Note for readers of this English translation

This document has been translated from the Japanese original for reference purpose only. In the event of any discrepancy between this English translation and the Japanese original, the Japanese original shall prevail.

IoT Business Strategy Briefing

Internet Initiative Japan Inc.

August 31, 2020

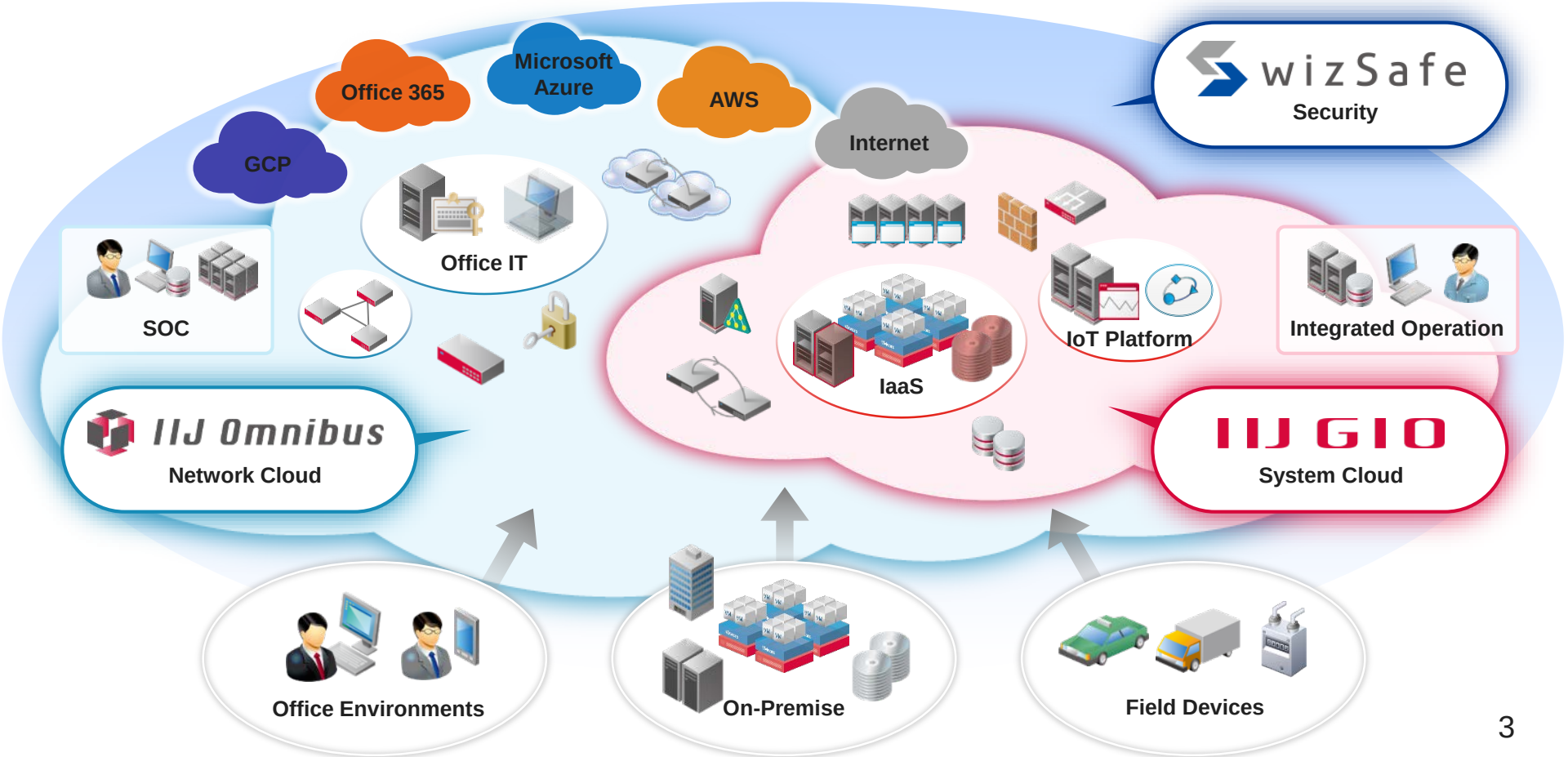
IIJ

Internet Initiative Japan

Greetings

Masakazu Tachikui, Managing Executive Officer, Internet Initiative Japan Inc.

Linking all IIJ Businesses to IoT



Overview of IIJ's IoT Business

Shinsuke Okada,
Division Director, IoT Business Division,
Internet Initiative Japan Inc.

Market Changes

IoT initiatives have started to take off

- Companies are being forced to transform their conventional business activities, and there is a shift to combining existing services and products with ICT to enhance their value.
- Until several years ago, many projects were being halted at the proof-of-concept (PoC) stage, but over the last couple of years, the business divisions and product development divisions of operating companies have started to work on IoT initiatives in earnest.

Examples of Changes Among IIJ Customers

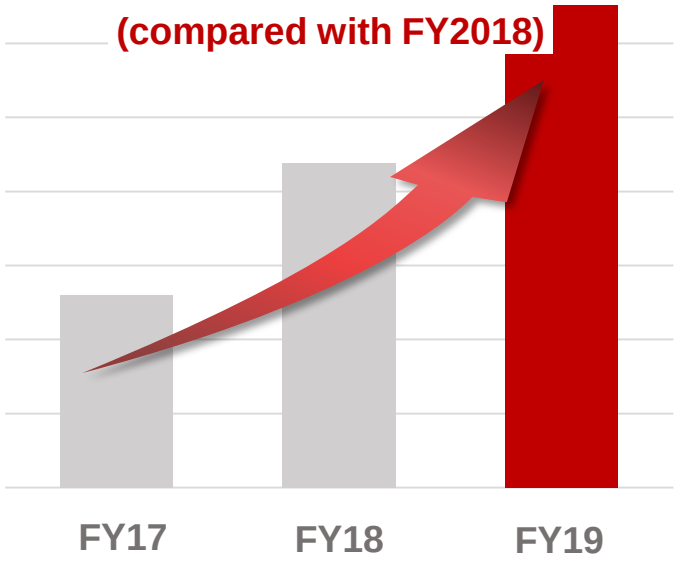
Industrial machinery manufacturers	• Shift from the reactive post-sales maintenance model to proactive field services able to make predictions based on data
Car accessory manufacturers	• Expansion of service businesses by acquiring data through the networking of products and establishing software technology development organizations to develop services that use that data
Measuring instrument manufacturers	• Expansion of services to streamline and improve the accuracy of recording tasks by going beyond just "measuring" things and providing added value linking the data customers measure with their business systems
Automotive manufacturers	• Improved efficiency of equipment management to cover personnel shortages, analyzing the expertise of skilled workers in maintaining operating capacity and implementing traceability to ensure quality
Trading companies (agriculture)	• Shift from the sales of pesticides and chemical fertilizers to the provision of pesticide spraying technologies that reduce the amount used, and the development of cutting-edge agricultural technologies that support the production lifecycle into services

Overview of IIJ's IoT Business

IoT-related Sales

+49% increase

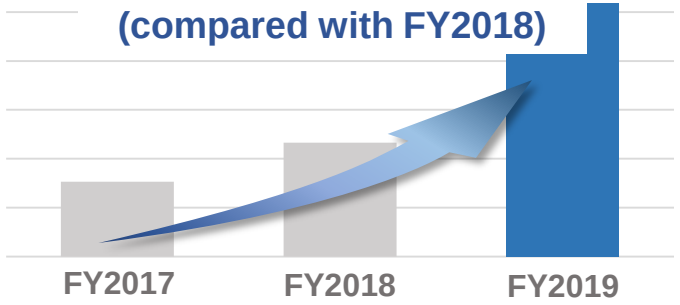
(compared with FY2018)



IoT-related Projects

More than doubled

(compared with FY2018)



- Around 90% of our business client divisions are non-information systems divisions (aggregate for IoT Business Division in FY2019)
- Demand has continued to grow, particularly with mobile services aimed at enterprise IoT applications, and the number of projects has also expanded rapidly, driven by activities getting into full swing in respective fields.

* IoT-related sales and IoT-related projects are both single fiscal year graphs
* In FY2018 and FY2019 there was substantial sales growth due to large individual SI sales, and introduction efforts for these projects converged at the end of FY2019.

Two Axes of IIJ's IoT Business Activities

Roll out IIJ services in a form that suits the IoT market

- ✓ IIJ will provide customers with the network, cloud and security services it already offers in a form suitable for the IoT market
- ✓ One of the activities that reflects these actual conditions is the development and market rollout of the IIJ IoT Service.

Development and expand new IIJ services in the IoT market

- ✓ Development of services and solutions that package together sensors, networks, cloud computing and applications, and their rollout to specific fields
- ✓ Taking the the expertise gained from practical application in the field and the needs that have been identified, and reflecting them in IIJ services

IIJ IoT Service (IoT Platform)

Mobile Access
Closed SIMs Specifically for IoT, Full MVNO Support

Device Monitoring
Keeping Track of Devices

Device Control
Device Management and Control

Cloud Adapters
Azure/AWS IoT Connection and Authentication

Data Storage
Accumulation of Sensor Data

Data Hub
Data Encryption and Forwarding

NEW
WISE-PaaS Connector
Closed Connection with WISE-PaaS (Domestic)

Private Connector
Multi-Cloud Connection

Private Mobile Gateway
Proprietary Closed Network

Learn more on the website
https://www.iij.ad.jp/biz/iot/

Specific Areas of Focus for IIJ

Industry
(Manufacturing)

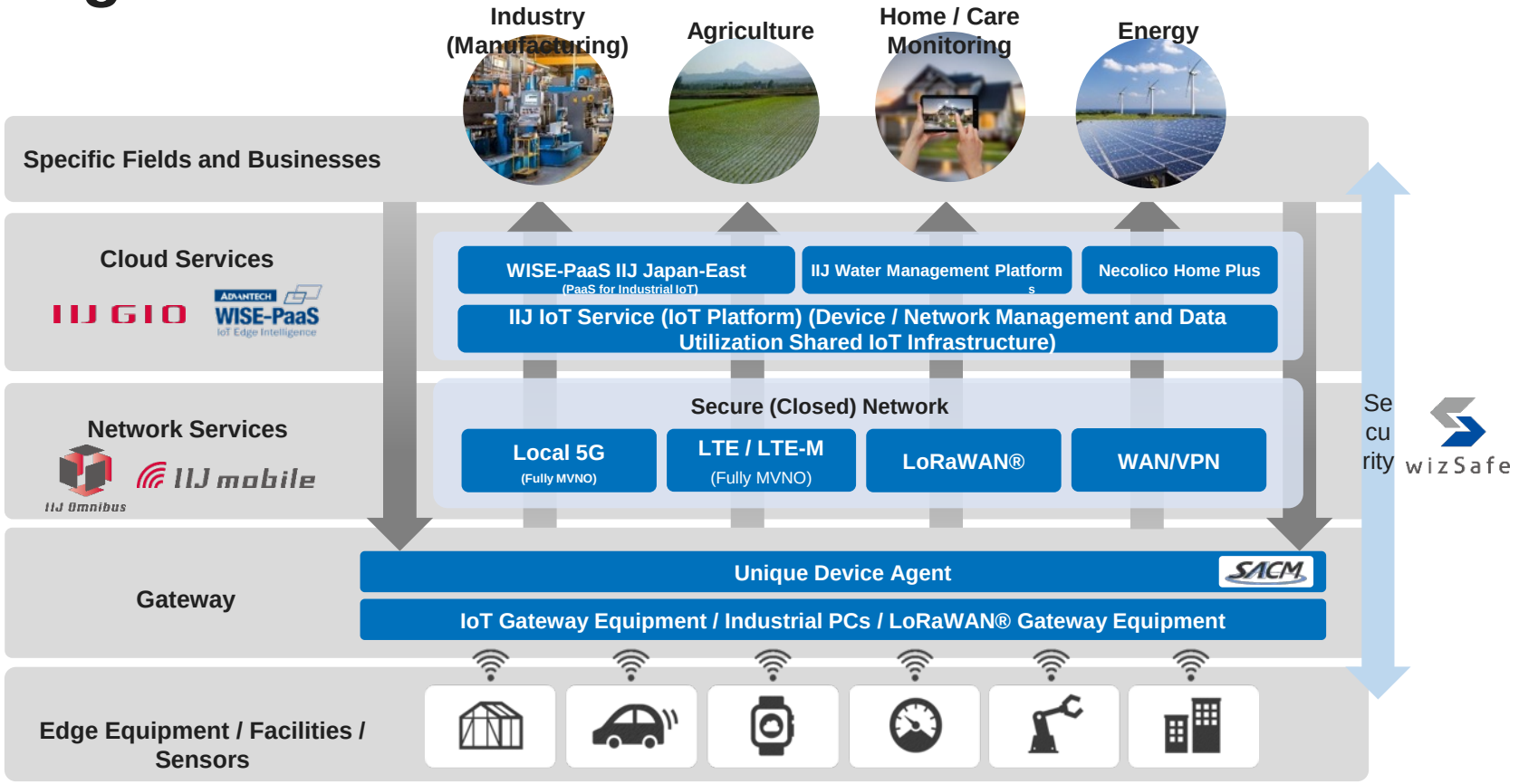
Agriculture

Home / Care Monitoring

Energy

Activities in these specific areas become solutions based on IIJ IoT Service

The Big Picture of IIJ's IoT Efforts

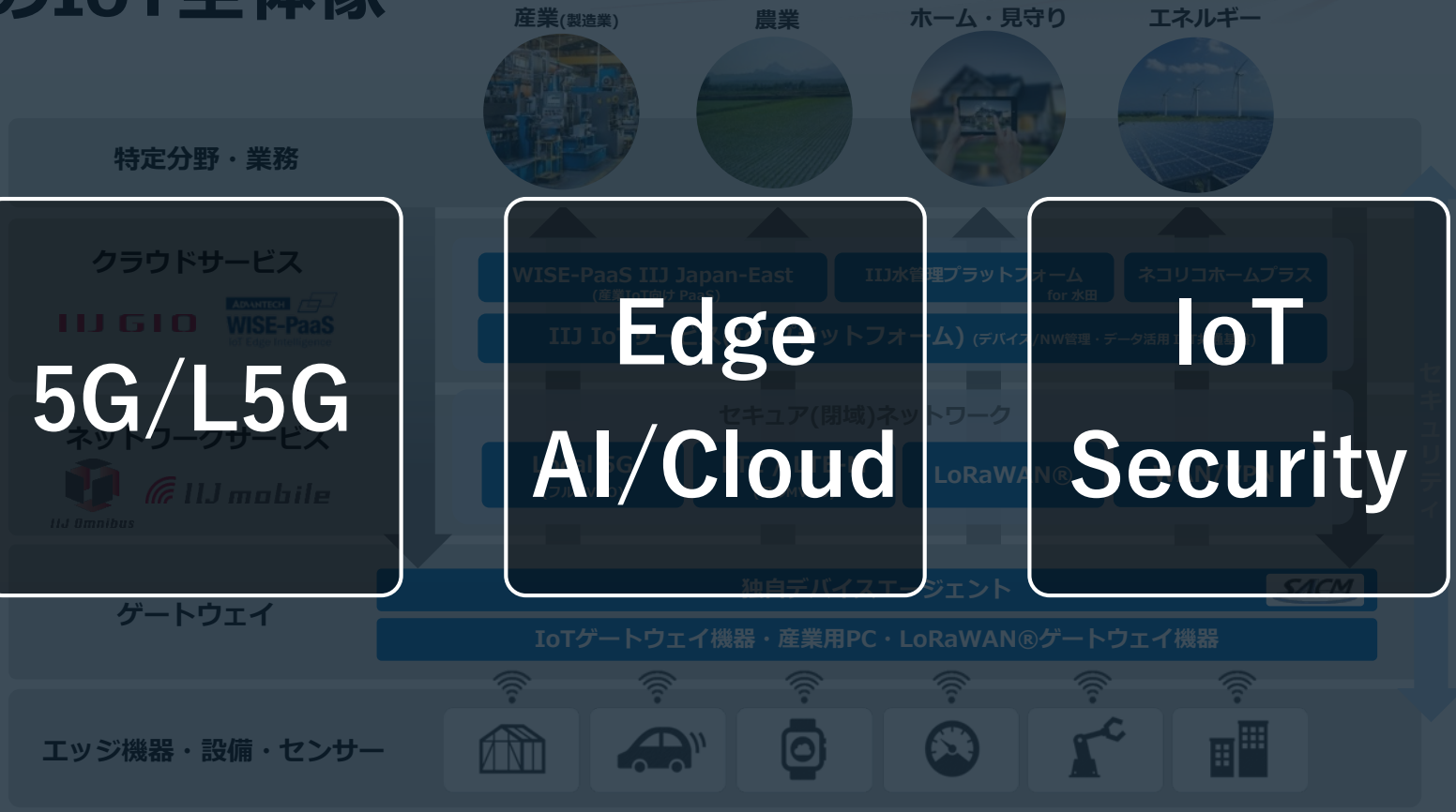


Legend

Areas of IIJ Activities

* WISE-PaaS IIJ Japan-East is a service provided by Advantech created through collaboration between IIJ and Taiwan-based Advantech.
* Necolico Home Plus is a service provided by necolico LLC, which was established through a joint venture between IIJ and Chubu Electric Power.

IIJのIoT全体像



5G/L5G

Edge AI/Cloud

IoT Security

wizSafe

※ WISE-PaaS IIJ Japan-Eastは台湾Advantech社とIIJの協業により実現されたAdvantech社によるサービスです
※ ネコリコホームプラスは中部電力とIIJの協業により設立された合同会社ネコリコによるサービスです

Initiatives in Specific Fields

Shinsuke Okada, Division Director,
IoT Business Division;
Toru Saito, Deputy Division Director, IoT Business Division,
Internet Initiative Japan Inc.

Industry (Manufacturing)

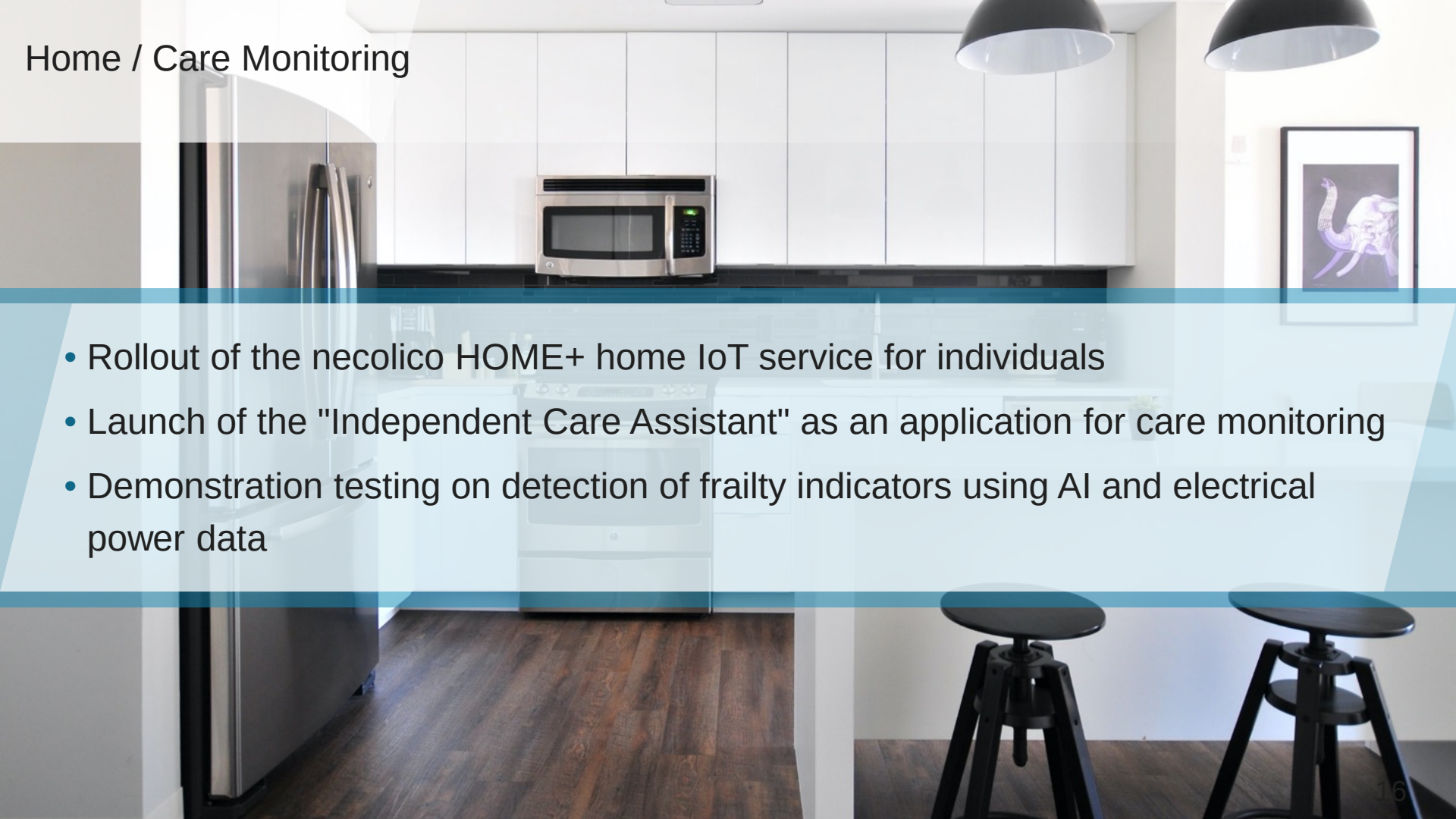
- Development of WISE-PaaS IIJ Japan-East, a PaaS for Industrial IoT
- Development of IIJ LoRaWAN® Solution for HACCP Temperature Control Aimed at Food-related Businesses
- Expansion of Factory IoT Achievements (August 3, 2020: Announcement of the Building of Production Line IoT System for Toyota Motor Hokkaido)
- **Announcement of New Industrial IoT Solution (Today)**

Agriculture

- Completion of the three-year demonstration project on smart agriculture utilizing IoT
- The commercialization of agricultural IoT and the rollout of the IIJ Water Management Platform for Rice Paddies service
- Advancement of water management utilizing sensing data

Service Launch from 2020
Mass-produced rice paddy sensors @
Bibai, Hokkaido

Home / Care Monitoring



- Rollout of the necolico HOME+ home IoT service for individuals
- Launch of the "Independent Care Assistant" as an application for care monitoring
- Demonstration testing on detection of frailty indicators using AI and electrical power data

ネコリコホームプラスの4つの特徴

1 置いとくだけ
設置後はメッセージがとどくのを待つだけでOK

2 LINEで らくらく操作
タップするだけでおうちの状況チェック。簡単で楽しい操作感

3 誰でも かんたん設置
面倒な工事は不要。好きなところに設置できます

4 選べる はじめかた
レンタル(月額1,400円)か機器購入(月額無料)で手軽に始められます。

KOSHIZUKA-LAB.ORG

東京大学 地域未来社会連携研究機構
Collaborative Research Organization for Future Regional Society

MIE UNIVERSITY

necolico

Collaboration between the University of Tokyo and Mie Prefecture
Demonstration of the detection of frailty indicators using AI and electrical power data

三重県 東員町 TOIN TOWN

JDSC
Japan data science Consortium

東京大学 高齢社会総合研究機構
INSTITUTE OF GERONTOLOGY, The University of Tokyo

Energy

- Advancement of empirical research towards developing more advanced meter reading
- Promotion of activities to develop solutions in the smart security field
- Promotion of new household energy management systems integrated with storage batteries, EVs and so on

Solutions for IIoT
IIJ Industrial IoT Secure Remote Management

Solutions for IIoT
IIJ Industrial IoT Secure Remote Management

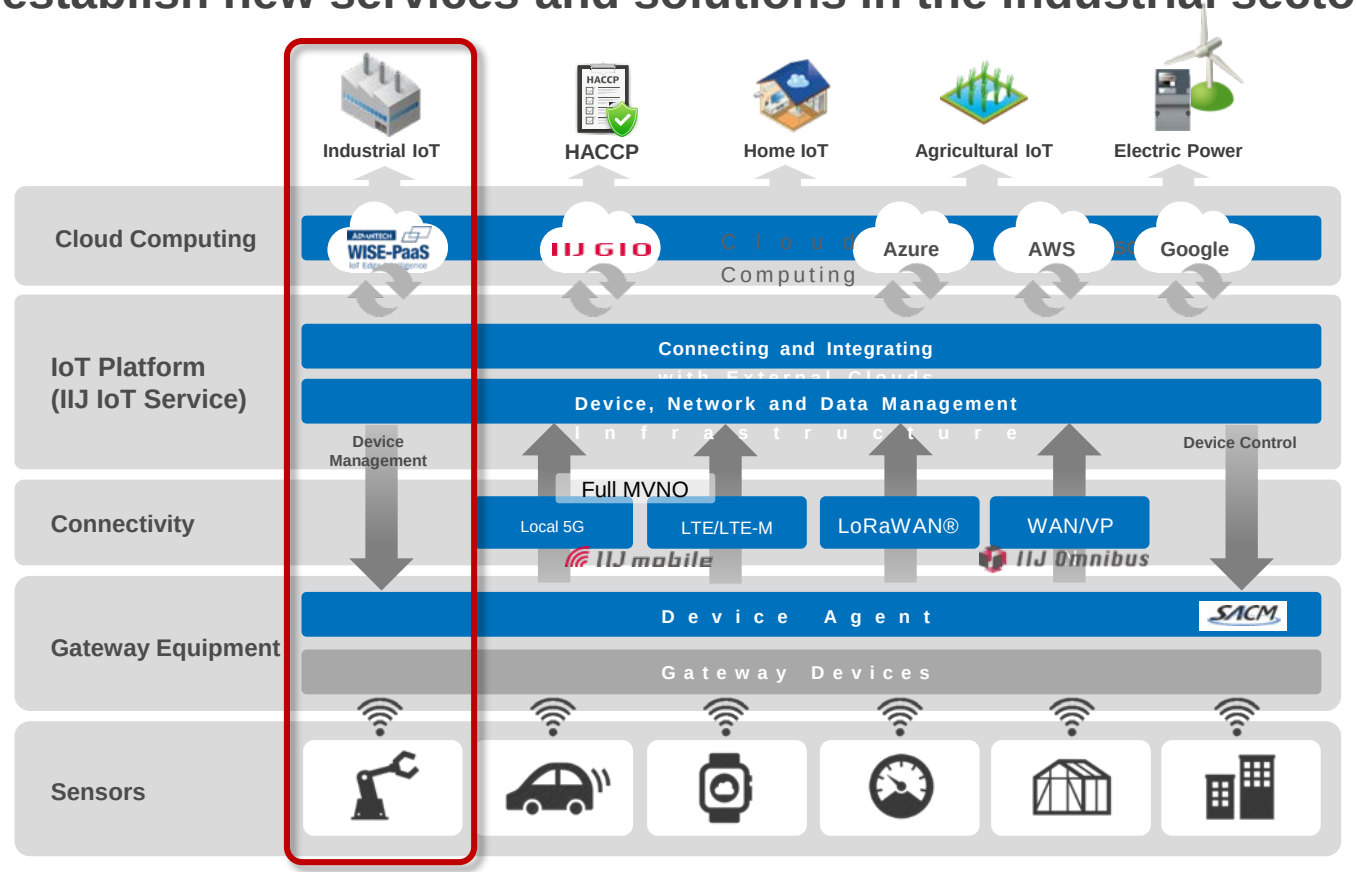
Yosuke Takadate, Manager,
Solution Integration Section,
IoT Business Division,
Internet Initiative Japan Inc.

Contents

Background to the Solutions Provided by IIJ

IIJ's Vision for Industrial Sector

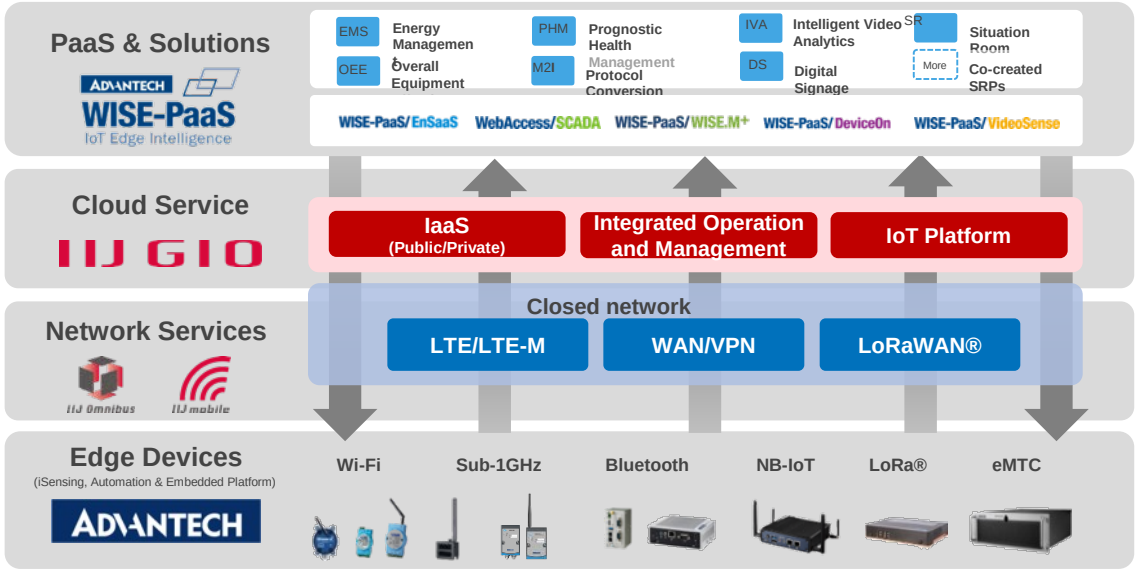
By combining the IT components accumulated to date as "services," establish new services and solutions in the industrial sector



WISE-PaaS IIJ Japan-East

IIJ Internet Initiative Japan × ADVANTECH Enabling an Intelligent Planet

WISE-PaaS IIJ Japan-East



Features of WISE-PaaS IIJ Japan-East

One-stop Provision

Speedy and all-in-one provision from ADVANTECH's extensive range of hardware to network and the cloud.

Secure IIoT Network

Providing cloud computing through data centers based in Japan, allowing all types of networks, particularly mobile, to be used safely

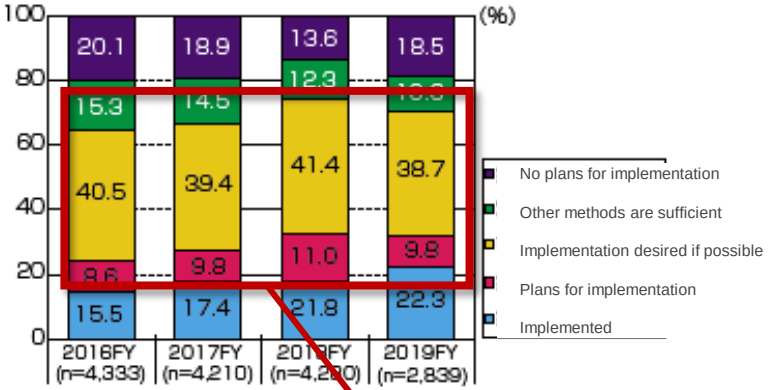
Open & Multi

Supports acquisition of data from more than 200 PLCs/CNCs in Japan and abroad
PaaS is open source-based and its technologies can be learned easily

The Current State of Digitization in Manufacturing

Is the visualization of the operational state of industrial machinery, lines and manufacturing processes taking place?

Is visualization being performed on the operational state of machinery in individual processes?

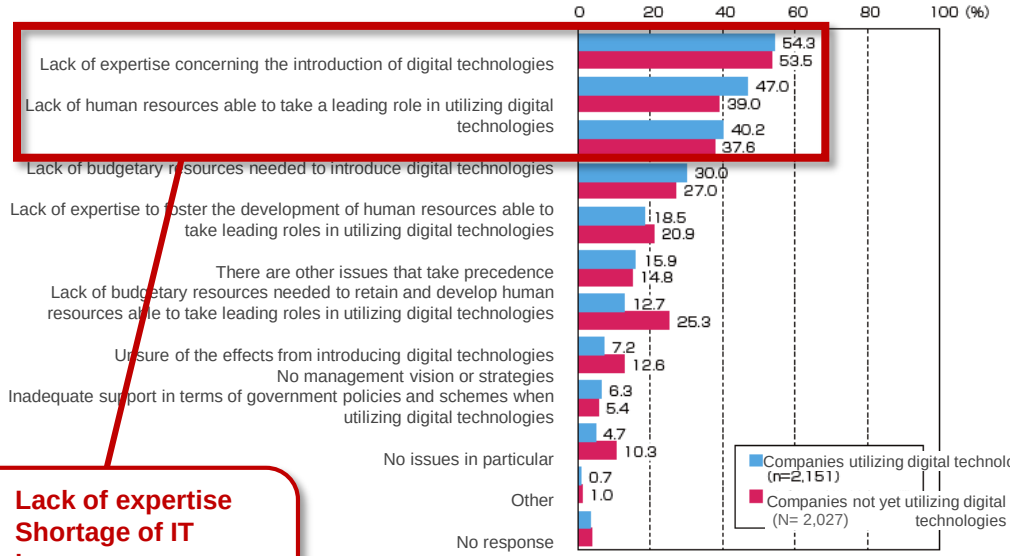


- **Want to implement approx. 40%**
- **Have plans to implement approx. 10%**

Material: Mitsubishi UFJ Research & Consulting Co., Ltd. "Research on Issues of the Manufacturing Industry in Japan and Direction of Responses" (December 2019)

Issues with Digital Introduction

Points causing issues when utilizing digital technologies



- **Lack of expertise**
- **Shortage of IT human resources**
- **Costs of introduction**

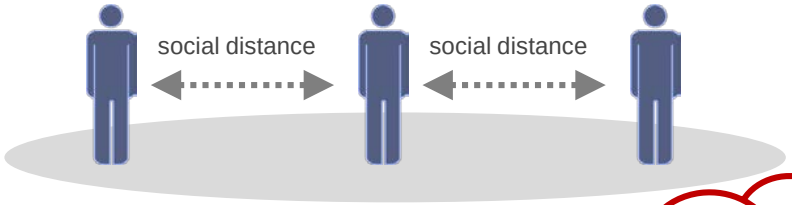
Material: JILPT "Research on Securing and Developing Manufacturing Human Resources in Response to the Advance of Digital Technologies"

2020 Edition of the Ministry of Economy, Trade and Industry's "White Paper on Manufacturing Industries"

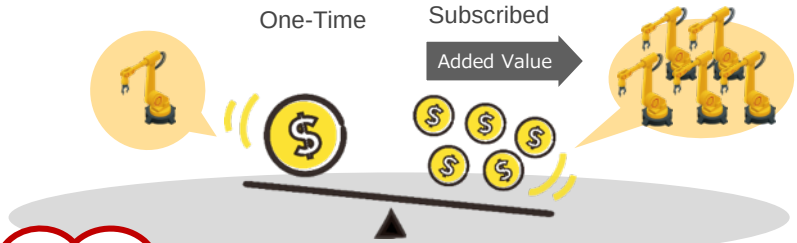
Changes to Operations and Business

Due to the COVID-19 pandemic, there have been restrictions imposed on industrial machinery manufacturers visiting customer premises and the dispatch of equipment technicians to company factories
Shift from the sale of hardware to improving ties with customers through the continual provision of services

Changes that have extended to manufacturing field operations



From product-driven to service-



Rolling out low-cost and ready-made services and solutions for the manufacturing industry

Overview of IIJ Industrial IoT Secure Remote Management

Overview of IIJ Industrial IoT Secure Remote Management

■ For industrial machinery and measuring instrument manufacturers

Machinery

- Industrial machinery network connectivity
- Improved maintenance efficiency
- More advanced after-sales service

Monitoring the Operational State of Equipment

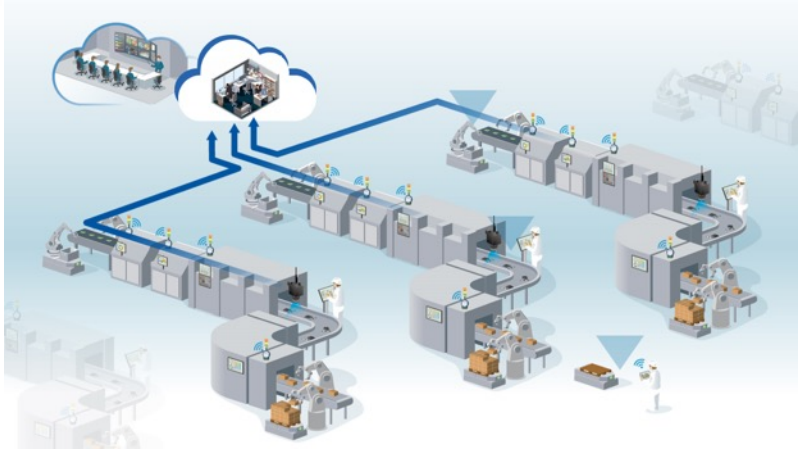
Remote Equipment Maintenance

Development of IoT-compatible Measuring Instruments

■ For plant equipment maintenance / production control departments, system integrators

Factory

- Plant equipment network connectivity
- Visualization of production capacity, improved productivity and quality
- Equipment maintenance and reduced downtime



IIJ Industrial IoT Secure Remote Management / Machinery

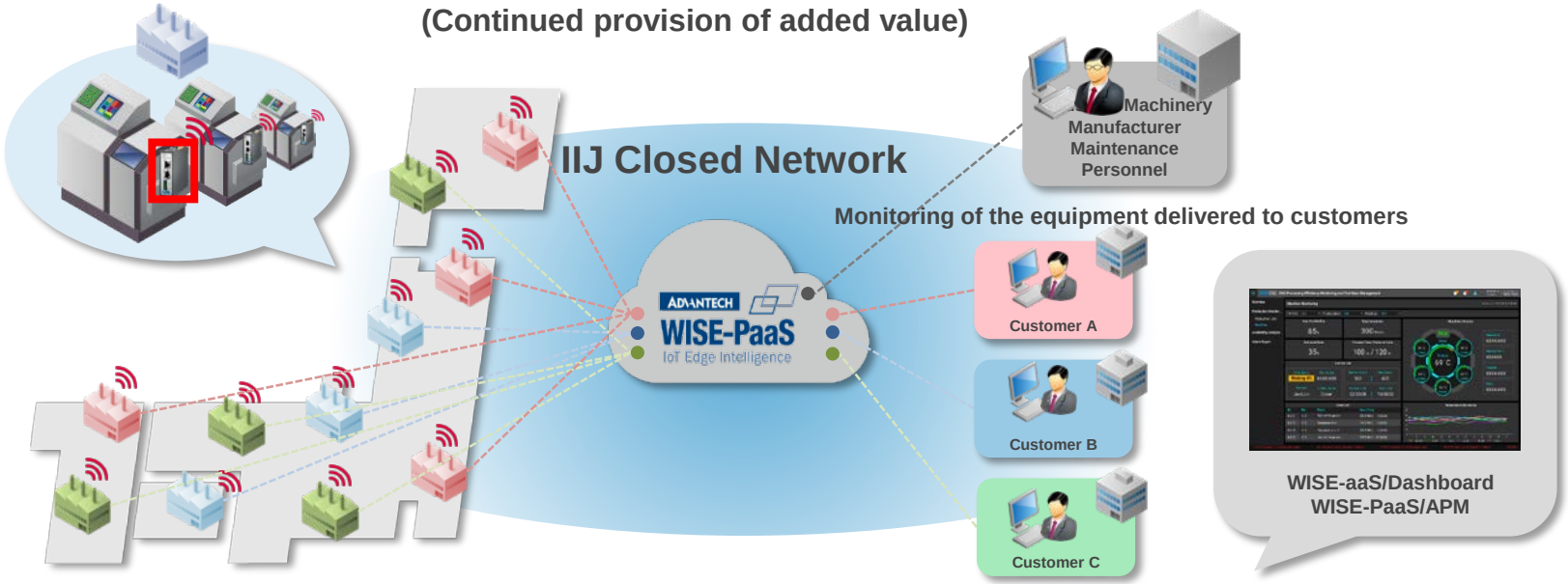
For industrial machinery manufacturer maintenance personnel

Real-time collection of equipment data
Remote monitoring and proactive response

For industrial machinery manufacturer maintenance personnel and sales representatives

Networking of industrial machinery and measuring equipment
Streamlining of remote maintenance and inspections

Enhancing after-sales service to the end users receiving equipment deliveries (Continued provision of added value)



IIJ Industrial IoT Secure Remote Management / Factory

For production control departments

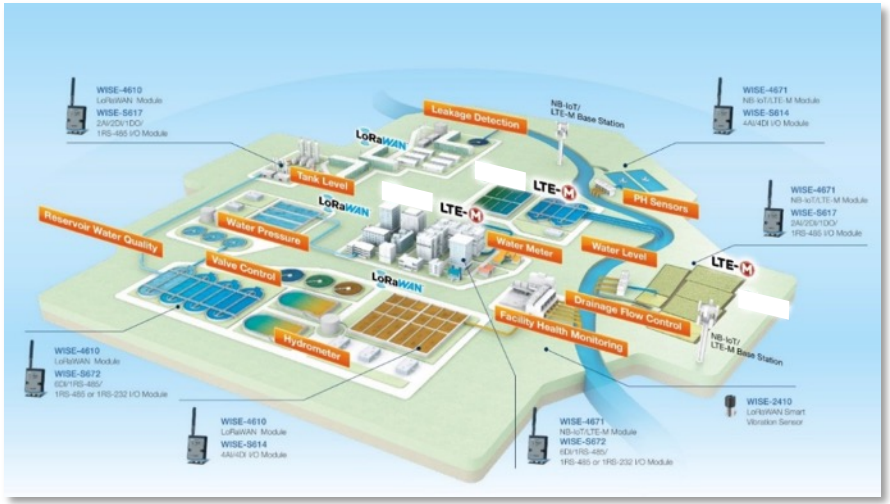
Real-time collection of equipment operation and production data
Visualization of facility utilization rate and production volume

For equipment maintenance departments

Eliminate paper-based tasks and introduce sensing for equipment state and measurement values
Reduce downtime by detecting abnormalities at an early stage

From visualization and data analysis to improvement activities and enhancement of productivity and quality

WISE-PaaS/Dashboard OEE



Water treatment facility management

Solution Features

Remote Monitoring and Remote Access Utilizing a Secure Network

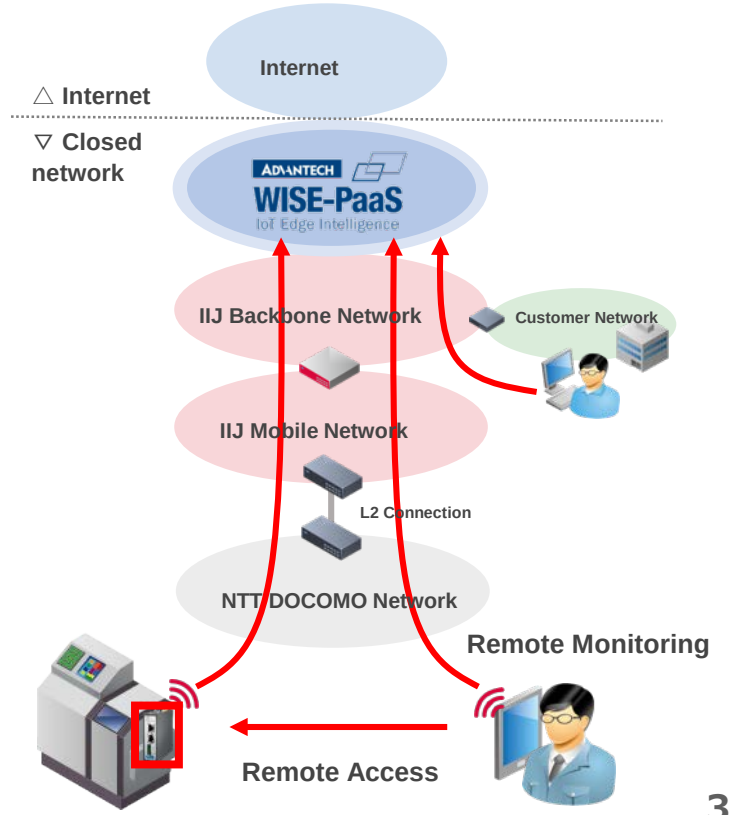
Industrial machinery is not connected to the Internet

Secure because it cannot be accessed from the outside

- ✓ Resilient against risks such as unauthorized access and DDoS attacks
- ✓ Hardened against risks such as computer viruses

Remote business operations conducted over a safe network

- ✓ Only the assigned personnel monitor industrial machinery
- ✓ Only the assigned personnel remotely access edge devices



Solution Features (Delivery)

Through application templates based on manufacturing operations such as production control and equipment management along with standardized edge devices, mobile networks and PaaS, small starts with a short lead time and at low cost are achieved

Features of WISE-PaaS IIJ Japan-East

One-stop Provision

Secure IIoT Network

Open & Multi

Solutions and packages based on manufacturing operations

Ready-made

- Application templates
- Mobile Network / PaaS
- Edge Devices

Effects of introduction

Introduced in a short period of time

Skipping wiring work with the use of mobile

Low-cost small starts

Utilize the cloud and start from a single unit of equipmen

Solution Details

Solution Details

Cloud Applications

ADVANTECH WISE-PaaS IoT Edge Intelligence — IIJ Japan-East

Powerd by IIJ GIO

Applications Developed as Templates

Connectivity IoT Platform

IIJ IoT Service (IoT Platform)

Full MVNO — IIJ mobile

SDN-WAN — IIJ Omnibus

Edge Devices

LoRaWAN® Compatible Vibration and Temperature Sensor

WISE-2410

LoRaWAN® Compatible Remote I/O Module

WISE-4610

Linux Gateway Certified for IIJ Mobile Communications

ECU series

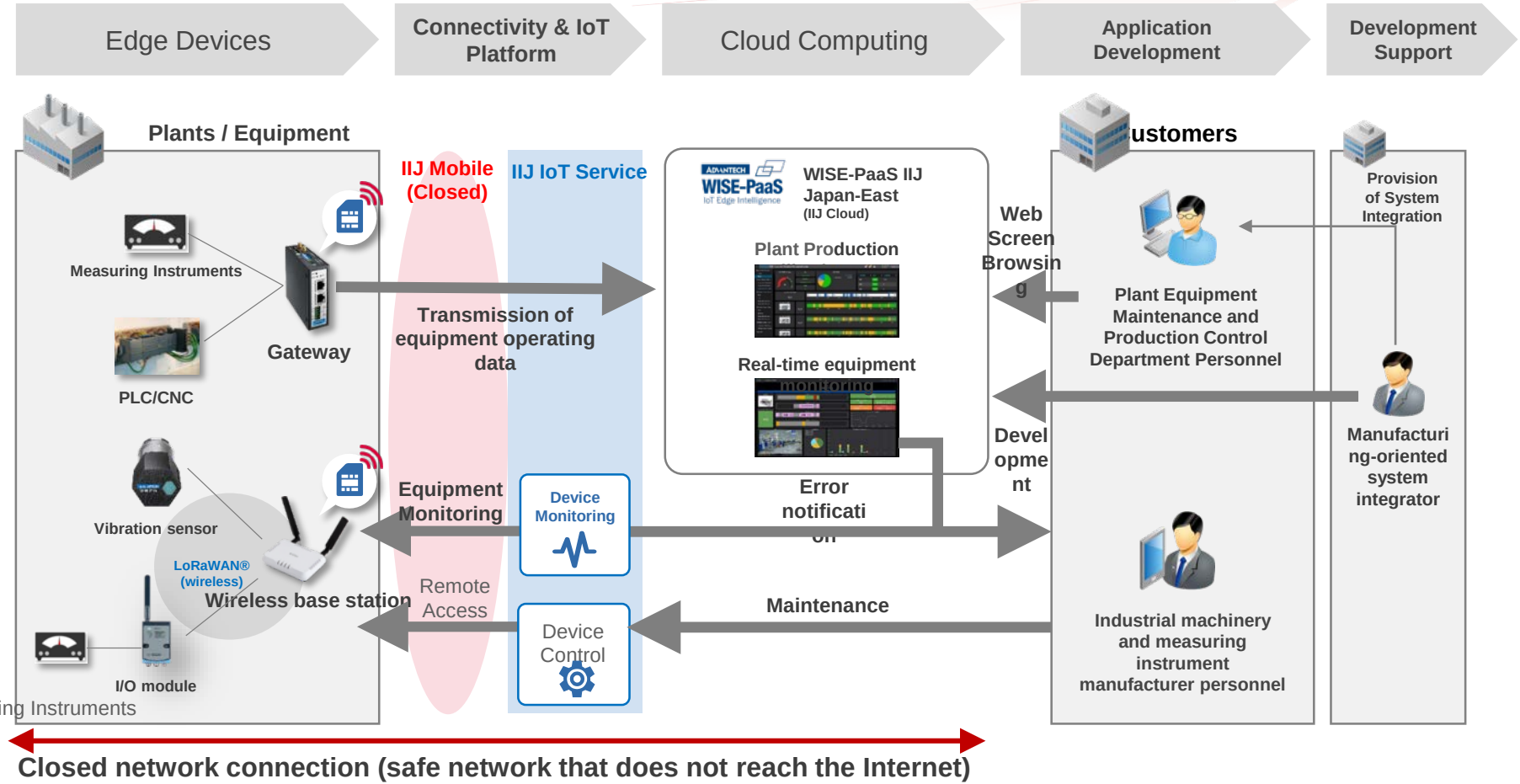
Industrial Computer Certified for IIJ Mobile Communications

UNO series

Serial / Ethernet Remote I/O Module

ADAM series

Conceptual Image of Provided Systems



Equipment monitoring through vibration and temperature sensors

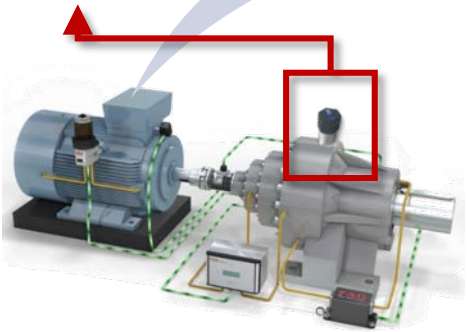
Use of LoRaWAN® wireless, which is effective for dangerous locations such as places that are high or difficult to reach with a power supply, as well as vast plant facilities
Bring greater efficiency to equipment diagnostic tasks through a dashboard application developed by IIJ

WISE-2410
Vibration and temperature sensors

Kiwitec
LoRaWAN® gateway

LoRaWAN®

Closed mobile
IIJ mobile



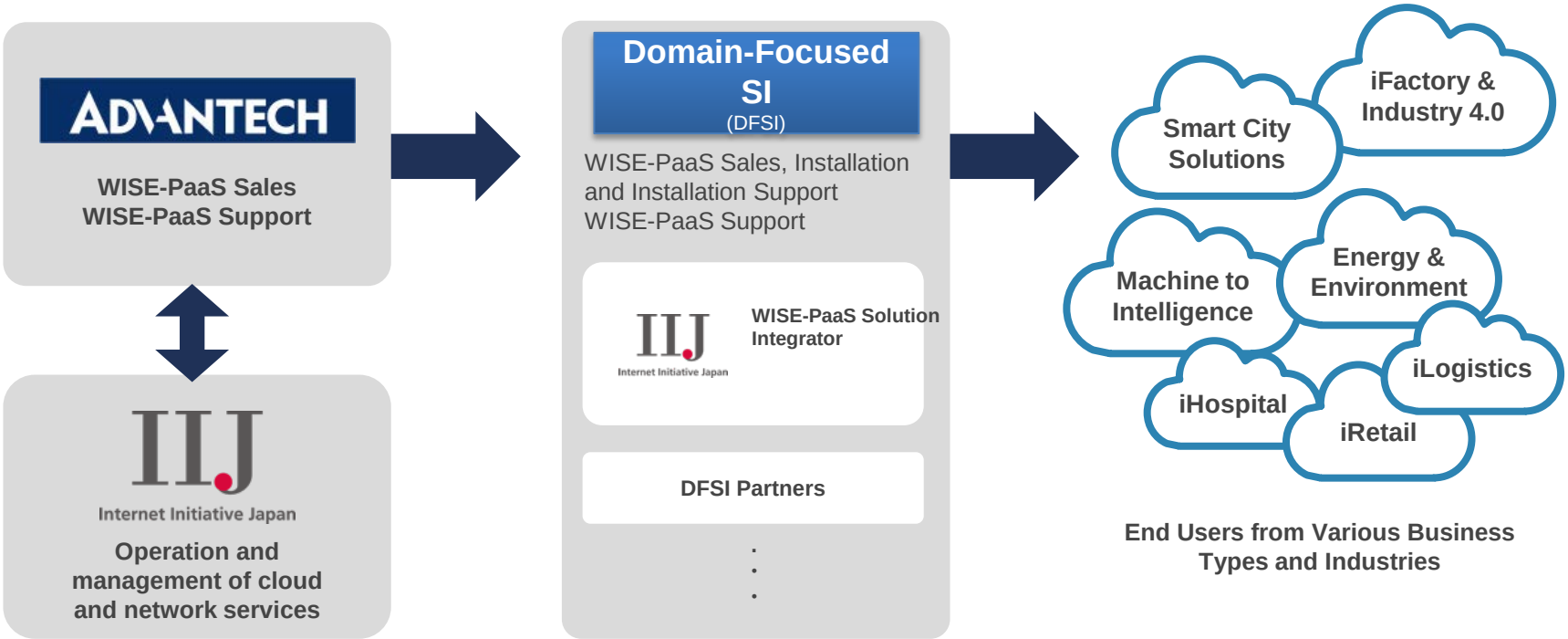
WISE-PaaS/Dashborad
Dashboard, time series analysis and anomaly detection (determinations based on ISO 10816 standards)

Reference Pricing

- Monthly expense: 17,000 yen ~
  * Mobile and cloud usage expenses
    (excludes initial equipment purchase expenses)

Method of Provision

WISE-PaaS installed by IIJ for the customer
* IIJ is also looking for affiliate partners



The internet started in Japan in 1992, along with IIJ. Since that time, the IIJ Group has been building the infrastructure for a networked society, and with our technical expertise, we have continued to support its development. We have also continued to evolve our vision for the future and innovate to make it a reality. As an internet pioneer, IIJ has blazed the trail so that others could realize the full potential of a networked society, and that will never change. The middle "I" in "IIJ" stands for "initiative," and IIJ alway starts with the future.

Disclaimer

Statements made in this presentation regarding IIJ's or managements' intentions, beliefs, expectations, or predictions for the future are forward-looking statements that are based on IIJ's and managements' current expectations, assumptions, estimates and projections about its business and the industry. These forward-looking statements, such as statements regarding revenues, operating and net profitability are subject to various risks, uncertainties and other factors that could cause IIJ's actual results to differ materially from those contained in any forward-looking statement.