

**OKI** *Open up your dreams*

# Growth Strategy for Solution Systems

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*140th Anniversary*  
*Towards* **2031**

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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**

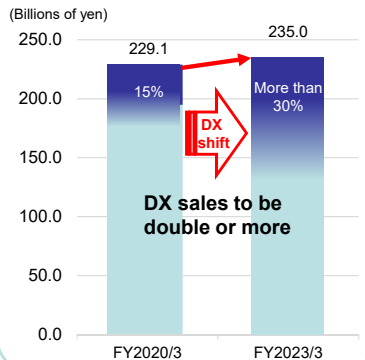
- Accelerate DX through terminal technology in the edge domain, our strengths in network technology, and abundant case studies
- Actively support the DX of customers' current systems

◆ **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**



- In the "Medium-Term Business Plan 2022" (for which FY2023/3 is to be the final year) announced in October of last year, we set forth the axis of growth for the Solution Systems business and a KPI of more than doubling sales in the DX area through supporting our customers' DX activities with AI Edge.
- Today, I would like to explain in detail.

## 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)

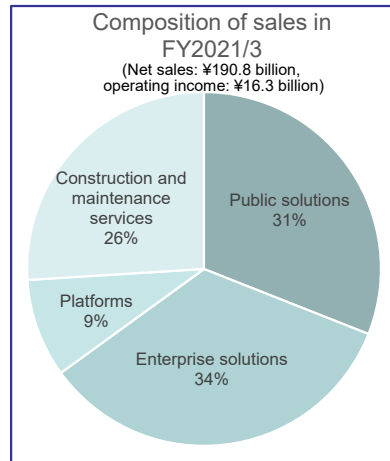


#### ■ Platforms (products and services)

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



#### ■ Construction and maintenance services

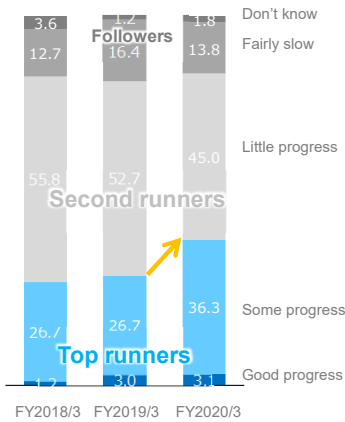


Note: After restatement of FY2021/3 results

- The Solution Systems business has four business domains.
- First, public solutions, mainly for central and local governments, consist of road-related systems, air traffic control, disaster prevention, firefighting, central government business systems, defense systems, and infrastructure monitoring.
- The second is enterprise solutions for large corporations, including carrier networks, financial systems, railroads, airports, transportation, and manufacturing systems.
- The third is the platform business, which includes AI edge computer, which is the core of AI edge, networks, traditional telephony, PBX, contact centers, and cloud services.
- The last category is installation and maintenance services, which are provided by our affiliate company, OKI Crosstech. These services include installation and maintenance for the entire OKI Group, including not only the Solution System business but also Components & Platforms. As shown in the sales composition for FY2021/3, public solutions and enterprise solutions are in a similar ratio.

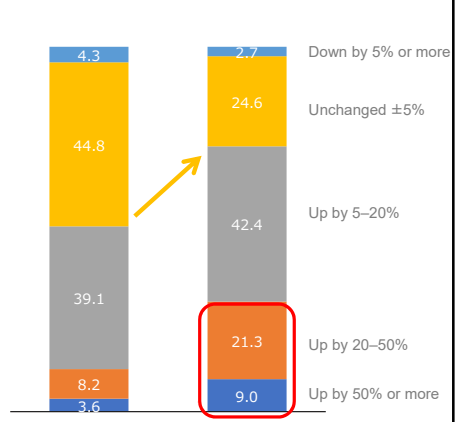
## Trends in Corporate Digitalization

- 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

➤ Needless to say, corporate investment in digitalization will proceed from the top companies, and the survey results show that companies are seeing proactive investment with a large percentage.

## Progress on Digitalization Accelerating DX

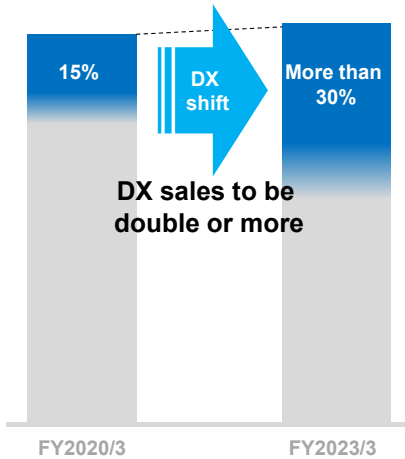
- Background for progress in digitalization: Diversification of business models, a consumer shift from physical goods to experiences, response to aging equipment and shrinking workforce
- Digital technologies for achieving DX: IoT, AI, cloud, 5G/local 5G



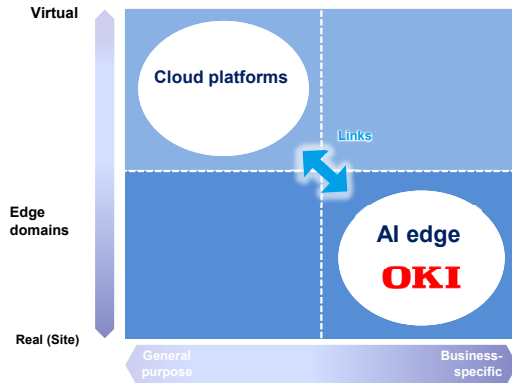
- These are the two digitization: the process of converting analog data into digital form and the process of utilizing digitalized data.
- When we talk about DX, we are talking about drastic changes in the business model itself, in the company itself, and more recently, in the government system itself. In this sense, we believe that the advancement of digitalization will accelerate DX.

## 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



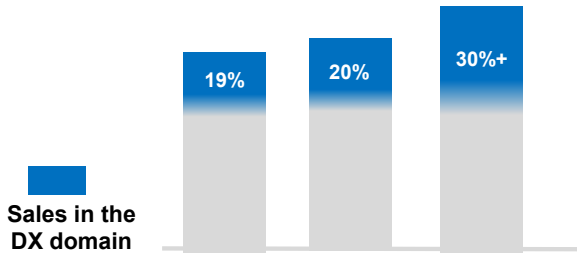
◆ **OKI's strengths: Customer base x installed base x technological capabilities**



- Many IT vendors say that they will focus on DX. So, what is the difference between OKI and other companies?
- There was a time when we were known as the OKI of terminals. Nowadays, our strength originally lies in the edge area. We develop "AI edge" for the edge area including the inference of AI.
- This area is dedicated to the real world, the so-called field, and certain businesses. OKI's strength is its customer base and technological capabilities focused on the installed base, which will of course be linked to the cloud. I think these are advantages over other companies.

## 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

- Growth and investment during the Medium-Term Business Plan.
- There was a YoY decline in FY2021/3 due to the impact of the first year of the percentage-of-completion method and the overlap of large-scale projects in FY2020/3. In addition, impacts of COVID-19 were seen in some areas after the plan; however, we were able to offset them with the network field, and the public domain was solid, resulting in a slight decrease in overall sales and an operating income that exceeded the plan.
- The impact of COVID-19 will still be felt in FY2022/3, but we have some major projects for 2022 and beyond.
- The important thing here is to build a foundation for growth and to invest well. We will invest ¥36.5 billion over the next three years in capital investment, research and development, and M&A.
- Because of the increase in production from FY2024/3 onward and the new building of the plant, we would like to make a firm investment.





# 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

- I would like to talk specifically about where we are going to implement DX through our public solutions and enterprise solutions.
- First, although we have strength in road-related IT systems, such as VICS for ETC, they will become more IT-oriented infrastructure in the future with the introduction of automated driving and safe driving support. This is where we can contribute.
- Also, there is a move to use ETC payments, not only on roads, but also in the private sector. We believe that there is an opportunity to be utilized in the private sector.

# Public Solutions DX: Disaster Preparedness Field

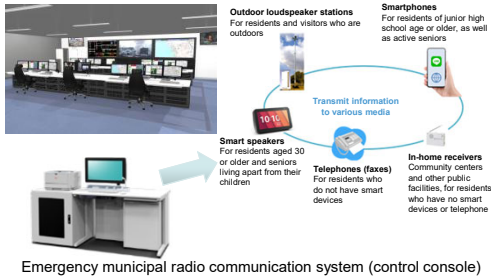
- Fire prevention and disaster preparedness help provide safety and peace of mind. We build wireless solutions and management functionality and support the provision of solutions that use edge sensors.

## 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.

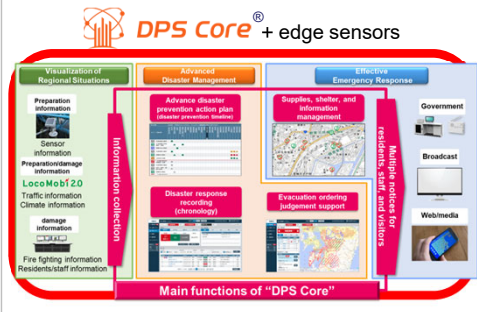
### High-performance fire-fighting command centers



## 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.



- About disaster prevention. So many various disasters, including natural disasters, are occurring today.
- We have been working on a fire command system and a disaster prevention administrative system.
- However, information is somewhat fragmented. This is a challenge for the national and local governments. In addition, the time when all citizens use smartphones is coming. I believe that it is absolutely necessary to develop a comprehensive disaster prevention system that is optimized for this era.

## 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



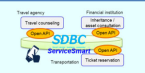
Provide guidance remotely

#### 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



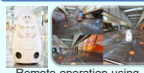
Detect signs of BHS failure

#### 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

#### One-person operation



Automation of home security

#### Analysis of congestion, flow of people



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

#### Integrated operation of robots



Control multiple robots simultaneously

### Enterprise DX edge platforms

#### CounterSmart

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

#### Smart maintenance

Robotics

#### Sensing the flow of people

SmartCashStation

#### Acoustic sensing

Image sensing

- In the field of enterprise solutions, we have been working in areas close to the field, such as finance, retail, and transportation.
- In the financial and retail industry, there is a need to save manpower and diversify services in the stores.
- In addition, airports and railroads are extremely safety related. I believe that aviation inspections, monitoring of railroad facilities, and remote instructions will become increasingly important in the future. We believe that we have a lot to contribute in this area, as well.

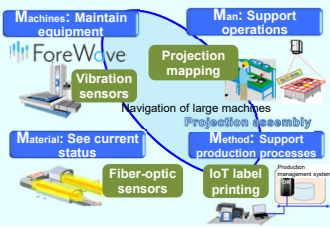
# Enterprise Solutions DX: Manufacturing Field

- 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

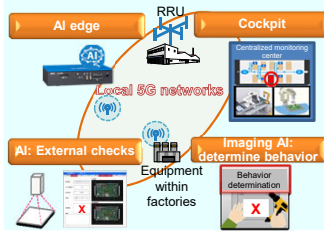
### Site transformation

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



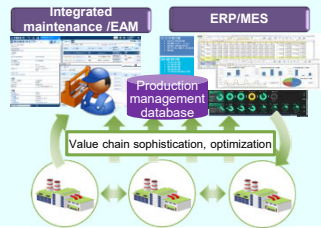
### IT, operational transformation

- ◆ 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

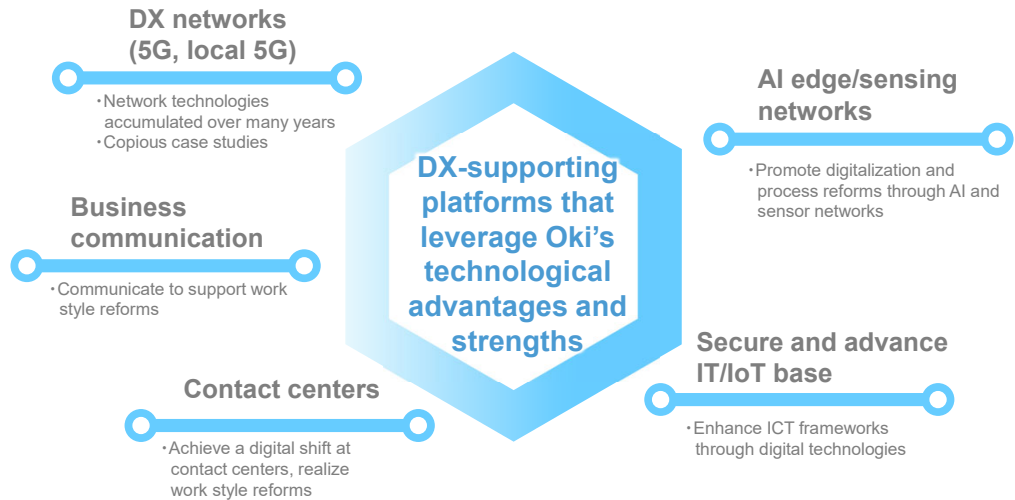
Determination of behavior

External checks

- OKI is in the manufacturing industry. We would like to expand the DX we are doing in the manufacturing industry to our customers.
- We will widely expand what we have done, including on-site transformation, IT operation transformation, management transformation. This field has a high affinity with IoT and AI. We are working on co-creation projects with various people.







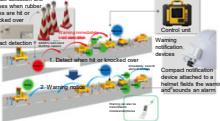



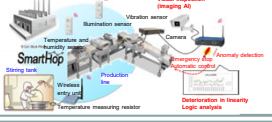



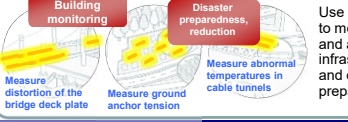

## Platforms Supporting DX

- 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.



➤ As for the platform that supports DX, we will support the systems in the industries I've mentioned so far by firmly using computing sensors and networks.

# Solutions and Products (AI Edge and Sensor Networks)

<h3>SmartHop/AE2100</h3> <table border="1"> <tr> <td> <b>MH series</b>                    116 products             </td> <td> <b>SR series</b>                    42 products             </td> <td> <b>AE2100</b>                    87 ecosystem partners             </td> </tr> </table>			<b>MH series</b>  116 products	<b>SR series</b>  42 products	<b>AE2100</b>  87 ecosystem partners	<h3>System to detect dangerous vehicle intrusion</h3>  <p>Detect incursions of dangerous vehicles into restricted areas, communicate real-time warnings to ensure worker safety</p>	
<b>MH series</b>  116 products	<b>SR series</b>  42 products	<b>AE2100</b>  87 ecosystem partners					
<h3>SmartHop sensor network</h3>  <p>Remote monitoring of equipment operations using AI and sensors</p>		<h3>Building monitoring system</h3>  <p>Monitor building damage due to earthquakes and river flooding (under and above the ground-floor level) to determine building soundness</p>					
<h3>ZE-GW* + wireless accelerometer system</h3>  <p>Wireless power transmission and communications to allow remote monitoring of piers and water levels                  *ZE-GW: Zero Energy Gateway</p>		<h3>AISION vehicle sensing system</h3>  <p>Use video analysis and deep learning technology to automatically determine traffic amounts, speeds, and driving on the wrong side</p>					
<h3>Infrastructure monitoring, disaster preparedness</h3>  <p>Use optical fiber sensors to monitor infrastructure and achieve DX on infrastructure monitoring and disaster preparedness</p>		<h3>Autonomous driving, status monitoring</h3>  <p>Use flying-view motion mapping to monitor surroundings and sites, and to support autonomous driving</p>					

- For AI edges, processing AI on the edge side requires performance. Also, it is used outside and in various places. The so-called AI edge, which has various interfaces, requires a dedicated computer, which is why we announced the AE2100.
- This has been very well received, and we have formed alliances with various people. In this context, we are also developing and commercializing more and more of the specific solutions described here. We are trying to expand these solutions to the enterprise, public, and other solutions, as well as to the ecosystem.

## 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

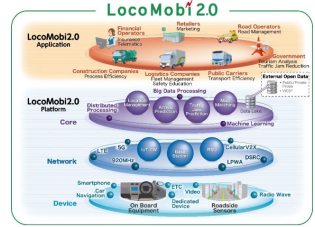
Solar powered, so no CO<sub>2</sub> emissions generated during operation



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

#### LocoMobi 2.0: SaaS-type ITS service

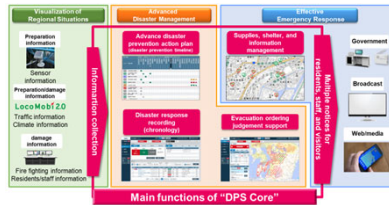
Gather and analyze roadway information in order to alleviate traffic jams; expected to reduce CO<sub>2</sub> emissions by lowering fuel consumption



### 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



- The Medium-term Business Plan 2022 also calls for strengthening ESG initiatives.
- As a manufacturer, we are working to develop products and solutions that contribute to the environment. For example, creating products with zero energy, providing solutions for disaster prevention and reducing traffic congestion, etc.



## 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

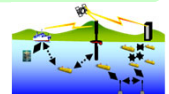
Help boost efficiency and ensure safety of marine operations



- 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

- Seabed infrastructure
- Seabed charging
- Ocean environment monitoring sensors

Ship IoT

Concealed modems for underwater acoustics

Underwater acoustic modems

Fish finding



Oceanic data infrastructure utilization service

Oceanic database configuration

Coastal surveillance systems, multibeam echosounders

Oceanic data-gathering solutions

2021

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

- About contribution to marine development. we have a long history of achievements in defense-related and ocean-related fields, such as underwater acoustics and submarine cable facilities. The market for marine resources and marine renewable energy will be expanding.
- At the moment, we are the only manufacturer to have our own marine test and evaluation base. We want to make the most of it. This is exactly what we will do toward the SDGs by 2030 and our 150th anniversary in 2031.



## 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

- As a manufacturer, we have to take the environment into consideration in the context of production. Triggered by the aging of the Honjo factory, we are going to build a new smart factory that is environmentally friendly, disaster resistant, and closely connected to the local community, which will start operation in April 2022. For that, we will make an investment of ¥6.0 billion.
- In this regard, we will aim for rank S by CASBEE, the Comprehensive Assessment of Built Environment Efficiency, as the first production facility that achieves a net zero energy building, or ZEB. In addition, we are trying to take the environment into account in our production by adding new things such as resilience and the use of local wood.

# 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



- "Delivering OK! to your life." This is the key message of the Medium-Term Business Plan 2022.
- We believe that the Solution Systems business will do it by itself, which will also lead to the growth of the business.

## 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.