OKI Open up your dreams

Growth Strategy for Solution Systems

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140th Anniversary Towards 2031

May 10, 2021

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Reference: Recap of Materials for Medium-Term Business Plan 2022

Use AI edge strategies to help customers achieve digital transformation (DX)

Strive to achieve sustainable growth through social implementation of DX solutions. Solve social issues through solutions created with customers and partners.

◆ Business opportunities

- Acceleration of DX during the “new normal”
- Growth in solutions through technological innovations (5G, AI)
- Growing importance of decentralized processing (edge computing) due to growing volumes of information

◆ Accelerate social implementation through AI edge strategies

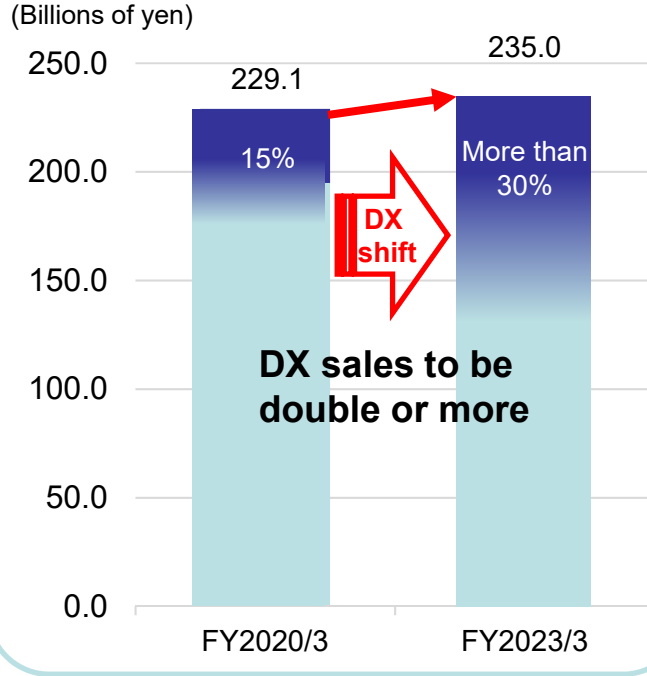
- Accelerate DX through terminal technology in the edge domain, our strengths in network technology, and abundant case studies
- Actively support the DX of customers’ current systems

◆ Foster business through co-creation with customers/partners

- Build ecosystems in collaboration with customers and partners
- Horizontally deploy created solutions

FY2023/3 targets

- **Net sales: ¥235.0 billion**
- **Operating income: ¥19.0 billion**



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Solution Systems Business

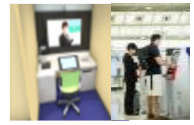
- Leveraging a customer base built over 140 years, we are working to provide customers with various solutions, products, and services to help them achieve DX. Specifically, we offer unique device categories, sensing featuring acoustic and optical sensors, 5G and other network technologies, and AI data processing and operational technologies.
- Business domains are public solutions (centering on central and local governments), enterprise solutions (large companies), platforms (products and services), and construction and maintenance services.

Solution Systems Business Domains

Public solutions

- Roadways (ETC, VICS), air traffic control, disaster preparedness, fire prevention
- Business systems for central government offices, government statistics systems
- Defense systems(underwater acoustics, information)
- Infrastructure monitoring

Enterprise solutions

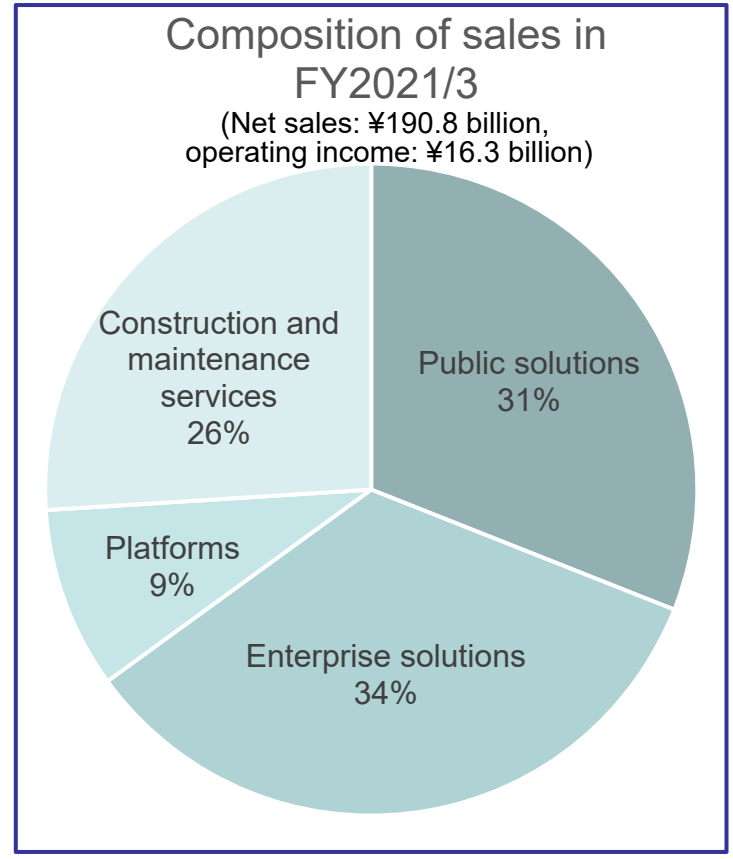


- Carrier networks, video distribution, 5G/local 5G
- Bank branch systems, system to centralized back office operations
- Railway ticket issuance systems, airport check-in systems
- Manufacturing systems (ERP, IoT)

Platforms (products and services)

- AI edge computers, sensors, IoT networks
- PBXs, business phones, contact centers
- Cloud services

Construction and maintenance services



Note: After restatement of FY2021/3 results

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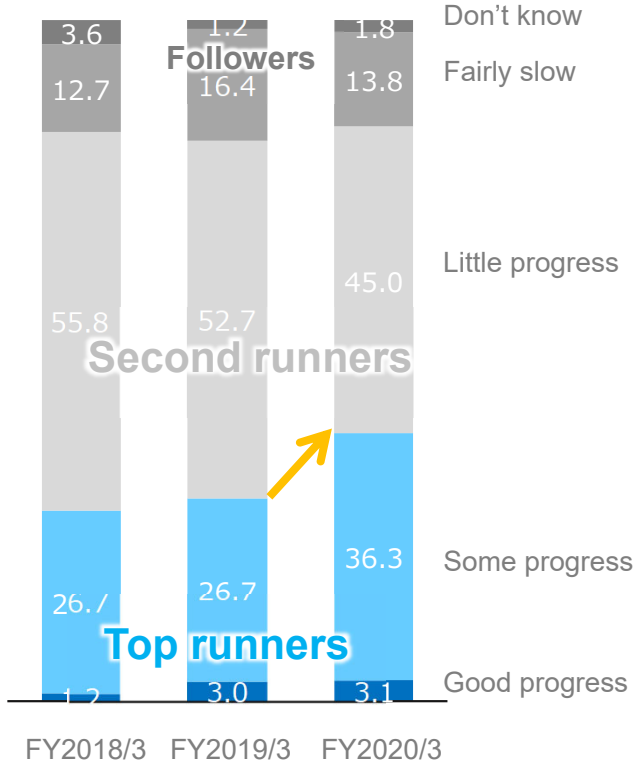
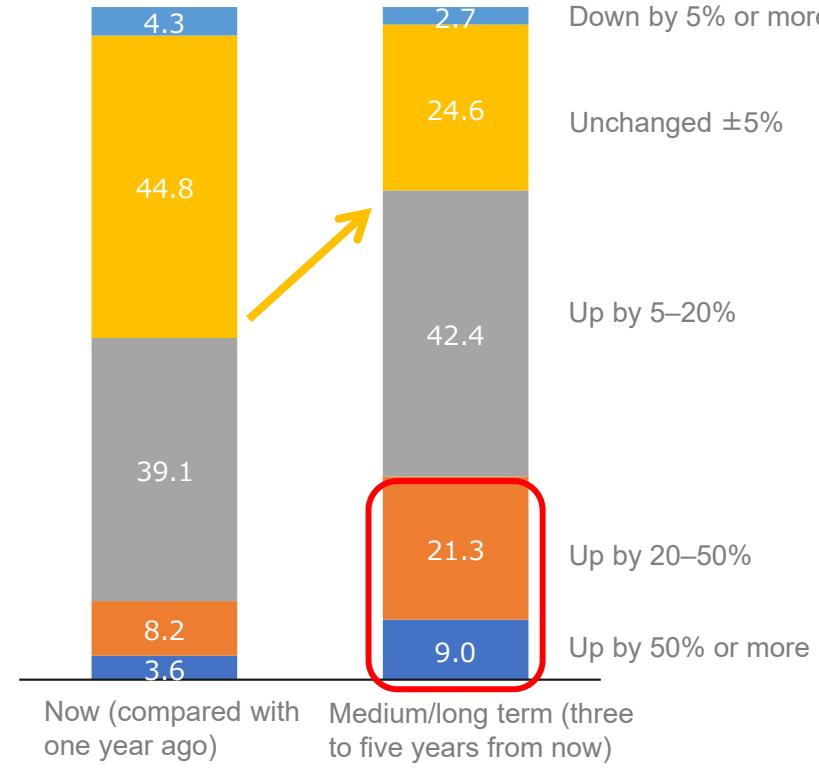
Trends in Corporate Digitalization

- Corporate digitalization initiatives are ramping up each year. The companies with the most proactive initiatives (the top runners) have increased substantially since FY2020/3 (up by around 10% from FY2019/3).
- More than 70% of companies are actively investing in business process digitalization (with 30% of companies boosting investment by 20% or more.)



Digitalization initiatives (compared with other companies)

Based on the May 2020 "Survey of Digitalization Initiatives," Japan Users Association of Information Systems



Investment in process digitalization

Based on the February 2021 "Survey of Corporate IT Trends (Preliminary Figures on business Digitalization," Japan Users Association of Information Systems

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Progress on Digitalization Accelerating DX

- Background for progress in digitalization: Diversification of business models, a consumer shift from physical goods to experiences, response to aging equipment and shrinking workforce
- Digital technologies for achieving DX: IoT, AI, cloud, 5G/local 5G

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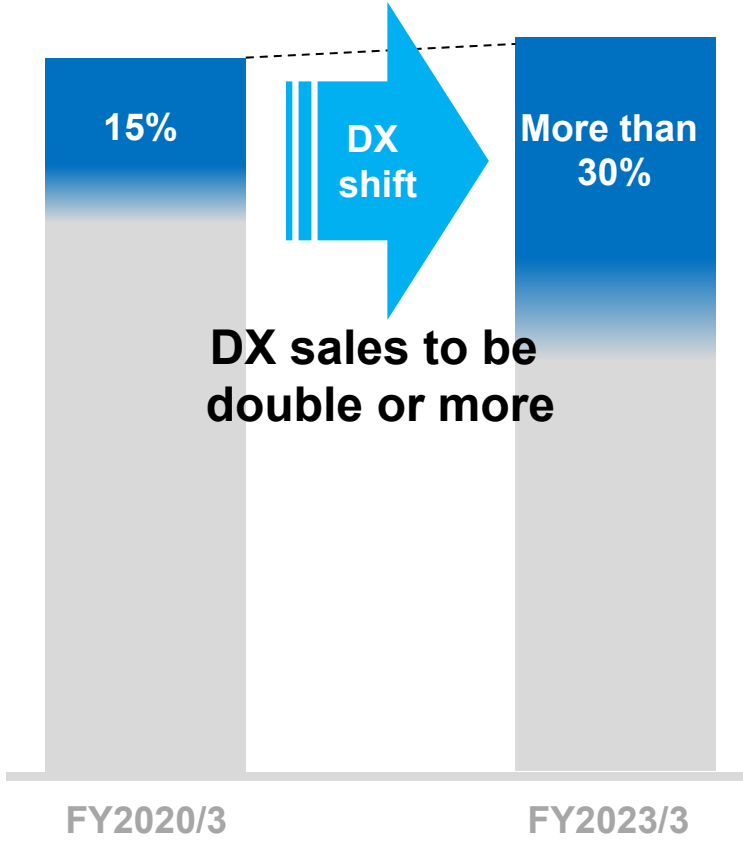
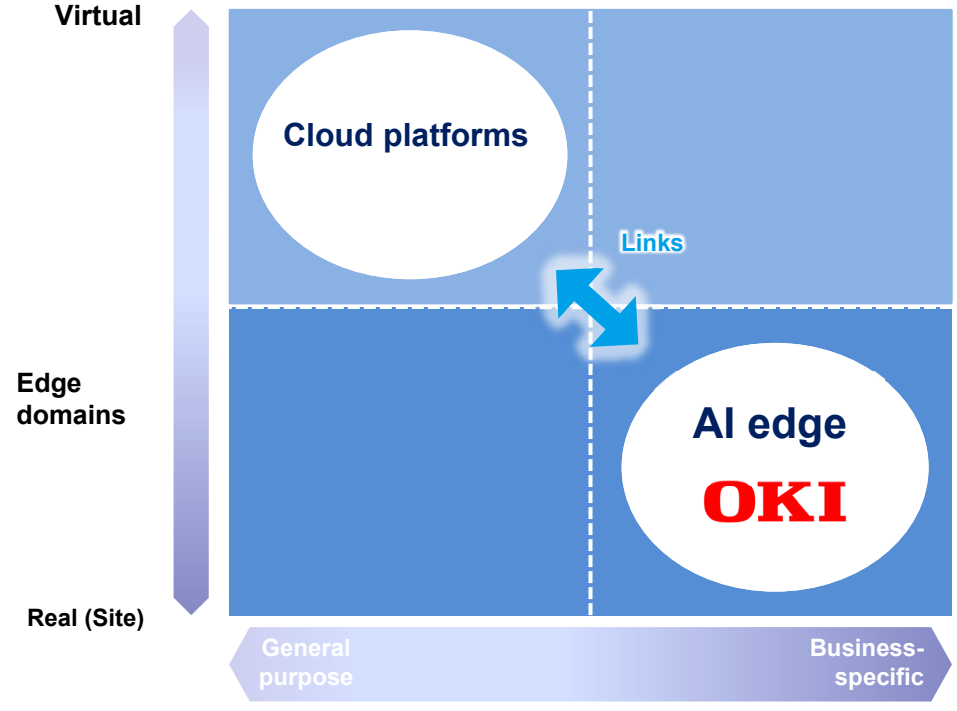
Growth Strategies for Solution Systems

- Ensure stable earnings and achieve growth by supporting customers' DX initiatives and rolling out solutions horizontally
- Leverage Oki's strengths in the edge domain: technologies and customer assets



◆ **OKI's strengths: Customer base x installed base x technological capabilities**



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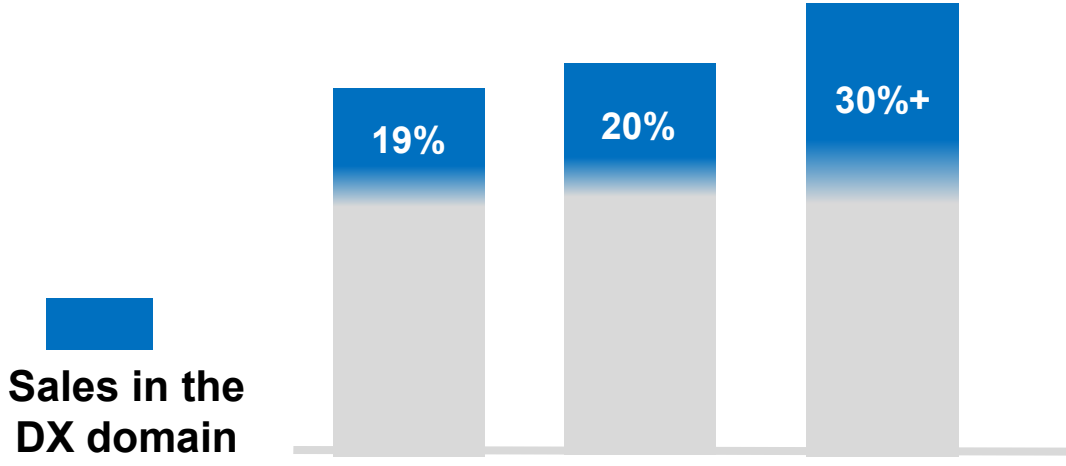
Growth and Investment During the Period of Medium-Term Business Plan 2022

- In FY2021/3, we expect the enterprise domain to continue being affected by COVID-19 but anticipate a recovery in the network field. In the public domain, we forecast robust performance, leading to a slight overall decline in sales, but reaching target operating income.
- To build the base for growth, we plan to invest ¥36.5 billion in FY2021/3 to FY2023/3.



(Billions of yen)	FY2021/3	FY2022/3	FY2023/3
Sales	190.8	198.5	235.0
DX domain	36.9	40.0	70.0 or more
Operating income	16.3	16.5	19.0
Capital investment	3.2	17.0	
R&D	3.3	8.0	
M&A, etc.	0.0	5.0	

*After restatement of FY2021/3 results

Development investment

Development of:
- AI edge products
- Local 5G technologies
- Fire prevention directives, disaster preparedness systems
- Enterprise DX
- Manufacturing DX
- Underwater acoustic communications

Capital investment

- Construction of new smart factory wing
- AI edge facilities
- Ocean observation equipment
- Cloud frameworks

M&A investment

- Portfolio enhancement
- New domains

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Promote DX through Co-Creation

- Through co-creation with partners, we aim to create new solutions and expand our business.
  - ⇒ We will pursue co-creation, leveraging Oki's strengths: AI edge technologies and innovation.
  - ⇒ We will promote social implementation of DX solutions, fostered through co-creation.

DX Ecosystem

Through co-creation with partners, we will strive to implement DX in society and expand our business.

We will forge tie-ups with partners, centering on our areas of strength: AI edge and IoT technologies

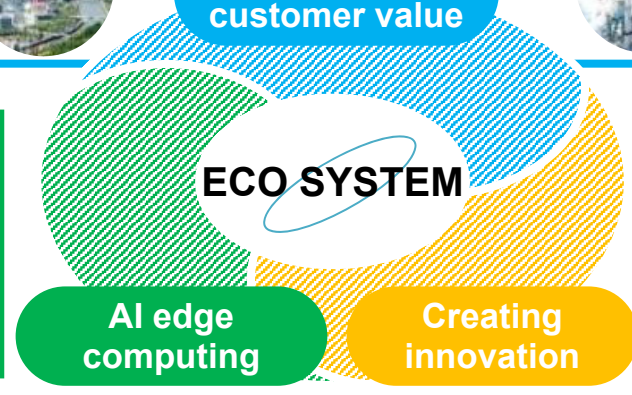
82 co-creation partners

Collaborate with Oki to create new solutions (priority fields indicated below)

87 AI edge partners

Ecosystems in AI edge domains

Major systems integrators, AI vendors, sales companies, device vendors, telecom carriers, etc.



Open innovation partners

Creating innovations with Oki

Financial institutions, industry–academia alliances, startups, business matching, etc.

Oki' unique DX solutions in the edge domain

AI edge × Local 5G

DPS Core

Enterprise DX

Manufacturing DX

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Public Solutions DX: Road Transport Field

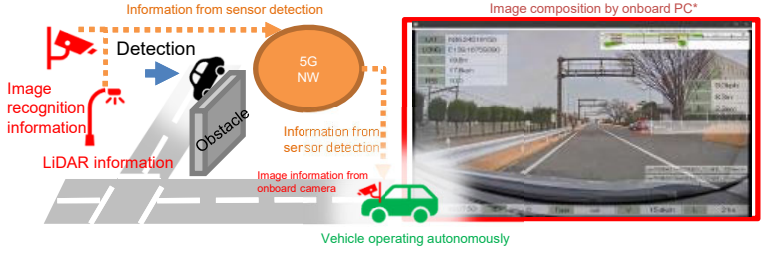
■ We provide solutions that use DSRC, 5G networks, ETC 2.0, and various edge sensors for the creation of new businesses that leverage roadway infrastructure to provide a comfortable environment for driving.

Services to support autonomous driving and safe transportation

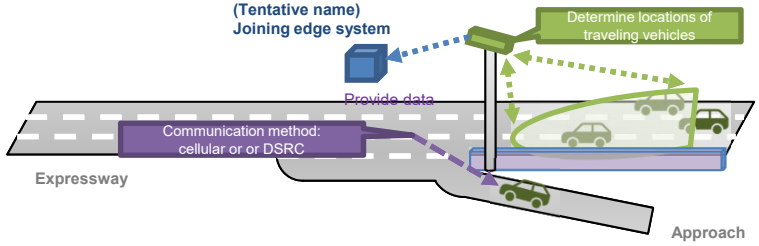
Roadway infrastructure that supports safe transportation

- We will support autonomous driving and safe transportation by using infrastructure to anticipate information that vehicles cannot see.
- We provide ITS services in which infrastructure interacts, using DSRC, 5G, and other networks, to provide roadway information a step ahead of vehicles.

Support for autonomous driving and safe transportation on general roads



Support for autonomous driving and safe transportation on expressways



Support for the creation of new services in the retail and payment fields

Roadway infrastructure that supports private business

- We support private-sector businesses by using information from vehicles' probes to accurately determine time requirements.
- We facilitate the creation of new business in the private sector by providing new payment methods that use ETC, so people need not get in and out of vehicles.

Support for the use of information from ETC 2.0 probes

Support for the use of ETC payments by private companies

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Public Solutions DX: Disaster Preparedness Field

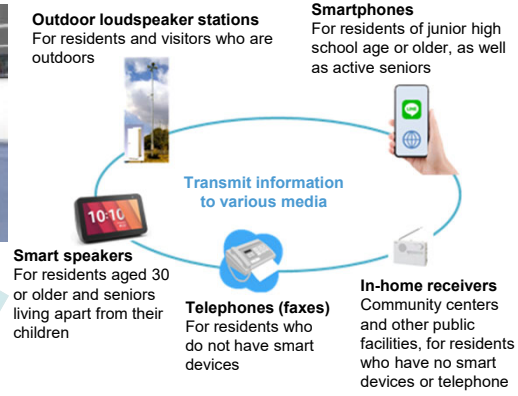
■ Fire prevention and disaster preparedness help provide safety and peace of mind. We build wireless solutions and management functionality and support the provision of solutions that use edge sensors.

Provision of information related to disaster preparedness

Support for operational speed, certainty, and precision

- We support the speed, certainty, and precision of fire-fighting activities by helping participants use and share various types of information, from receiving a 119 call to dispatching orders.
- We support disaster preparedness by communicating disaster preparedness information to individual residents and visitors in ways that suit their lifestyles.

High-performance fire-fighting command centers



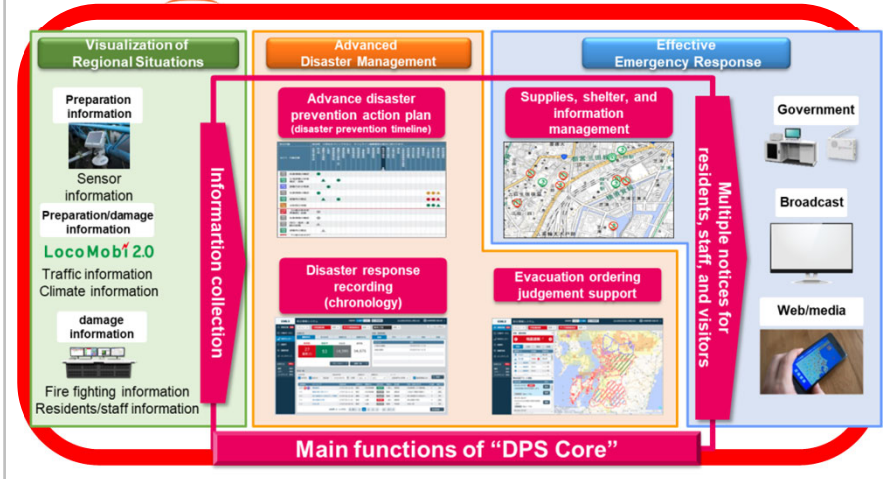
Emergency municipal radio communication system (control console)

Use of information related to disaster preparedness

Support for swift disaster countermeasures

- We provide solutions that make it possible to visualize the current status of communities, provide sophisticated management, and provide effective disaster response.
- Disaster response information systems use our water level indicators (which are designed for crisis management), as well as other sensors, to gather information via standardized interfaces.

DPS Core® + edge sensors



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Enterprise Solutions DX: Finance/Retail and Transportation Fields

■ Provide DX solutions that leverage our installed base and in collaboration with customers

- Finance/retail DX: Reduce branch staffing, offer financial services from other sectors through modular finance and BaaS
- Airport DX: Use of Fast Travel to support safe and secure airport operations, enhance traveler service
- Railway DX: Achieve safe transport and efficient station operations that support MaaS society

Enterprise DX

Finance/retail DX solutions

◆ Support DX to reduce branch staffing, diversify services

Remote helpdesks

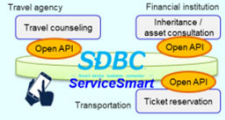
Customer service AI, self checkout

Provide guidance remotely

Shared meeting booths

Link with services in other fields

Service transformation



The digital “new normal”

Airport DX solutions

◆ Support DX to enhance airport operations through sensing and use of AI

Aircraft detection AI

Sophisticated operation of parking areas

Equipment checking AI

Detect signs of BHS failure

Fuselage sensing

More efficient maintenance operations

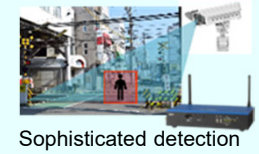
Remotely operating robots

Remote operation using bird’s-eye video

Railway DX solutions

◆ Support DX to improve transport safety and station operating efficiency

AI sensors at crossings

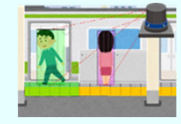


Sophisticated detection at level crossings

Analysis of congestion, flow of people

Alleviate congestion, prevent the three Cs (closed spaces, crowded places, and close-contact settings)

One-person operation



Automation of home security

Integrated operation of robots

Control multiple robots simultaneously

Enterprise DX edge platforms

CounterSmart (contactless operation, remote operation, AI interaction, noise and directional sound)

Robotics

Smart maintenance

SmartCashStation

Sensing the flow of people

Image sensing

Acoustic sensing

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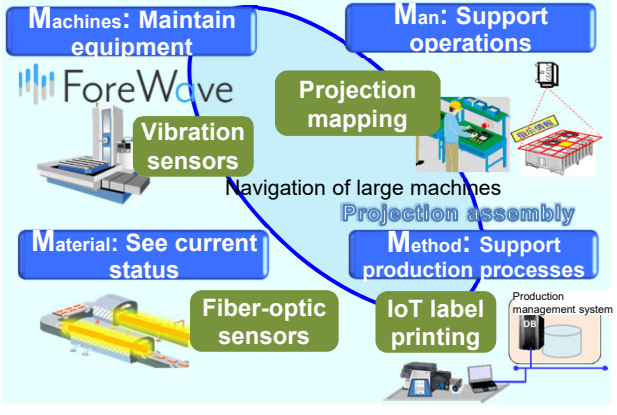
Enterprise Solutions DX: Manufacturing Field

■ We leverage the expertise and manufacturing solutions we have accumulated at our own factories to promote “Manufacturing DX” and collaborate with customers to help create smart factories.

Manufacturing DX

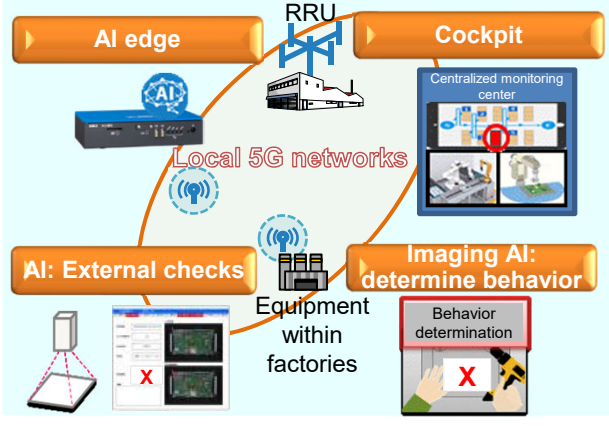
Site transformation

◆ Support DX for manufacturing sites through digitalization and site transformation solutions based on our cases and co-creation with customers



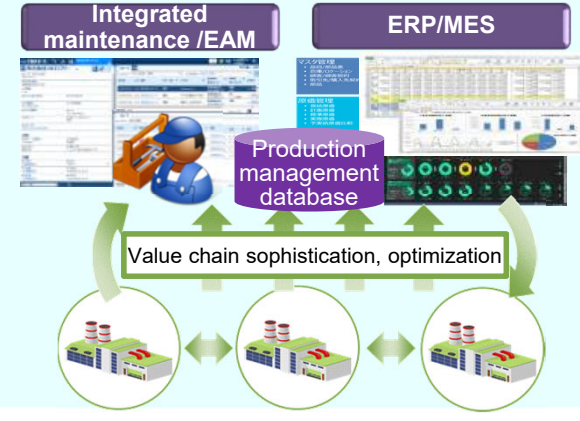
IT, operational transformation

◆ Based on site data, leverage craftsmanship with AI and support high-quality manufacturing



Management transformation

◆ Optimize the acquisition of information about production and resources, support real-time management decisions through efficient administration and connections



Manufacturing DX edge platforms

Projection assembly systems | Self-control of equipment and robots | Determination of behavior | External checks

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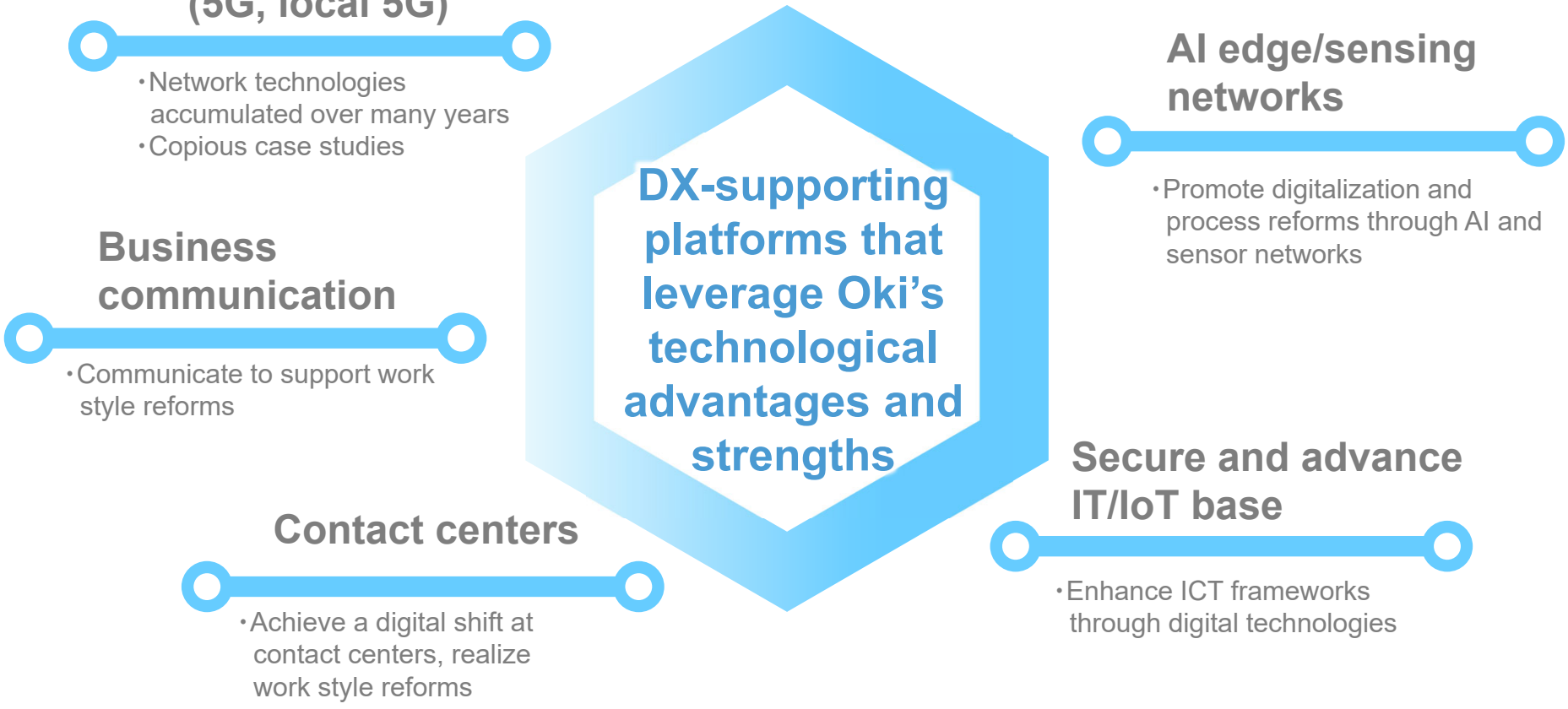
Platforms Supporting DX

- In addition to advancing the existing product portfolio that highlights Oki's strengths, we will create distinctive new products in the AI edge domain.
- We will collaborate with partners to help accelerate customers' DX and deliver a wide range of products to customers.



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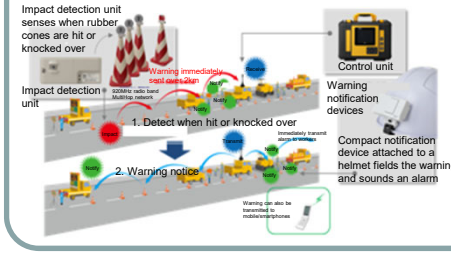
Solutions and Products (AI Edge and Sensor Networks)

SmartHop/AE2100

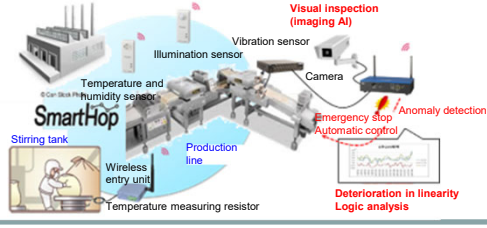
MH series	SR series	AE2100
		
116 products	42 products	87 ecosystem partners

System to detect dangerous vehicle intrusion



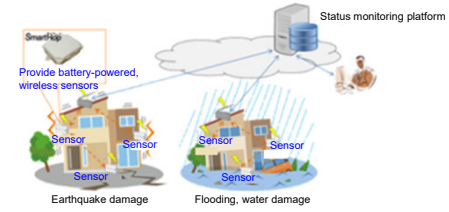
Detect incursions of dangerous vehicles into restricted areas, communicate real-time warnings to ensure worker safety

SmartHop sensor network



Remote monitoring of equipment operations using AI and sensors

Building monitoring system



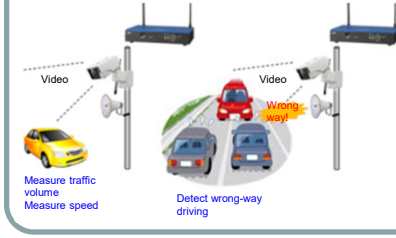
Monitor building damage due to earthquakes and river flooding (under and above the ground-floor level) to determine building soundness

ZE-GW* + wireless accelerometer system

Wireless power transmission and communications to allow remote monitoring of piers and water levels

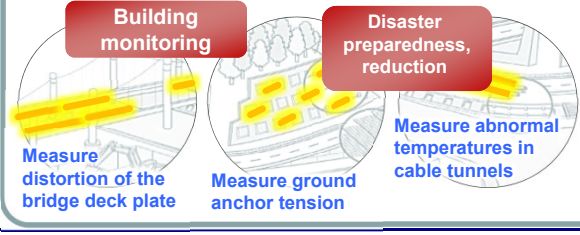
*ZE-GW: Zero Energy Gateway

AISION vehicle sensing system



Use video analysis and deep learning technology to automatically determine traffic amounts, speeds, and driving on the wrong side

Infrastructure monitoring, disaster preparedness



Use optical fiber sensors to monitor infrastructure and achieve DX on infrastructure monitoring and disaster preparedness

Autonomous driving, status monitoring

Use flying-view motion mapping to monitor surroundings and sites, and to support autonomous driving

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Environmental Initiative (1): Development of Eco Products, Responsive to Climate Change

- Through DX solutions, we will help address social issues by alleviating and responding to climate change.

Help alleviate climate change

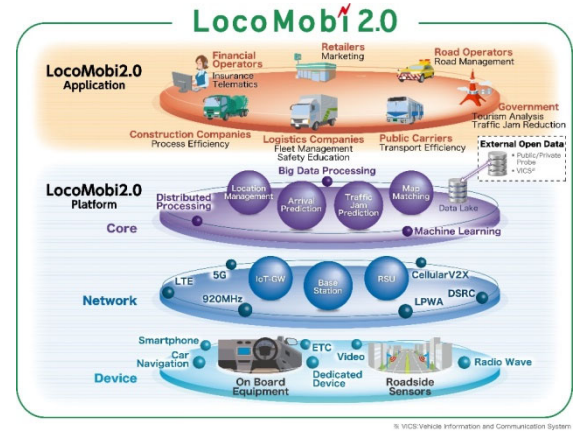
Zero Energy Gateway: IoT gateway compliant to SmartHop and LTE

Solar powered, so no CO_2 emissions generated during operation

Used with water level indicators, the gateway helps respond to climate change

LocoMobi 2.0: SaaS-type ITS service

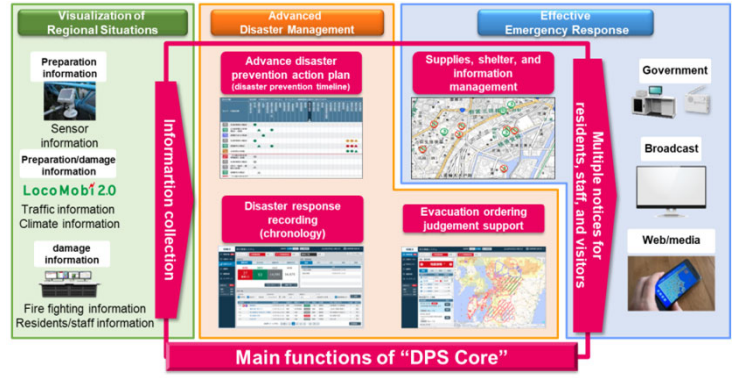
Gather and analyze roadway information in order to alleviate traffic jams; expected to reduce CO2 emissions by lowering fuel consumption



Help respond to climate change

DPS Core: disaster management information system

Advanced disaster preparedness to ensure smooth response in times of disaster; effective disaster/emergency response



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Environmental Initiative (2): Contribute to Offshore Development

- Oki possesses various types of sensors, technologies that are resistant to water and water pressure, underwater sound communication technologies, and experience in laying submarine cables. We utilize this in-water infrastructure to enable marine digitalization.
- By using in-water infrastructure to gather offshore data and openly provide data, we offer services that utilize marine data infrastructure to marine operators. (We have our own maritime testing and evaluation bases.)

140th Anniversary Towards 2031

Provide underwater sound communication and in-water infrastructure to support offshore development

Markets

Markets centered on the development of marine resources and offshore renewable energy

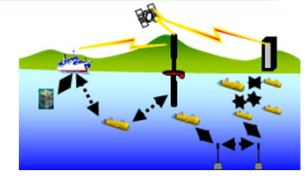
2031

Help boost efficiency and ensure safety of marine operations

- Marine resource surveys (searches using underwater acoustic technologies)
- Monitoring of offshore civil construction and structures, disaster preparedness
- Coastal surveillance (marine self-defense, security/crime prevention)
- Port cargo handling

Offer services that use in-water and offshore data infrastructures

In-water infrastructure



In-water IoT

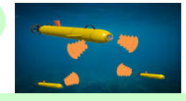
Ship IoT

- Seabed infrastructure
- Seabed charging
- Ocean environment monitoring sensors

Concealed modems for underwater acoustics

Underwater acoustic modems

Fish finding



Oceanic data infrastructure utilization service

2021

Coastal surveillance systems, multibeam echosounders

Oceanic data-gathering solutions

Oceanic database configuration

OKI

OKI DNA

- Underwater sound communication
- Underwater sound processing
- Underwater sound measurement, assessment
- In-water sensors
- Submarine cable laying
- In-water environmental resistance technologies
- Maritime measurement equipment

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Environmental Initiative (3): Environmentally Conscious Production

- We are building a new smart factory that will fit in with the local community, have enhanced disaster resistance, and feature reduced environmental impact. Operations are scheduled to commence in April 2022 (investment of ¥6.0 billion).

(1) First manufacturing facility to use a net zero energy building (ZEB)
- Energy savings plus local energy generation achieve a surplus in the primary energy balance for the amount of energy used at the building during a year
- Ranks S (highest level) under the Comprehensive Assessment System for Built Environment Efficiency (CASBEE)

(2) Employs resilient construction
- The building is highly resilient to earthquakes, due to its seismic isolation structure and use of cross-laminated timber (CLT)
- Has access to electricity and water/sewerage even when external infrastructure is out of service (large conference room for BCP countermeasures)
- First floor raised 1m to ensure against flooding

(3) Made using local materials
- Employs Chichibu cedar from the nearby Kodama district to control humidity and provide insulation, keeping the inside comfortable

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Delivering OK! to your life.

Key message indicating OKI Group' initiatives to realize its vision

The OKI Group helps create a safe and convenient infrastructure for customers and society as a whole through the key Japanese concepts of "Mono-zukuri" and "Koto-zukuri" and seeks for sustainable growth together with society

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Glossary

Term	Description
AI edge	Refers to the general-purpose application of artificial intelligence (AI) to the edge domain, connecting with the cloud to realize AI edge computing technology
Enterprise DX	In preparation for a society characterized by population decline due to a falling birthrate and aging populace, this Oki concept calls for companies to accelerate their reconfiguration of business models by using the Internet of Things (IoT) and AI, and for branches to achieve digital transformation (DX).
Manufacturing DX	This Oki concept calls for a digital transformation to address issues the manufacturing sector faces and make smart factories a reality.
DSRC	“Dedicated short-range communications” Narrow-range communications dedicated to vehicles, using the 5.8GHz band
ETC 2.0	“Electronic toll collection system 2.0” This information service combines automatic toll collection with connections between roads and vehicles to help prevent traffic jams and support safe driving.
ITS service	ITS: “intelligent transport system” This sophisticated road transport system uses information to forge links between people, vehicles, and roads to reduce accidents and traffic jams, address environmental issues, and help resolve various other problems.
BaaS	"Banking as a service" This phrase refers to offering the functions and services banks provide as a cloud service, using application programming interfaces (APIs) to facilitate use from other services.
Fast Travel	A concept being promoted by Japan’s Ministry of Land, Infrastructure, Transport and Tourism, Fast Travel is designed to facilitate a faster and smoother travel experience by leveraging the latest technology, thereby enhancing the passenger experience. Fast Travel includes sweeping innovations from passenger check-in to travel routes in and outside airports and the use of air routes.
MaaS	“Mobility as a service” This concept refers to service that integrates trains, buses, airplanes, and all other modes of transportation into seamless services ranging from route selection to payment.
BHS	"Baggage handling system" These conveyor systems are used to separate hand luggage by flights within airports and move it into containers to be loaded onto aircraft.
ZEB	"Net zero energy building" These buildings are designed to have net zero energy consumption due to their use of energy-saving equipment and the use of renewable energy.
CASBEE	"Comprehensive Assessment System for Built Environment Efficiency" CASBEE is a method for objectively evaluating and rating the overall environmental performance of buildings, including consideration for the community and local environment, as well as wasted running costs.

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