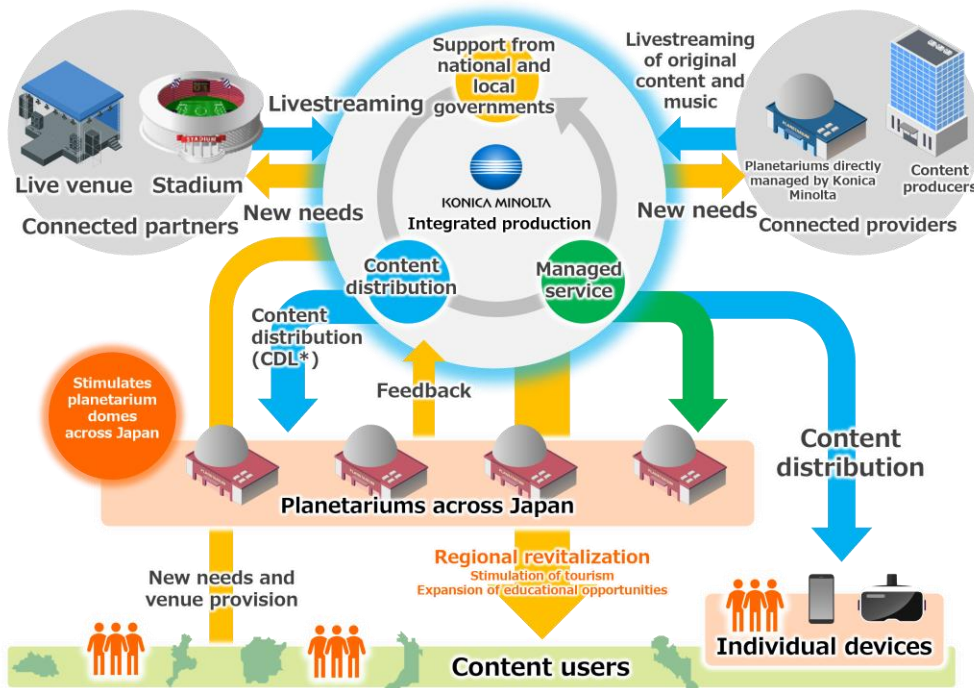


Visual Solutions Business

We aim to grow the planetarium business as a new source of earnings based on content distribution DX that leverages our Connected Dome strategy to create a network of connected planetariums across Japan, as well as innovative new visual expression thanks to the creation of the first DYNAVISON®-LED planetarium in Japan



Connected Dome Strategy

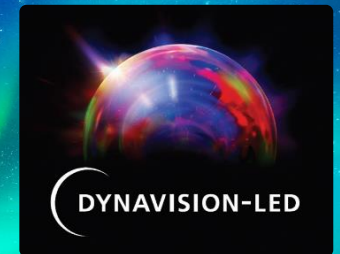


※Connected Dome Library

Opening two directly managed dome-shaped planetariums, the first in Japan to use DYNAVISON®-LED technology

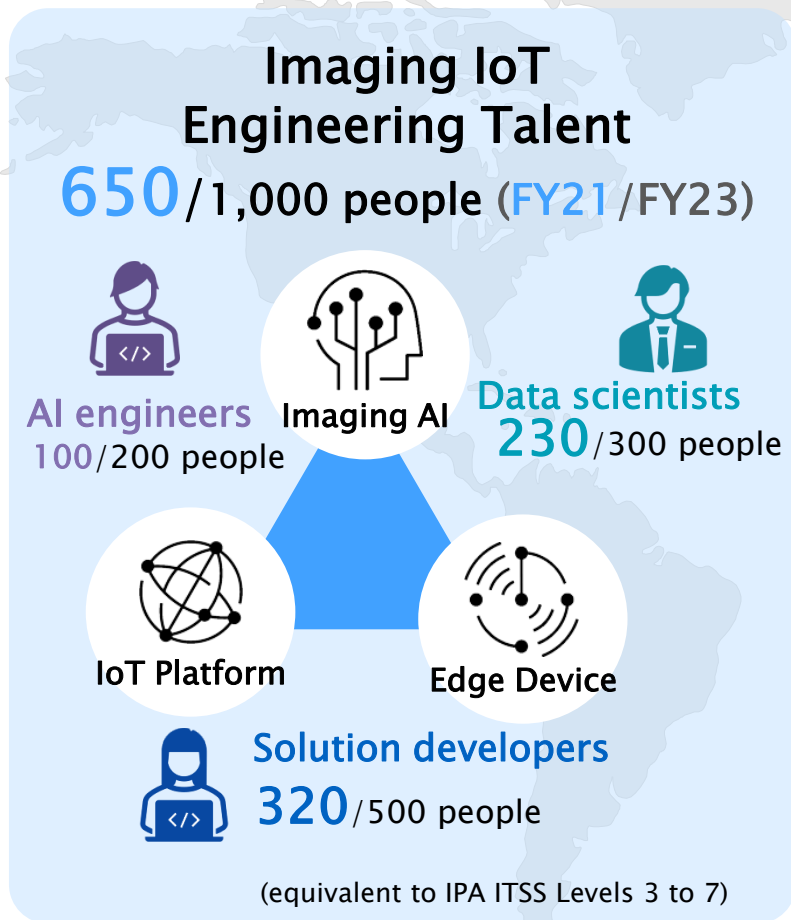
October 2021: Nagoya

March 2022: Yokohama



Engineering talent transformation

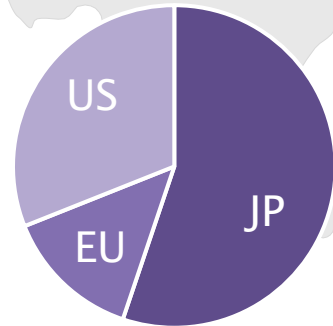
Increase AI engineers and data scientists, while also strengthening solutions developers by hiring and training



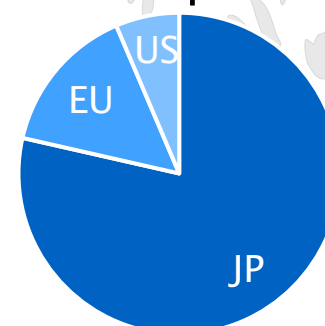
Hiring more imaging IoT talents in Europe and North America to accelerate overseas activities

For FY23 strengthen overseas hiring and train solution development talent in Japan

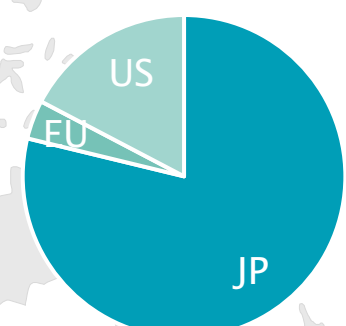
AI engineers



Solution developers



Data scientists





KONICA MINOLTA