

OKI Group

Innovation and Technology Strategy Meeting

Innovation Strategy

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Executive Officer

Chief Innovation Officer

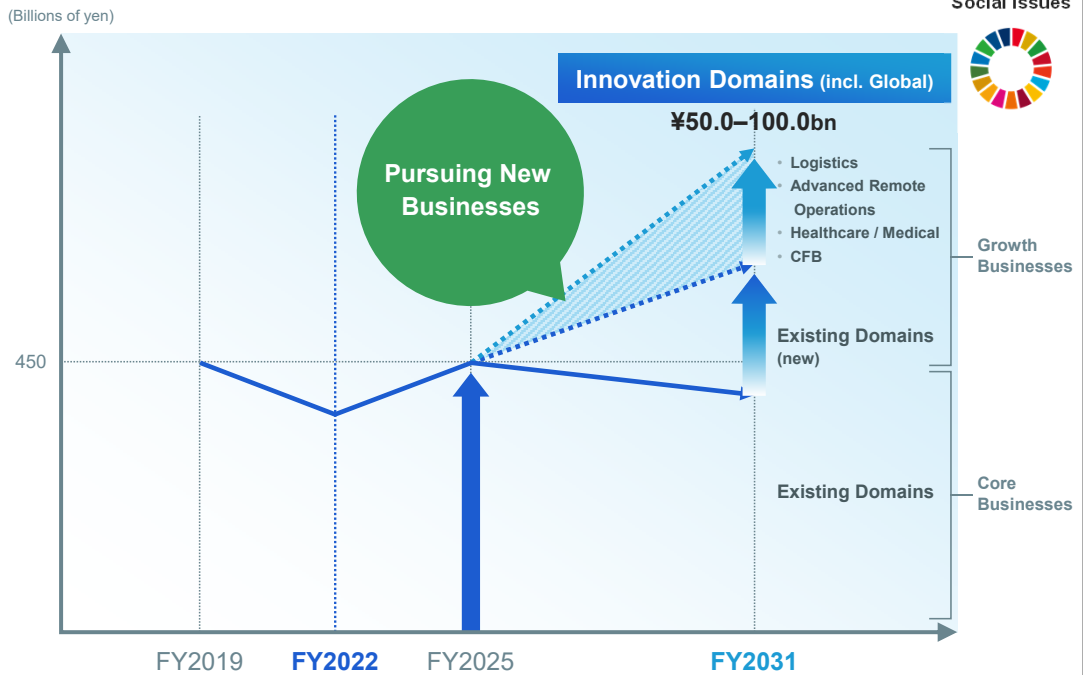
Responsible for Innovation Business Development Center

November 16, 2023

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01

Entering New Business Domains

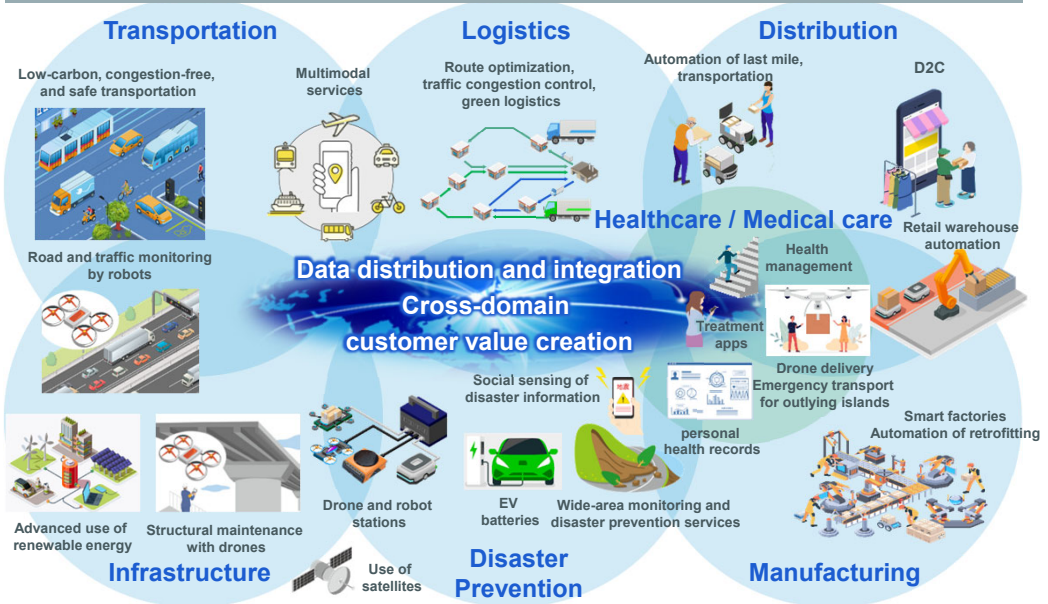


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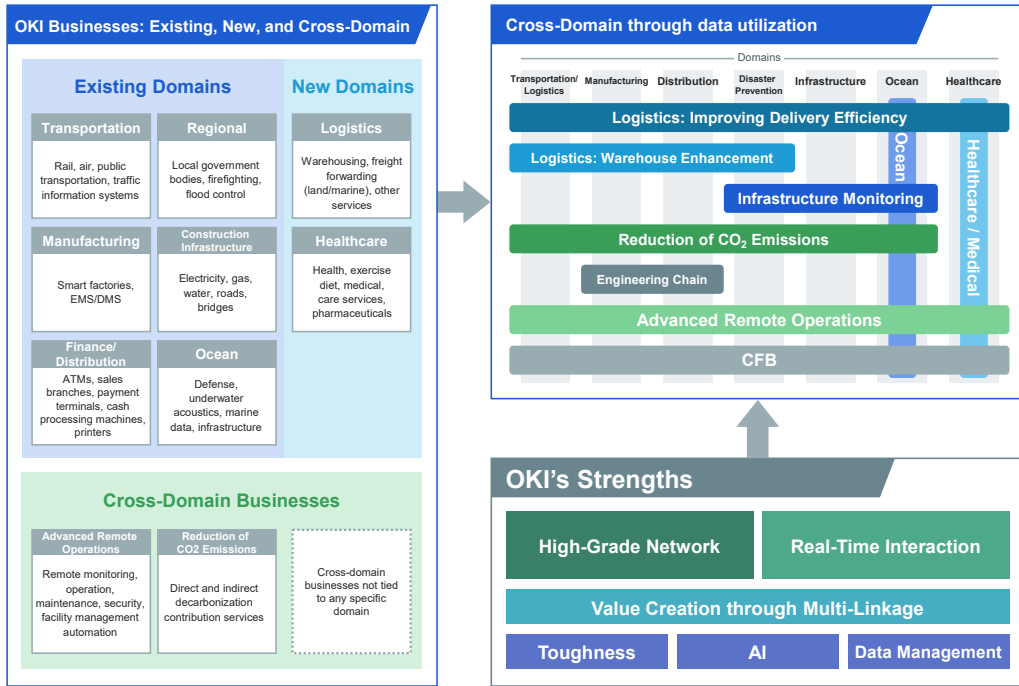
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- In our Medium-Term Business Plan 2025, we have set goals with the themes of “Steering Towards Growth” and “Breaking free from the downward trend.”
- Today, we would like to provide a more detailed breakdown of “08 Creation of Future Businesses: Full Participation Innovation .”
- To begin, it is necessary to take on the challenge of entering new businesses, as pursuing existing business domains alone is likely to lead to shrinking markets. For example, the ATM and printer businesses, both OKI mainstays, face a shrinking market due to the trend towards cashless transactions and paperless environments.
- Additionally, in the business communication domain, the market has been shifting a stage from maturity to decline. While expecting the market to maintain a certain size, we believe it is difficult to expand our business by extending the current line of business.
- Therefore, to steer towards growth, it is essential to create new businesses in existing domains and explore new businesses in innovation domains.
- Today, we will explain the reasons why we are focusing on four innovation domains of Logistics, Advanced Remote Operations, Healthcare / Medical care, and CFB, as well as our strategies for each domain.

- Creation of customer value across domains and optimization of whole society through data distribution and integration
- Accelerated commercialization of remote operations utilizing a variety of sensors, robots, and mobility to complement labor shortages



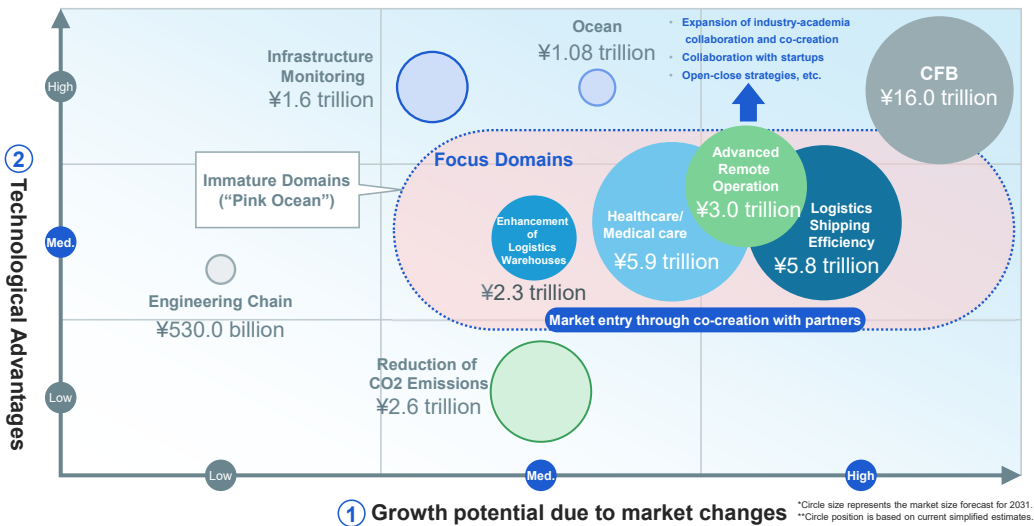
- Looking ahead to the future trends to 2031 in the fields in which OKI operates, while the world will continue to undergo digital transformation (DX) within each domain, we believe that new customer value across domains will be created through the distribution and integration of various data. This will contribute to the overall optimization of society.
- Further, to address labor shortages, a social issue affecting each domain, there will be more widespread utilization of a wide variety of sensors, robots, and mobility solutions. We will accelerate the practical implementation of remote operations to utilize these technologies efficiently and effectively.



- In our existing, new, and cross-domain businesses, we will create new customer value that crosses domains by realizing multi-linkage in each domain. Based on our strengths, both high-grade networks and real-time interaction, we will achieve this by "Toughness" that has nurtured the "Unstoppable & Unceasing" development cultivated with our reliable and convenient social infrastructure solutions, and through enhancing our AI and data management technologies.
- For detailed explanations of each technology, Executive Officer Maeno will provide further explanations.

- Business creation in four domains (logistics, healthcare/medical care, advanced remote operations, and CFB) where capital will flow in 2031
- Aiming to expand business with an edge platform that leverages “market growth potential X OKI's strengths”

OKI's Future Business Targets (Four Focus Domains) / Focus Domains for Innovation

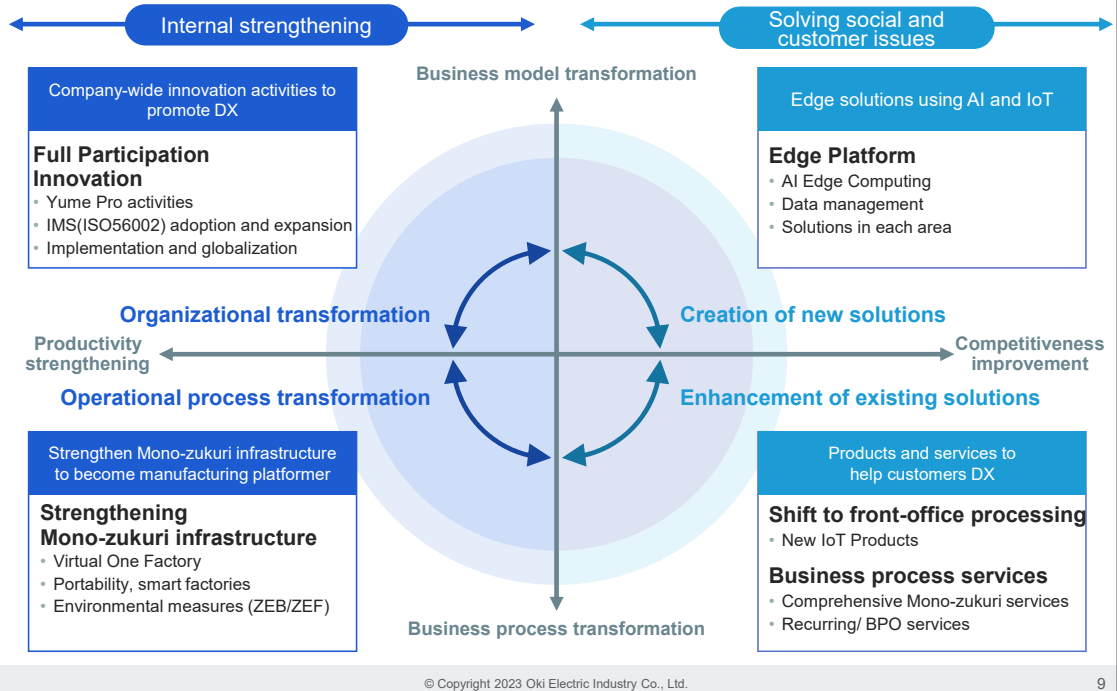


- Among these new domains, we have identified Logistics, Healthcare / Medical care, Advanced Remote Operations, and CFB as focus domains where our strength in edge platforms can thrive. These are still immature domains, but are expected to attract significant capital by 2031.
- Each of these domains is expected to expand into a market worth trillions of yen. We aim to enter these markets through co-creation with partner companies.

02

Full Participation Innovation

- Strengthen sources of value both externally and within the company



- This represents the strategy for value creation towards future business creation outlined in the Medium-Term Business Plan 2025 and DX Strategy 2025.
- We will work in “practical mode” towards market entry and expansion in new domains by creating customer value through organizational transformation via “Full Participation Innovation” and the creation of new solutions with the edge platform as the core.



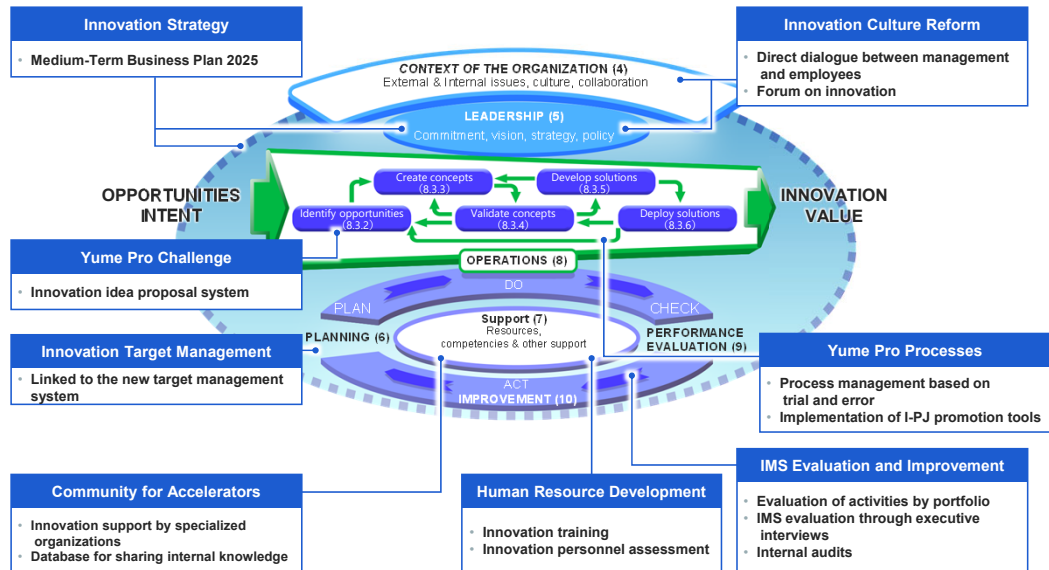
*Innovation Management System (IMS): A management system that promotes innovation at companies and other organizations.

**“Swimmers who can make it to the finish”: A team of strong-willed innovation practitioners who continue to drive the innovation process.

***Number of innovations created: Number of companywide innovation projects that have progressed to the solution implementation step.

- Let me introduce our efforts in Full Participation Innovation.
- Since 2017, we have been building OKI’s Innovation Management System (IMS) and launched IMS Yume Pro in 2018.
- We have been working on internal cultural reform through three pillars: “cultural change achieved by top management,” “supporting employees’ practical efforts,” and “innovation training.”
- In FY2020, under the concept of “Full Participation Innovation,” we began promoting these changes throughout the entire OKI Group to foster a culture of “taking action with IMS in mind.”
- Starting in FY2023, we have incorporated IMS Yume Pro into our companywide regulations and started full-scale operation in August 2023, aiming to shift to “practical mode.”
- By using these companywide regulations as a guide, we will create a path to global expansion by improving our results qualitatively and quantitatively. We will achieve cultural reform through the penetration of IMS within our Company, enabling all members to take on the challenge of innovation willingly and proactively, and transform the company into one centered on our slogan, “Delivering OK! to your life.”

- Establishment of an innovation management system based on ISO 56002
- All divisions implemented innovation management system based on full participation innovation in FY2023



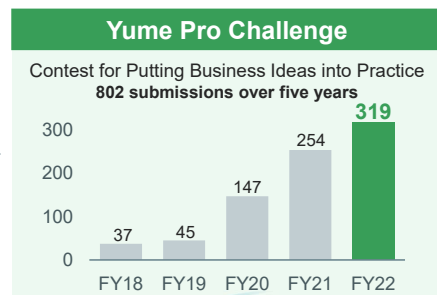
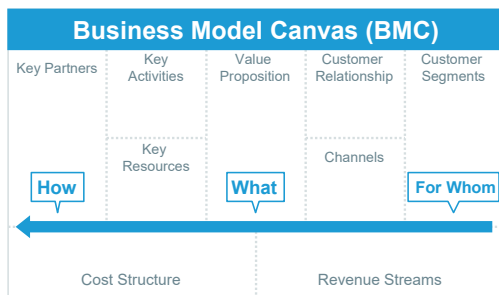
Source: Japanese Standards Association ISO 56002 Japanese Bilingual Edition, revised based on Fig. 1.

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- OKI's IMS Yume Pro incorporates a system solutions design based on ISO 56002.
- What sets Yume Pro apart is that it doesn't selectively adopt initiatives outlined in ISO 56002, but rather incorporates them comprehensively.
- The reason for this is that we believe innovation cannot be achieved through selective adoption.
- Further, all members will willingly engage in these initiatives.
- This is because OKI defines innovation as follows:
 1. Creation of new businesses
 2. Transformation of existing businesses
 3. Improvement of operations
- We believe Full Participation Innovation makes sense by defining the above three as innovation activities.

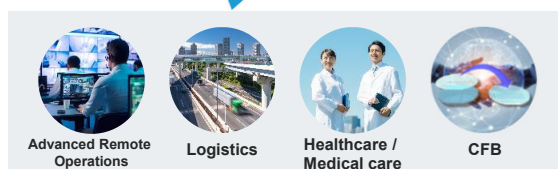
• Concept-Building Process: Pursuit of True Customer Value



Getting into customer's business scene
Discovering customer's issues (questioning and observation skills)
 And repeatedly refine the hypothesis **with the customer**



Creation of new business domains



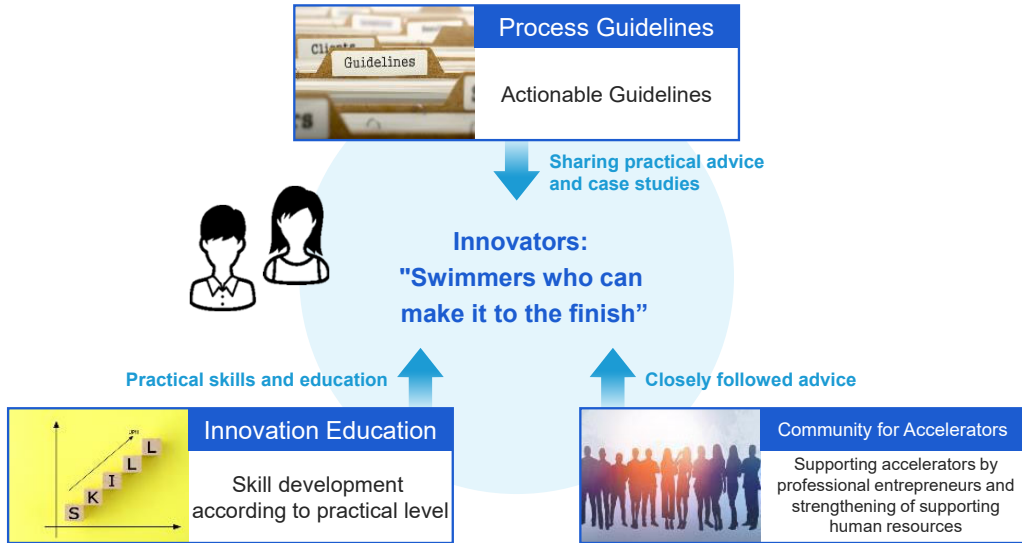
- The key to implementing innovation activities is to repeatedly go through the concept building process (Identify opportunities, Create concepts, Validate concepts) in a rapid cycle without fear of failure.
- Specifically, by utilizing the Business Model Canvas (BMC), we create hypotheses about “who,” “what,” and “how” we provide customer value. We then engage in repeated discussions with customers and receive feedback to refine the resolution of these hypotheses.
- In other words:
 - Getting into customer's business scene.
 - Discovering customer's issues (through questioning and observation skills).
 - Refine our hypotheses through iterative discussions with customers.
- By repeating these actions, we can discover the value propositions that customers are willing to pay for. We can then combine multiple value propositions to create solutions that only OKI can deliver.
- This approach is also applicable to (3) the improvement of daily operations mentioned on the previous page. There is an old saying, “The next process is the customer.” Every department within the company has someone in the next process (that is, a customer), enabling us to proceed with innovation activities with the same mindset companywide.
- This is OKI's IMS Yume Pro.
- Further, the new four domains (Advanced Remote Operations, Logistics, Healthcare / Medical care, CFB) emerged through the activities of Yume Pro that realizes ideas submitted in business idea contests (Yume Pro Challenge) in the past.

- Providing ample support for inexperienced teams to clear their objectives without getting distracted

1 Raising the level of practical ability

2 Developing Strengths and the Ability to Support Others

3 Combining individual strengths for team execution

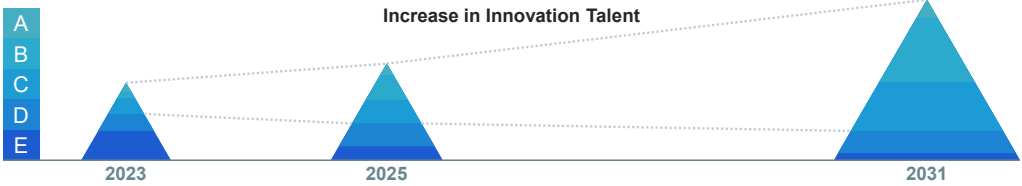


- I would like to explain the reinforcement points to promote OKI's IMS Yume Pro within the company for this fiscal year.
- It is not guaranteed that an inexperienced employee can successfully engage in innovation activities on their own.
- Therefore, it is important to improve the success rate systematically by:
 1. Raising the level of practical ability
 2. Strengthening support from accelerators to develop strengths
 3. Combining individual strengths to practice innovation as a team
- To achieve this, in addition to companywide regulations, we have developed process guidelines (including practical methods and case studies) that make it easy to envision concrete action.
- Moreover, we are implementing a thorough educational system tailored to each individual's practical level to enhance skill development efforts, as well as strengthening support for project acceleration by professional entrepreneurs.

• Developing High-Potential Innovation Talent by Category in Community for Accelerators

Strengthening Support Capabilities (ABC)	Improve support skills through professional training and practice ▶ Increase the number of personnel supporting projects
Strengthening Practical Capabilities (DE)	Strengthen practical skills by increasing practical activities ▶ Medium- to long-term development of future core personnel

Category	Estimate of Acceleration Support Steps	Acceleration Level	Utilization/Training Plan	Target Number of Talent			
				FY23	FY24	FY25	FY31
A	50% or more	Mentoring for business projects	Business Project Support	3	5	10	15
B	20–50%	Yume Pro Challenge award Support for business projects	Supporting Yume Pro Challenge award-winning projects (continuously for one year)	10	15	30	70
C	10–20%	Support for high-ranking Yume Pro Challenge submissions/ business projects	Participation in external acceleration support training programs Facilitation of co-creation workshops				
D	5–10%	Support for projects that meet Yume Pro Challenge screening criteria	Facilitation of practical workshops Yume Pro Challenge Accompanying Assistance	20	30	50	80
E	5% or less	Annual submission to Yume Pro Challenge Criteria met	Submission to Yume Pro Challenge Participation in practical/co-creation workshops				



- This is our human resource development plan to accelerate practical mode of innovation activities.
- The goal for FY2023 is to have three individuals who can mentor business projects, categorized as “Category A” talent. However, we aim to expand the base and set the goal of nurturing up to 15 individuals by 2031 through strengthening practical skills, and will continue to promote human resources development and implementation support.

03

Creation of Future Businesses

From Edge Platform to Four Focus Domains

- Leveraging OKI's strengths and know-how to solve social issues in focused areas

Safe and convenient
social infrastructure

Conservation of
global environment

Job satisfaction and
productivity enhancement

Ocean



Social infrastructure



Manufacturing



Visualizing, analyzing,
and
predicting on-site data

Edge platform

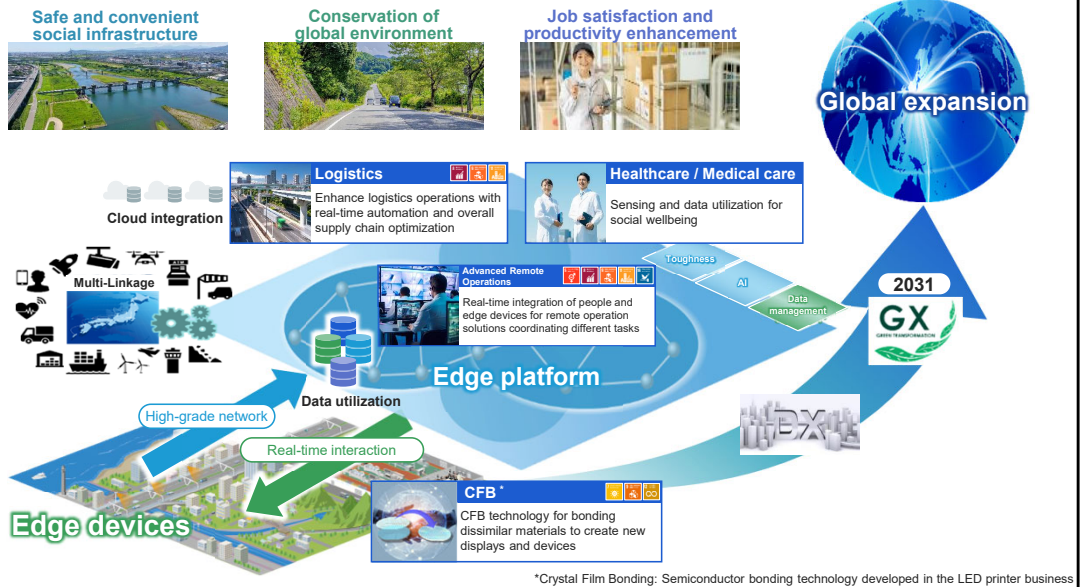


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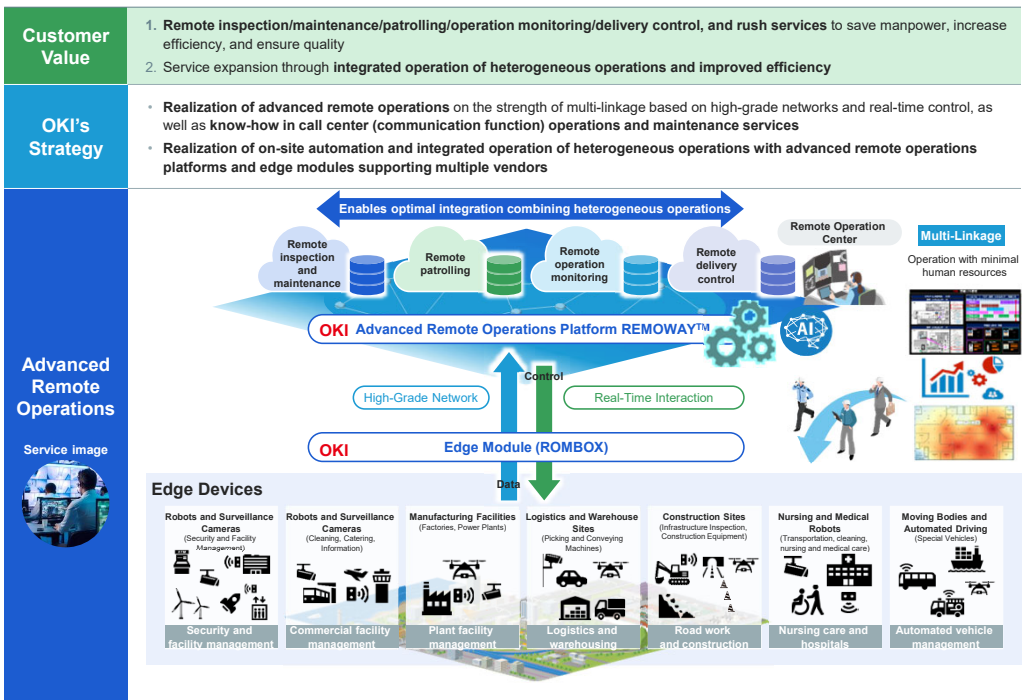
- This is a slide from our Medium-Term Business Plan 2025 that shows the domains we will focus on as future businesses.
- We will leverage our accumulated edge technology and knowhow to expand our existing businesses while venturing into new domains with growth potential.
- The domains of focus are social infrastructure, ocean, and manufacturing. By 2025, we will strengthen our solutions in infrastructure monitoring and watershed management for road and railway systems, as well as using transportation data to enhance advanced remote operations and logistics efficiency.
- Further, we will actively pursue technological development in the ocean domain and take on the challenge of product creation by leveraging the manufacturing expertise we have gained through EMS and in-house production.

- Innovation business development: Growth scenarios and global expansion with a focus on our vision for the future

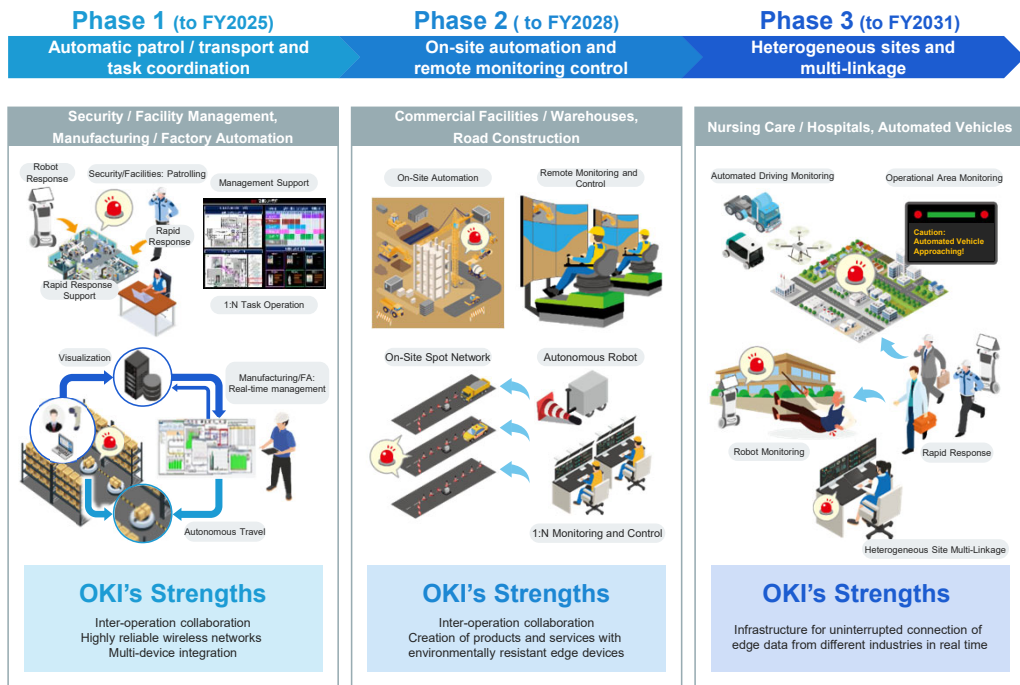


Theme 110: Innovation management System

- OKI will pursue a business growth scenario that is committed to our vision for the future around the edge platform. We will also strive for global expansion.
- In particular, OKI will target four domains with anticipated market expansion: Advanced Remote Operations, Logistics, Healthcare / Medical care, and CFB. We aim to expand our business by leveraging our strengths, such as high-grade networks and real-time interaction, to contribute to digital transformation and green transformation solutions.
- Now, let me introduce the practical implementation of innovation in the four new domains that OKI is taking on the challenge of entering.

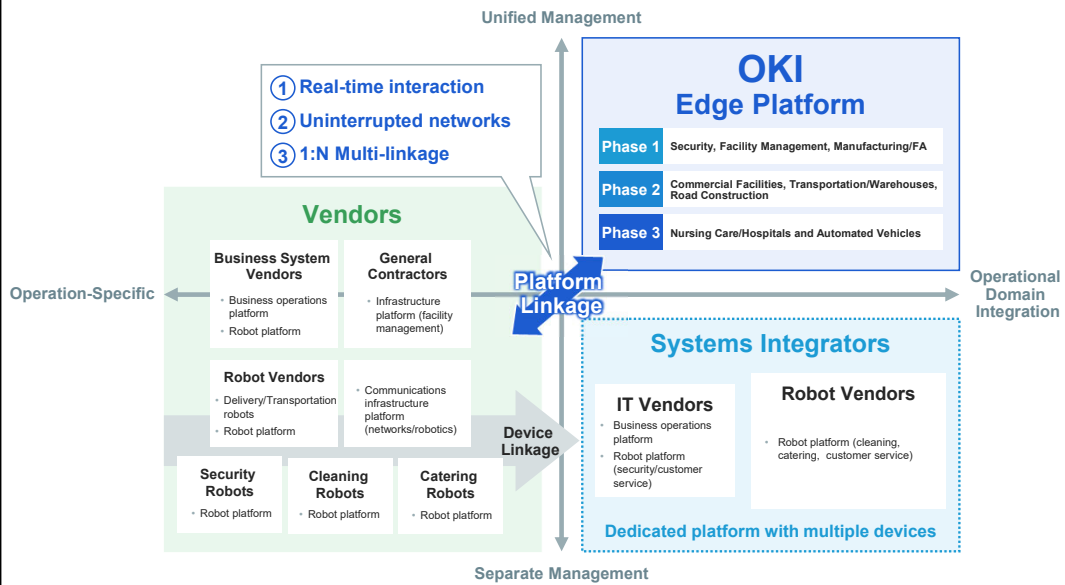


- First, let me introduce the Advanced Remote Operations domain.
- Amid concerns over the so-called “2025 Issue,” labor shortages and wage increases across industries have made labor-saving, efficiency improvement, quality assurance, and business expansion key challenges in many industries.
- Leveraging our strengths in high-grade networking, real-time interaction (control), call centers, and maintenance services, OKI will provide an automated and integrated remote operational environment for diverse tasks by analyzing and controlling real-time data from all edge devices.
- By expanding the use of diverse robots and enhancing collaboration between humans and robots, we aim not only for the digital transformation and efficiency of individual operations, but also for integrated operational efficiency of multiple operations. This will transform the working styles of client companies and contribute to business expansion.

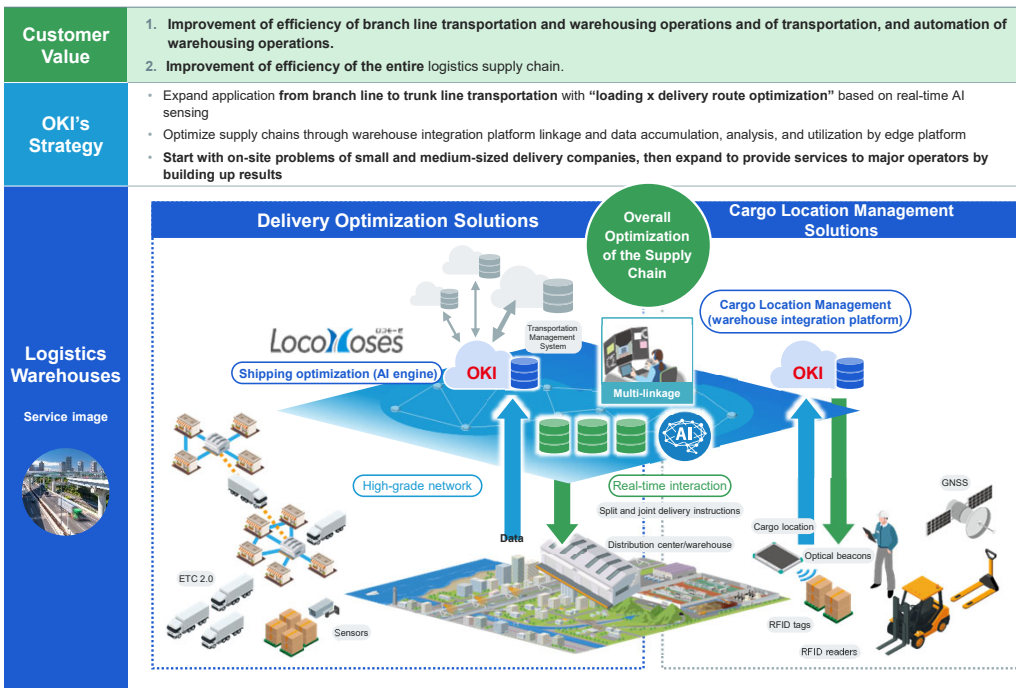


- Here is an illustration of the steps involved in entering the advanced remote operations business.
- We will gradually expand the remote operation business while considering the challenges faced by our customers on site and the market environment.
- In Phase 1, we will achieve automatic patrol/transport and task coordination for security/facility management and manufacturing/factory automation operations. For commercial facilities/warehouses and road construction operations (Phase 2), we will enhance on-site automation and remote monitoring control. In Phase 3, we aim to commercialize multi-linkage services for diverse fields, such as nursing care/hospitals and automated vehicles management.

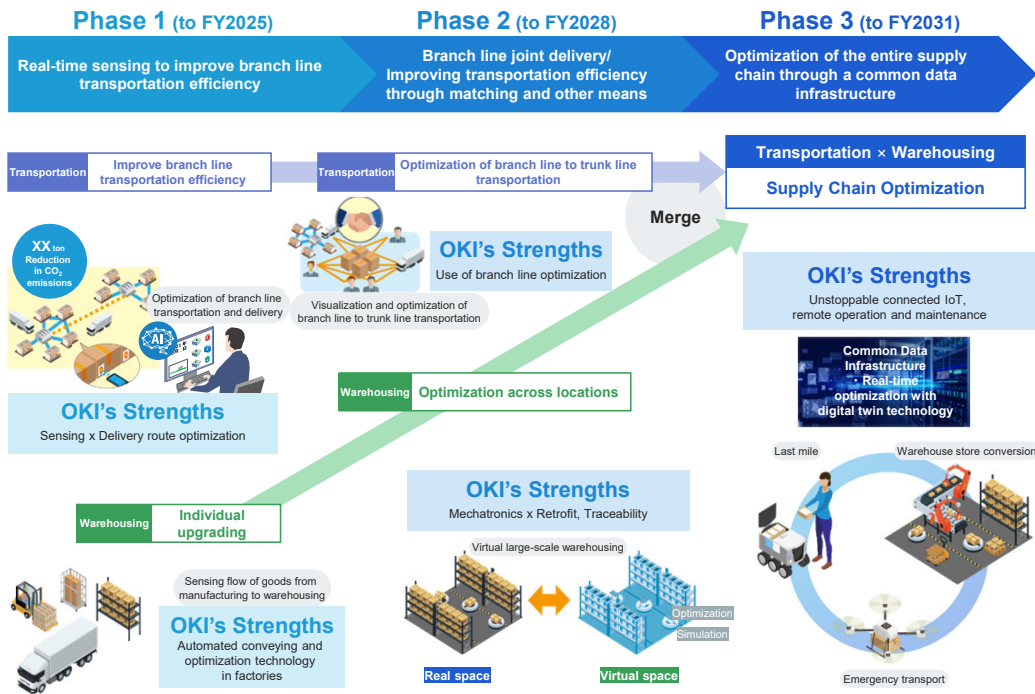
- Total optimization of operations is essential due to industrywide human resource shortages and wage hikes
- OKI's edge platform unifies management of vendor platforms and integrates operational domains



- This is OKI's positioning.
- We will provide next-generation remote operation solutions that integrate the various vendors' platforms for vendors providing robots and systems that are managed individually for specific business operations, and for systems integrators that provide dedicated platforms for managing multiple devices. Our next-generation remote operation solution is backed by edge platform characterized by real-time interaction, uninterrupted network connections, and 1:N multiple connectivity, and will integrate operational domains providing.

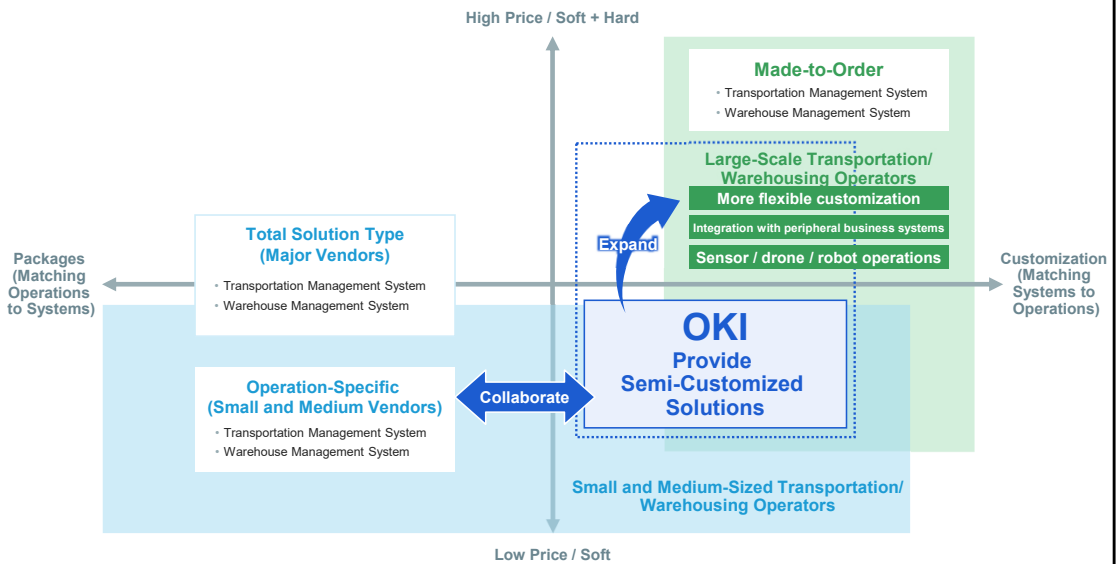


- Next, let me introduce the Logistics and Warehousing domain.
- In the logistics industry, it is said that due to the issue of labor shortages, 35% of cargo will not be transportable by 2030. This is known as the "2024 issue." Achieving labor-saving operations and efficiency improvements is thus an urgent problem in this field.
- OKI will expand the application of real-time AI sensing for loading and delivery route optimization from branch line to trunk line transportation routes. We will achieve optimal supply chains through warehouse integration platform linkage and data accumulation, analysis, and utilization with the edge platform.
- Starting from solving the problems faced by small and medium-sized delivery service providers, we will expand to provide services to major operators, based on a proven track record.

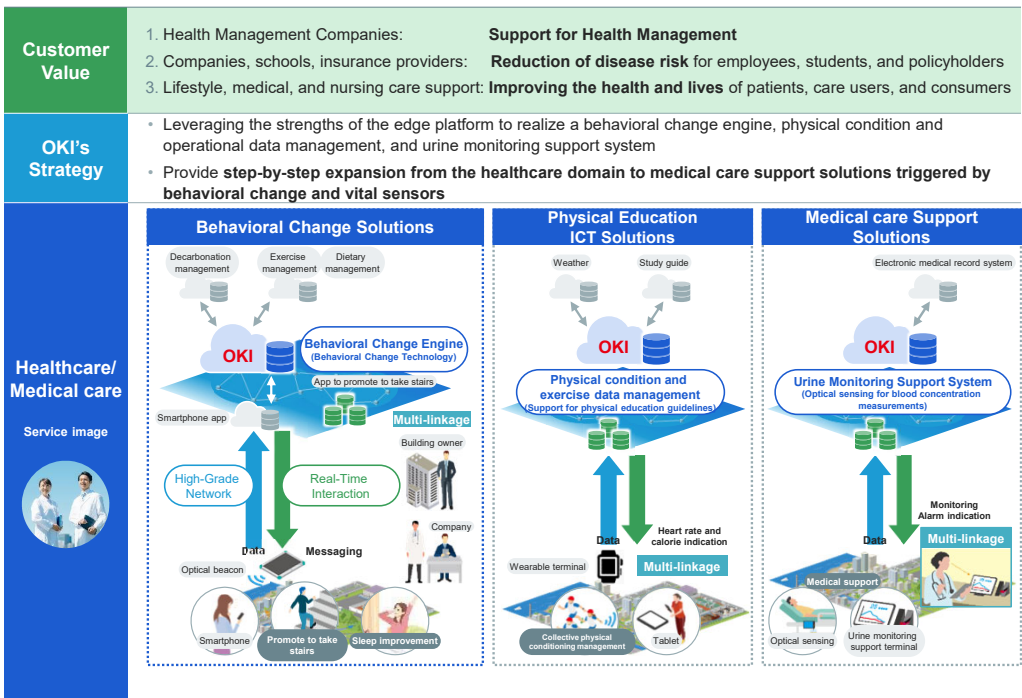


- Here is an illustration of the steps involved in entering the Logistics domain.
- Aiming to optimize the entire supply chain through common data infrastructure by 2031, in Phase 1, we will enter the market by optimizing branch line transportation through real-time sensing, and expand our scope to include transportation efficiency through joint delivery/matching of branch lines.
- In Phase 2, we will expand our scope from branch line transportation to the optimization of transportation from branch lines to trunk lines.
- Additionally, in the warehousing domain, while moving from individual upgrading to optimization across locations, in Phase 3, we will merge transportation and warehousing operations to optimize the entire supply chain.

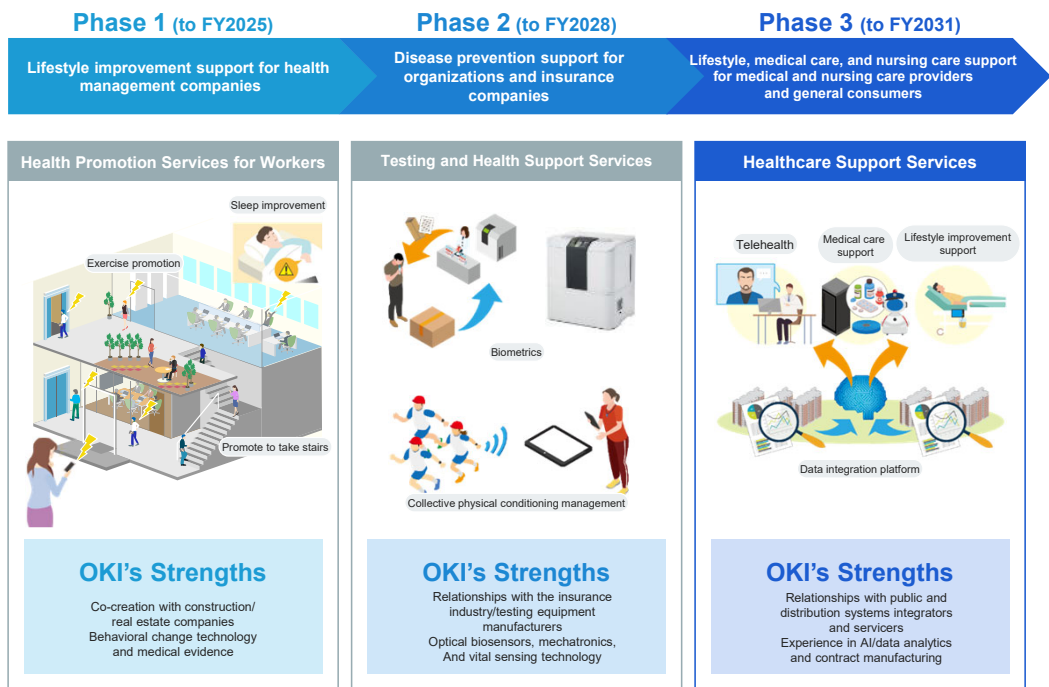
- Providing semi-customized TMS/WMS solutions through collaboration with operation-specific vendors, based on OKI's proprietary functions (split delivery, real-time processing) and operational know-how for improving factory efficiency
- Expanding business from small, medium to large operators with a product strategy that focuses on standardization



- Here we can see OKI's positioning in the Logistics domain.
- We aim to expand our business for both small and large-scale operators based on a combination of OKI's unique features such as split delivery and real-time processing, as well as our operational knowhow for improving in-house factory efficiency. We will do so by providing semi-customizable TMS/WMS solutions through collaboration with operation-specific vendors while pursuing a product strategy with an eye to standardization.

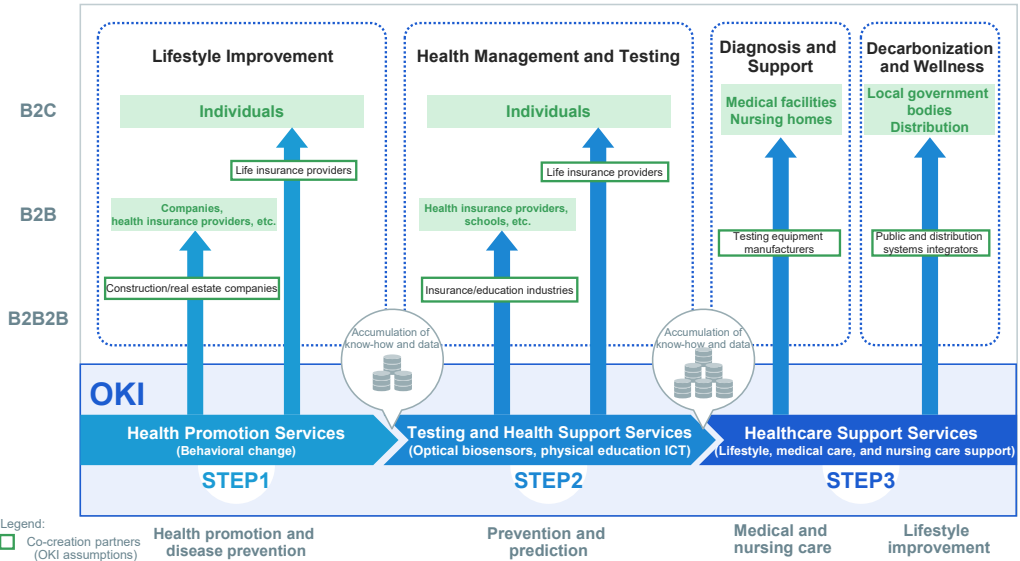


- Now allow me to introduce the Healthcare / Medical care domain.
- As you may know, the healthcare industry is facing significant challenges such as labor shortages and rising medical care expenses due to the “2025 Issue.”
- OKI will leverage the strength of its edge platform to enter the market with behavioral change engines, physical condition and exercise data management, and urine monitoring support systems. We will gradually expand our business from the healthcare domain to medical care support solutions.
- Through these efforts, we aim to contribute to promoting health management, reducing the risk of diseases, and improving overall well-being.



- This is an illustration of the steps involved in entering the Healthcare / Medical care domain.
- We will start by offering lifestyle improvement support for health management and expand into providing solutions for organizations such as schools and insurance companies for prevention and pre-disease support.
- Our goal is to provide support for lifestyles, medical care, and nursing care for medical and nursing care institutions and the general consumer by 2031.
- OKI will collaborate with partner companies to expand into the markets for enterprises, schools, and hospitals by providing worker health promotion services, testing services and health support services, and healthcare support services.

- Entering the healthcare service business with co-creation partners based on cutting-edge technologies (behavioral change, optical biosensors) and connecting technologies (networks, IoT).
- Accumulate business know-how and data through the provision of services, and increase value provided in the delivery of medical care, nursing care, and in people's daily lives.



- This is OKI's positioning in the Healthcare / Medical care domain.
- Based on cutting-edge technologies such as behavioral change and optical biosensors, as well as connectivity technologies like networking and IoT, we will enter the health promotion, testing, and health support services business in collaboration with partner companies. We will then leverage the accumulated data and knowhow from these services to further develop healthcare support services for daily living, medical care, and nursing care.

Customer Value

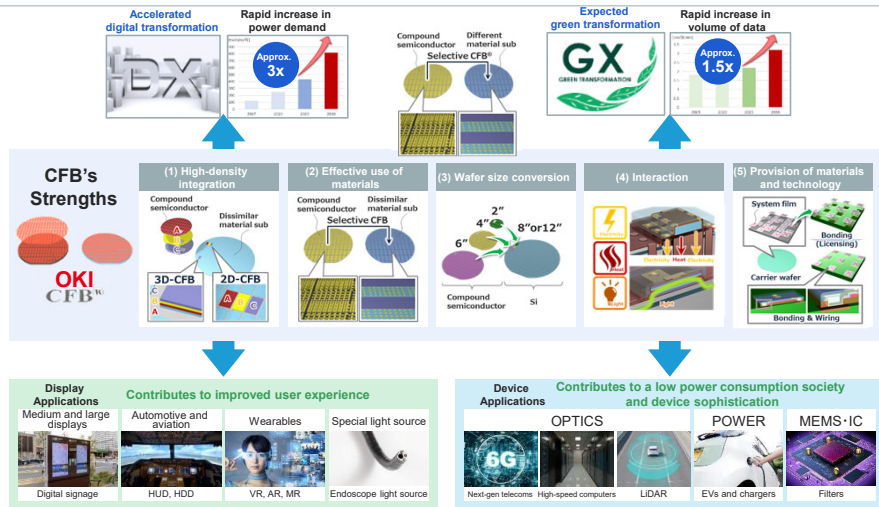
1. Realization of next-generation displays that enhance the user experience.
2. Low power consumption (contribution to "green transformation"), which helps to alleviate the situation of tightening supply and increasing demand for power, stemming from the rapid increase in the volume of data due to digital transformation.



OKI's Strategy

- Develop an original micro-LED display by applying CFB semiconductor bonding technology cultivated in the LED printer business
- Gradually improve power consumption and sophistication of OPTICS, POWER and MEMS with semiconductor device composite technology

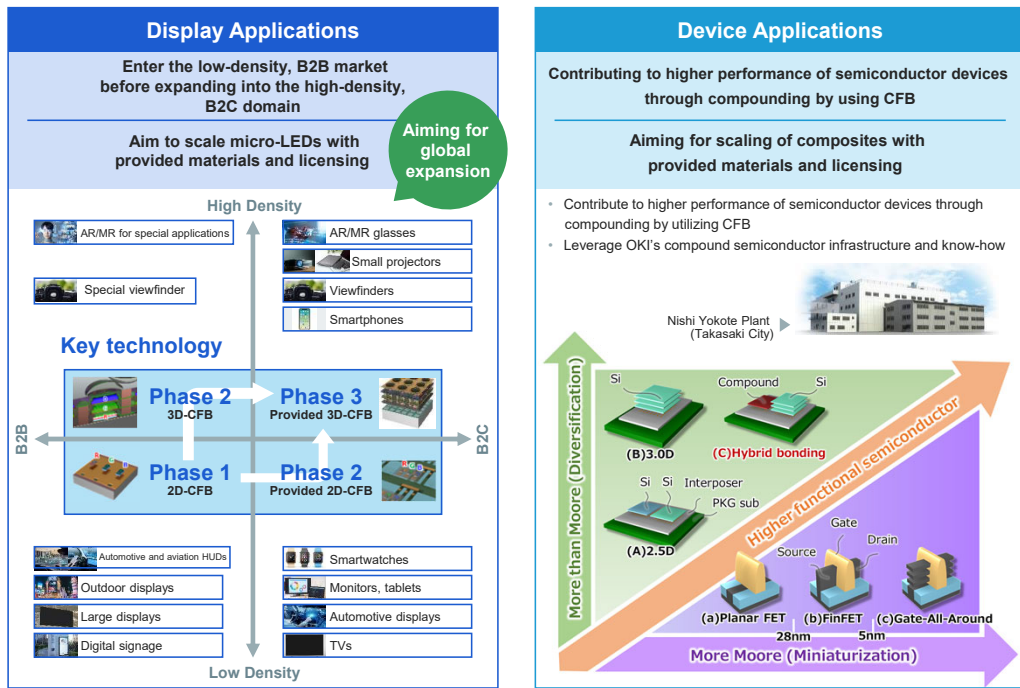
CFB



- Finally, I would like to introduce the display device domain utilizing CFB technology.
- There is demand for the development of next-generation displays, such as wearable devices, that enhance user experience, as well as devices with low power consumption to help alleviate supply–demand issues in power consumption.
- To meet this demand, OKI uses its CFB semiconductor bonding technology, developed in the LED printer business, to develop original micro-LED displays.
- Further, through compound technology for semiconductor devices, OKI aims to achieve progressive improvement in power consumption and sophistication in OPTICS, POWER, and MEMS, thereby improving global energy efficiency and contributing to carbon neutrality.



- Here we have an illustration of the steps involved in entering the CFB domain.
- In Phase 1, we will collaborate with specific customers and enter specific markets. In Phase 2, we plan to enter the high performance and post-process markets. In Phase 3, we will expand our business through collaboration with partner companies in tie-ups related to provided materials and mounting technology.
- In the display domain, our entry will begin from the aviation, automotive, outdoor, and special display markets, and then expand into high-brightness full-color displays for the smart glasses, smartwatch, and smartphone markets.
- In the device domain, we aim to enter the market for EV power and next-generation communications (photoelectric fusion), as well as analog semiconductor front-end and back-end processes, as well as the analog device chiplet market.



- OKI's target positioning differs for display applications and device applications.
- In display applications, OKI aims to enter the low-density B2B market and expand into the high-density B2C domain. Through provided materials and licensing, OKI aims to scale up micro-LED technology.
- In device applications, OKI aims to contribute to the advancement of semiconductor device performance through compounding by using CFB technology. We aim to scale up composites through the provision of materials and licensing.

Transformation to Full-Scale Implementation of New Business Creation and Global Expansion
We aim to achieve a ¥50.0–100.0 billion business by 2031.

Safe and convenient
social infrastructure

Conservation of
global environment

Job satisfaction and
productivity enhancement

New Business
Creation

Innovation Business Development Center



Advanced Remote
Operations



Logistics



Healthcare / Medical care



CFB

Issues Resource allocation according to sales growth
Action and management concerned with
solving on-site problems



IMS: Yume Pro
Innovation Management System

Edge devices

Edge platform



2031
¥50.0–100.0 billion

- That is all for our introduction of OKI's innovation strategy.
- By transforming to full-scale implementation of new business creation and global expansion, we aim to achieve a business of ¥50.0–100.0 billion by 2031.
- Thank you for your attention.

OKI *Open up your dreams*



Delivering OK! to your life.

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