Explanatory Documentation regarding Business Plan and Growth Potential

June 28, 2024

Eyes to the all machines

1. Business Model

“Spatial technology” as a counterpart to Artificial Intelligence

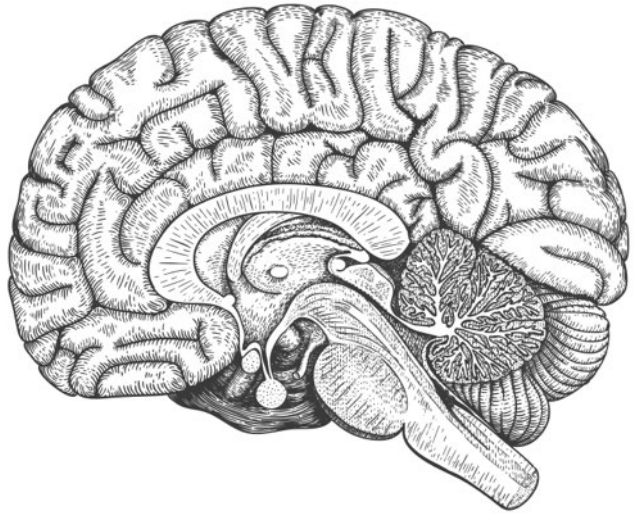
Artificial Perception ⇄ **Artificial Intelligence**

||

Intuitive-led spatial and positional awareness

||

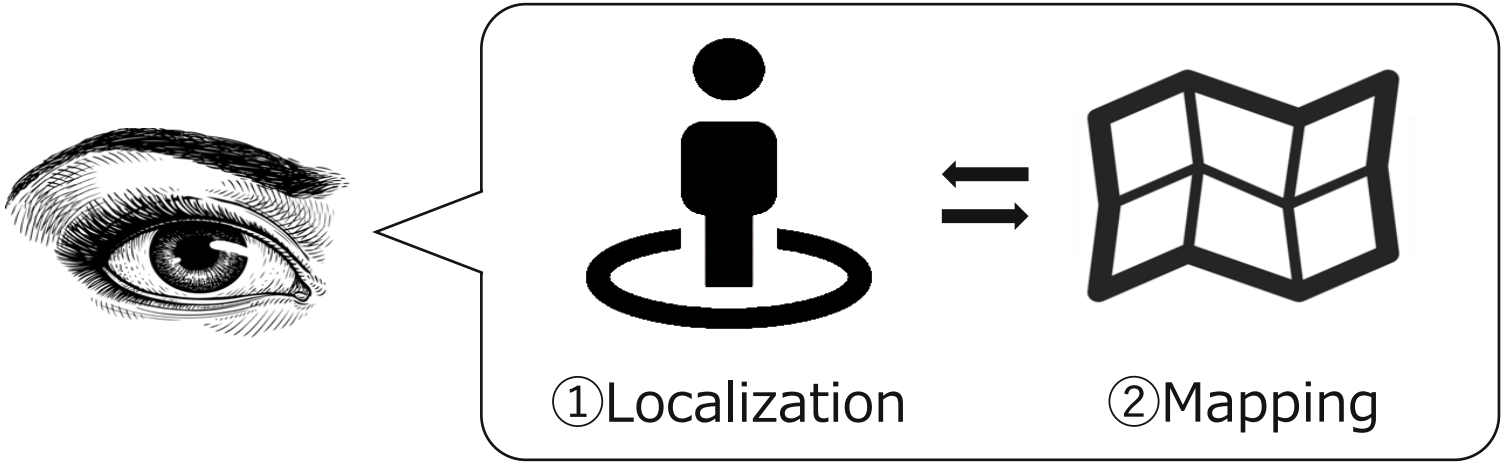
Learning-based pattern recognition



SLAM (Simultaneous Localization and Mapping) as the core of AP technology

- AP technology is a group of Deep Tech centered on SLAM (Simultaneous Localization and Mapping)

SLAM technology (Simultaneous Localization and Mapping)

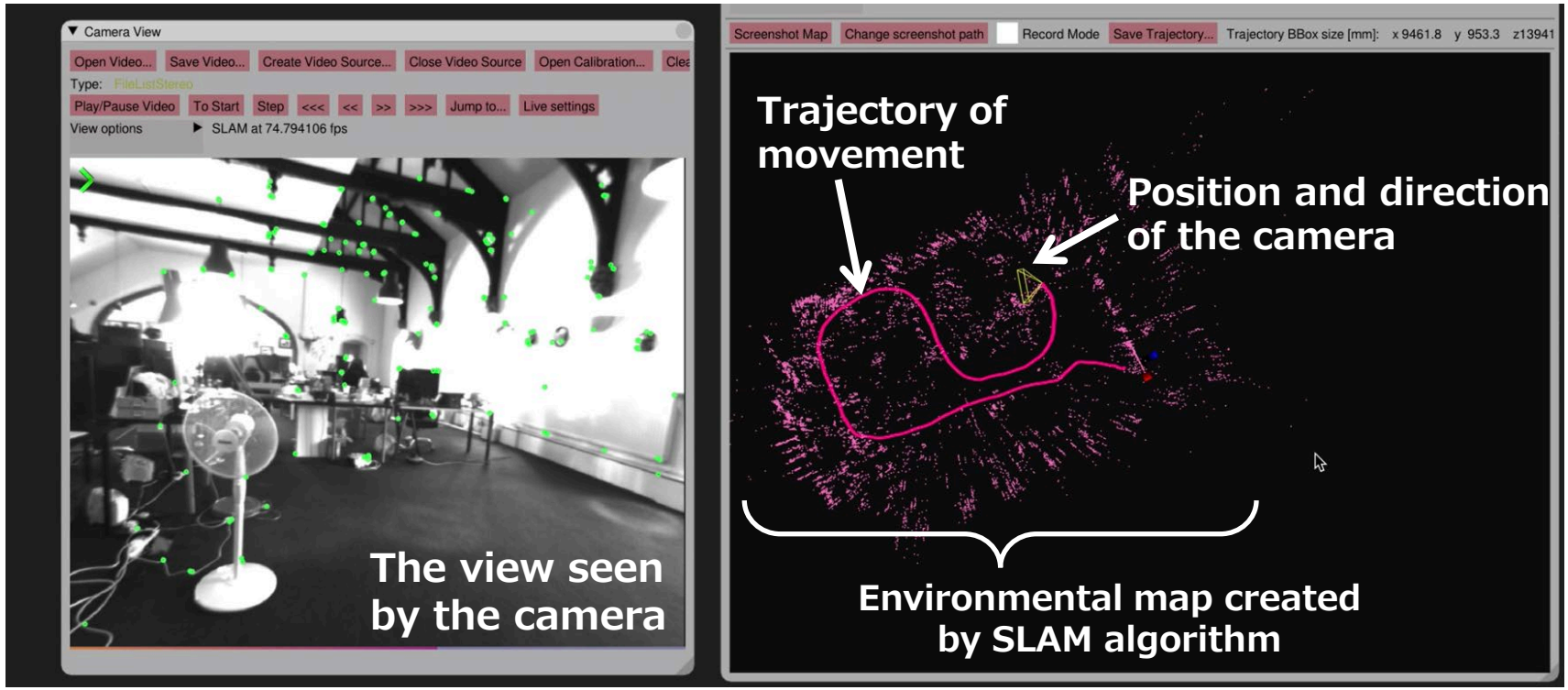


Re-localization technology

Tight-coupling technology

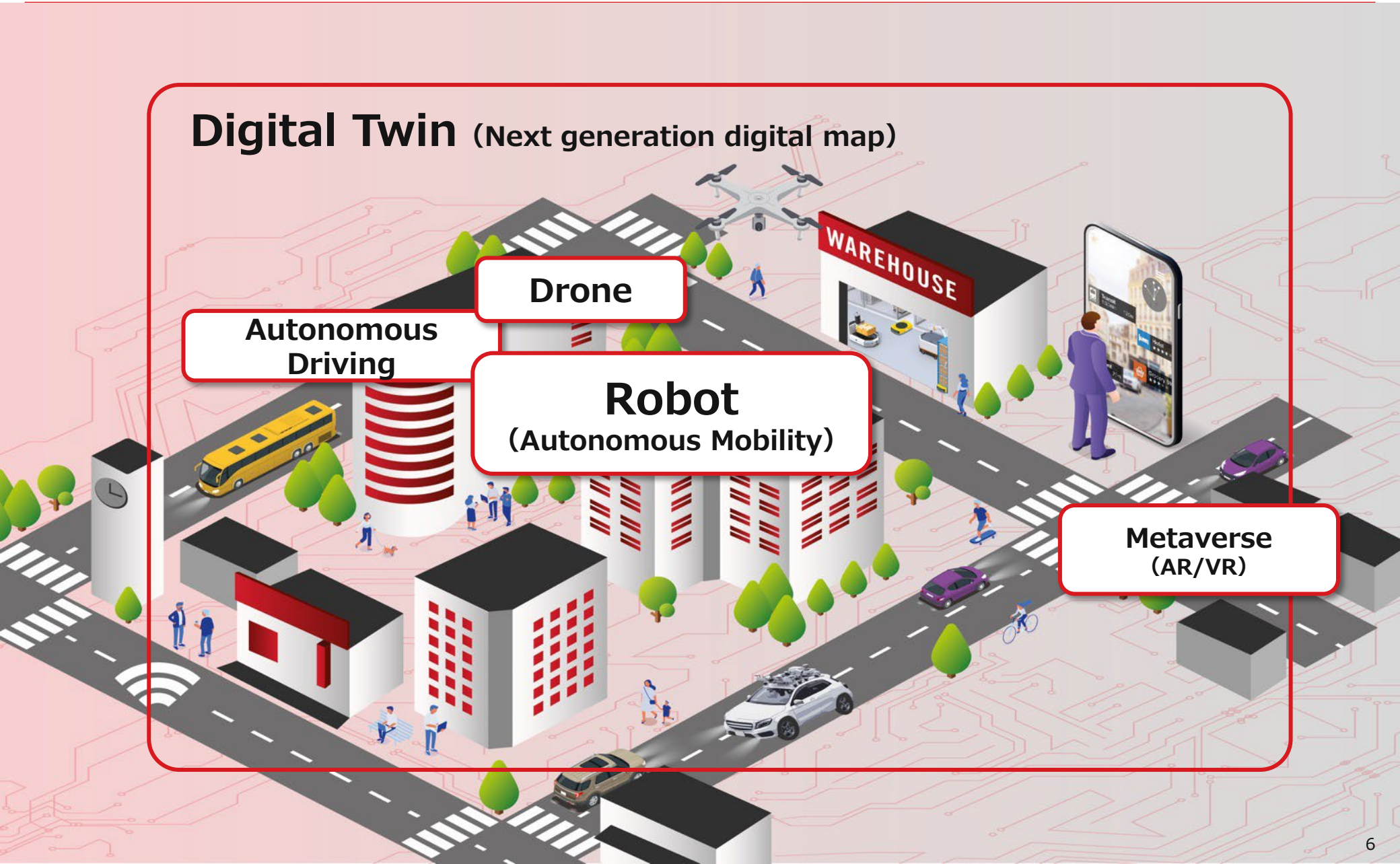
SLAM (Simultaneous Localization and Mapping) as the core of AP technology

- Technology that simultaneously determines where we are (Localization) and what our surroundings look like (Mapping) based on input from sensors such as cameras and Lidars
- We can keep a track of how we move while creating a map in a new environment (tracking), and recognize where we are based on a map we created beforehand (re-localization)
- Unlike GPS and beacons, which use external radio waves to detect location, SLAM can recognize its own location as a stand-alone software and can be used in a wider range of environments, situations, and use cases



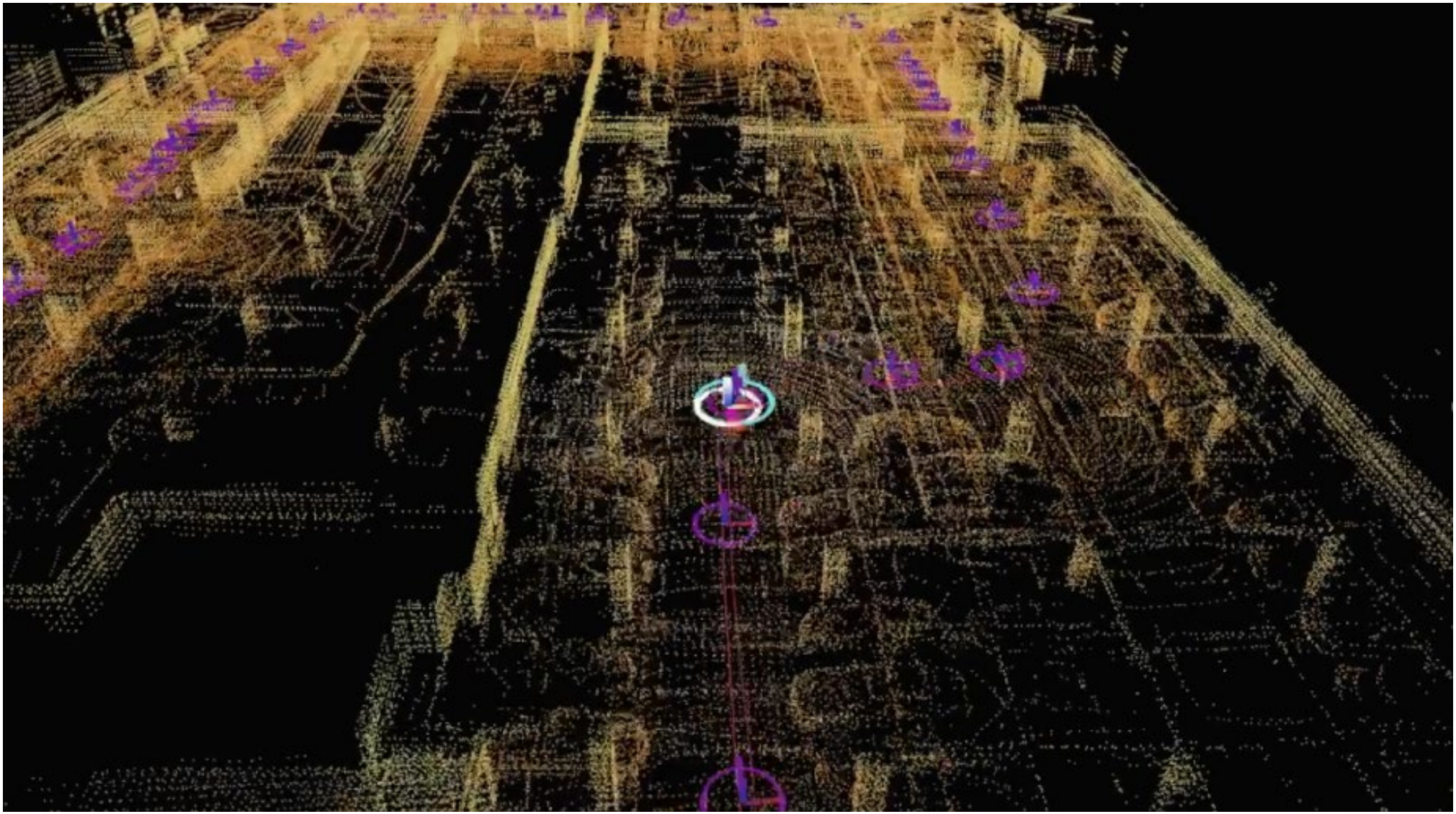
https://www.youtube.com/watch?v=011V9rZNjX0

Broad range of SLAM application



Having eyes allows machines to understand and move around the world

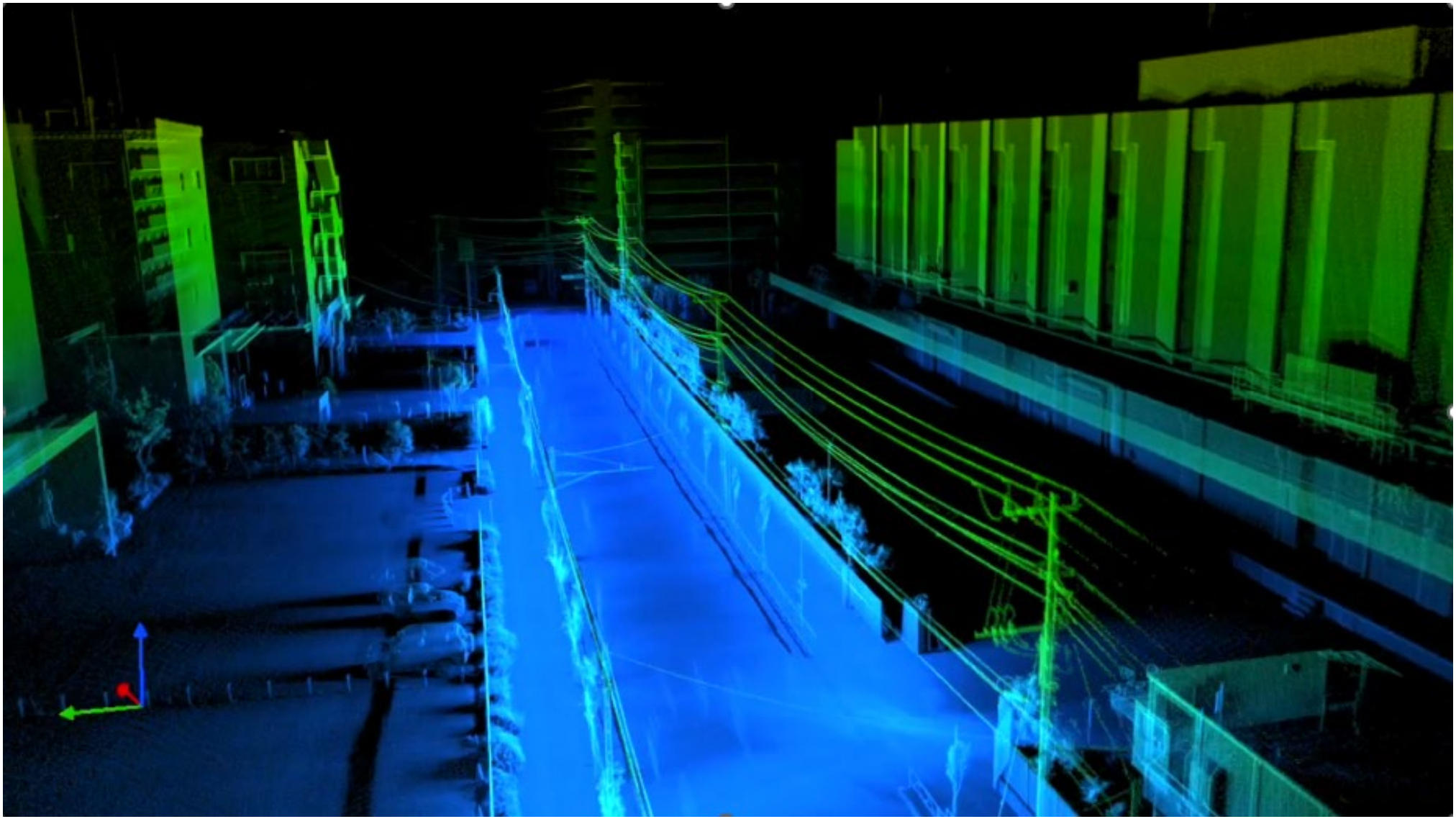
kudan



https://www.youtube.com/watch?v=Ehpt2cYNB48

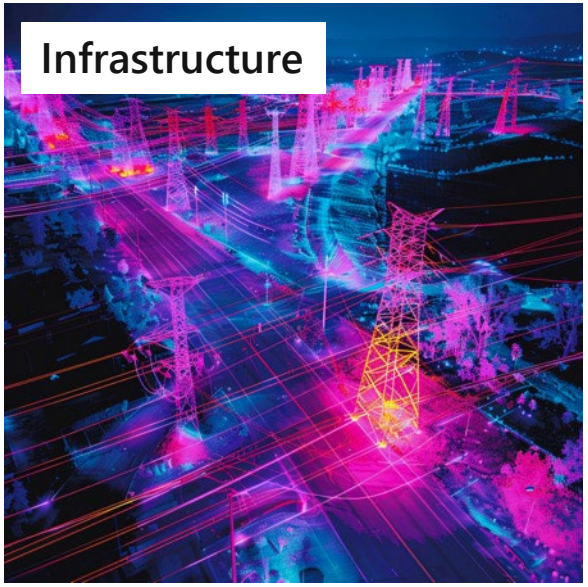
Machines that robotise by having eyes

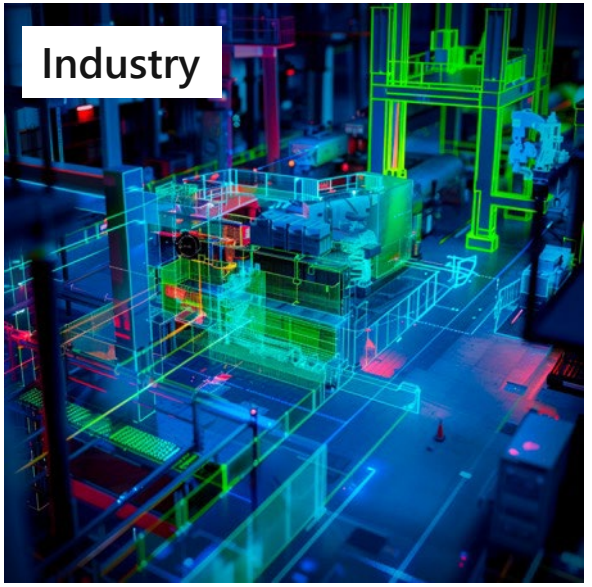
Worlds that digitise by machine’s eyes

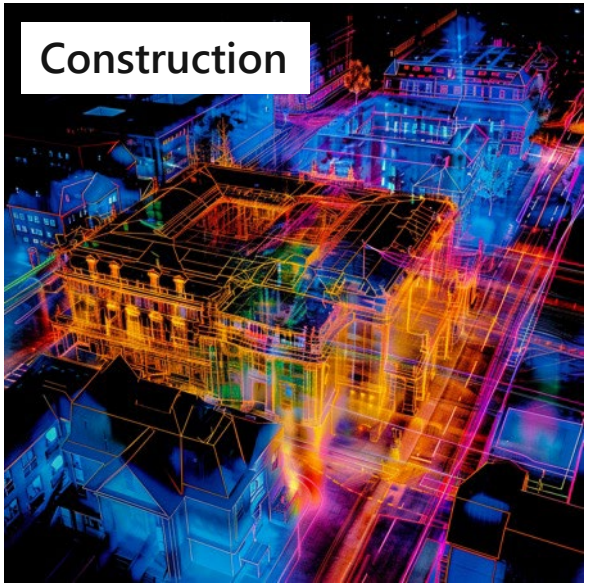


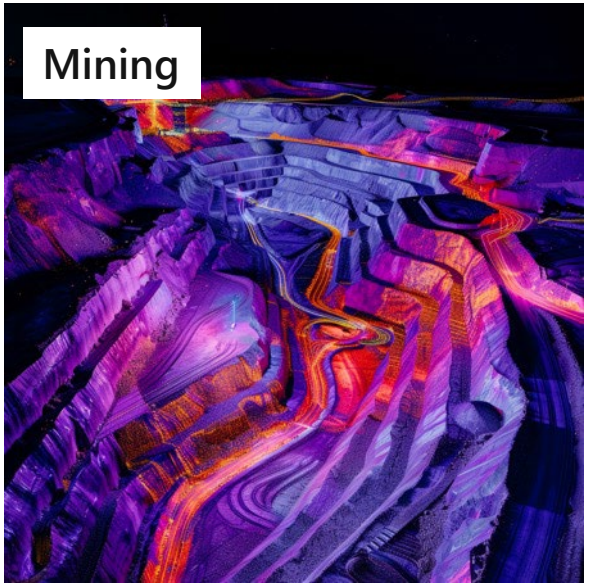
https://www.youtube.com/watch?v=8TlU6cVxpSo

Digital transformation of spatial information through digital-twinning



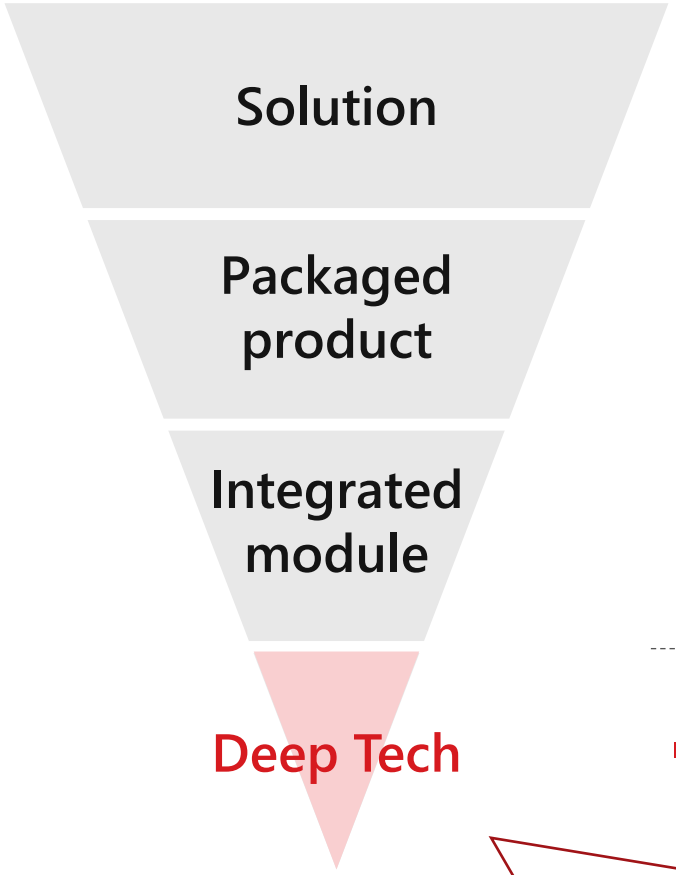






“ARM-like position” aimed by a select small elite team

Layers in the tech industry



Players in Artificial Perception

- Operational and value-added services

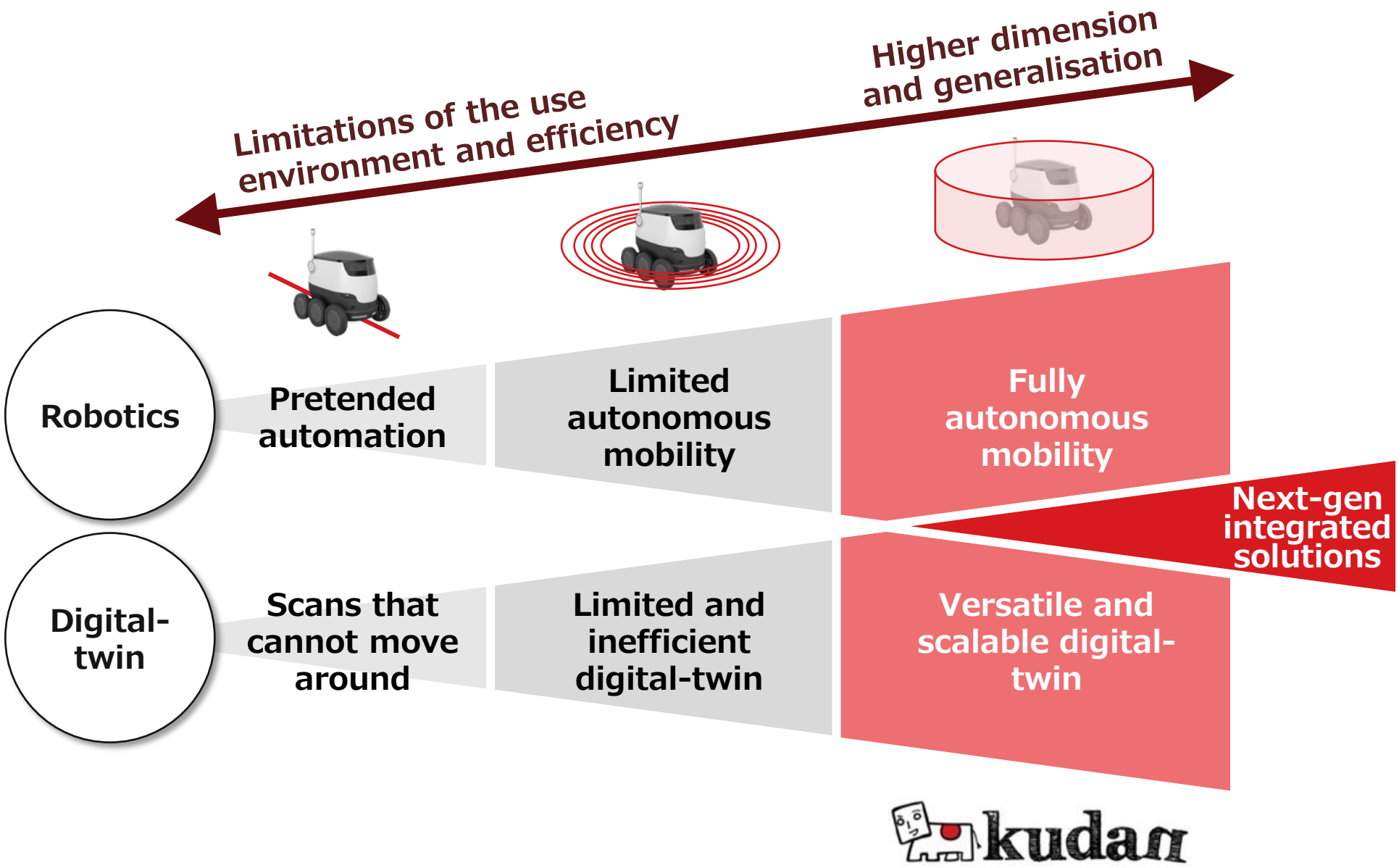
- Robotics, automotive, drone products, etc.

- Packaging with sensors and semiconductors

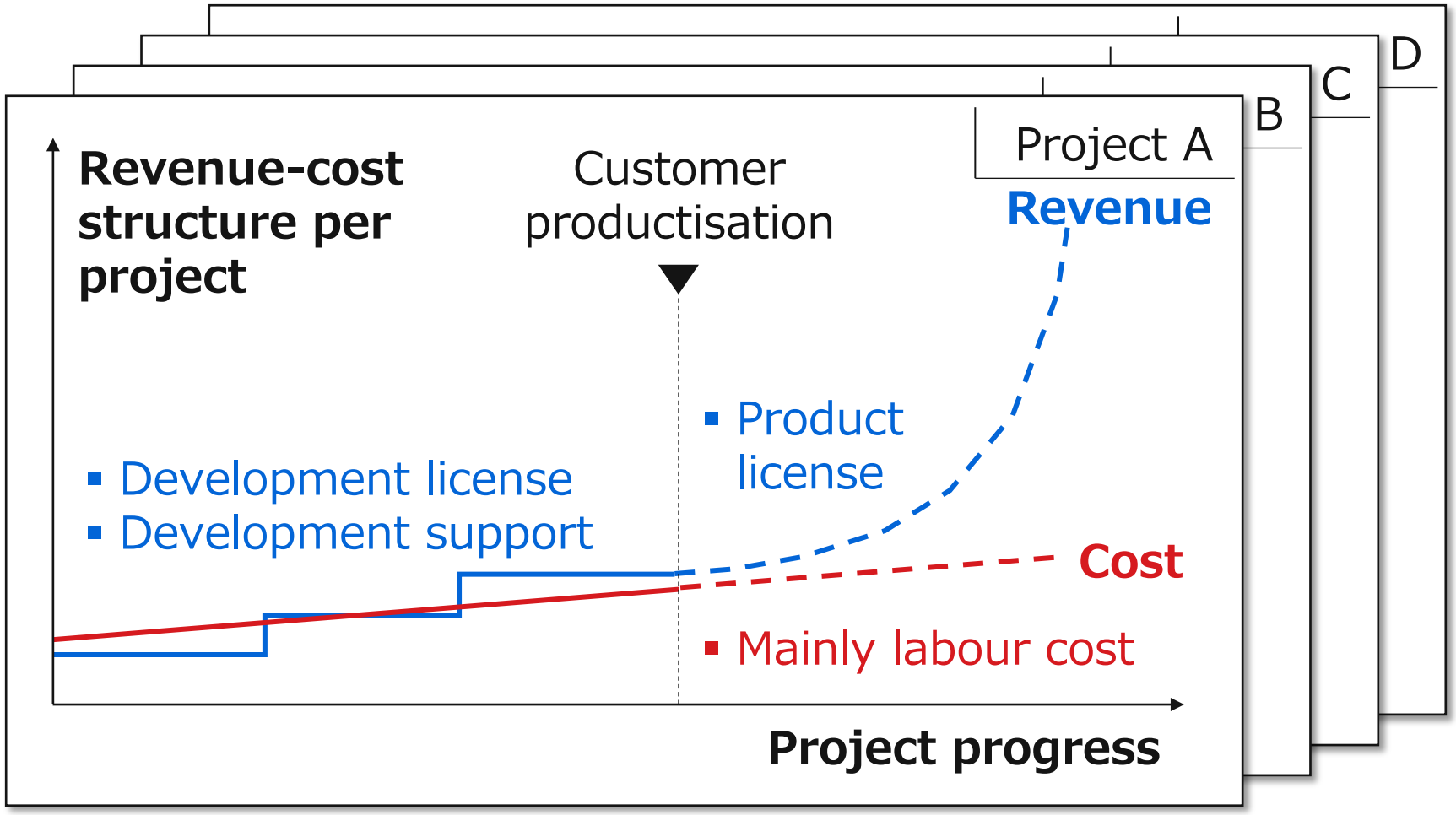
- **Algorithms**
  (SW development and license business)

Irreplaceable and highly value-added by a selected small elite team

Kudan's vision for next-generation solutions



Business model aiming for high profitabilities



2. Source of competitiveness

Tech firm born as global

GB Bristol (eng, sales)
- Kudan group establishment at 2011

JP Tokyo (admin, sales)
- Establishment at 2014
- IPO at 2018

US Silicon Valley (sales)
- Establishment at 2018

DE Munich (eng, sales)
- Establishment of Artisense at 2017
- Acquisition of Artisense at 2021
  (as Kudan Germany now)

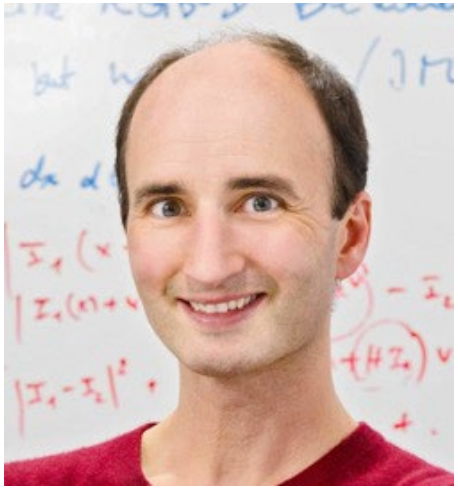
Europe is the centre of Artificial Perception research

Top cited SLAM-related paper publications

69k, TUM DE (Artisense)
49k, ETH CH
45k, ICL GB
31k, Oxford GB
⋮

Acquisition of technologies and the world's leading experts

Professor Daniel Cremers, Artisense founder CSO



- **The world's most influential SLAM researchers**
  - Principal Professor at the Technical University of Munich (TUM)
  - Awarded the "Leibniz-Preis", the highest authority in German academia
  - 69k paper citations, h-index 117 (Nobel Prize level)
- **Invented innovative methods for the next generation (Direct SLAM)**
  - Precise recognition, robust to environmental changes, high stability
  - Commercialisation rights exclusively owned by Kudan through the acquisition

Demand is attracted to technologies professionally developed for commercial use

	 AI/ Deep Learning-oriented image recognition	 AP/ SLAM-oriented spatial and positional recognition
Algorithm complexity	▪ Simple algorithm	▪ Complicated algorithm
Development environment	▪ Complete with SW only	▪ Requires a high level of SW-HW integration
Open source	▪ Practical	▪ Unpractical
competitiveness	▪ **Quality and quantity of data** ▪ **Scale of data learning**	▪ **Accumulation of engineering**

Enclose data with huge capital and focus on server investment and operations

Expert companies secure scarce human resources and technological development

Non-competing segregation has progressed, making Kudan the largest independent specialist in the world

2011~ kudan

2016~ ARTISENSE

IPO (2018)

Acquisition (2021)

kudan

30 SLAM experts:
Versatile including robotics and digital-twin

2010~ 13th lab

2016~ SCAPE

Acquisition (2014)

Acquisition (2018)

2003~ metaio

Acquisition (2015)

2016~ 6D.AI

Acquisition (2020)

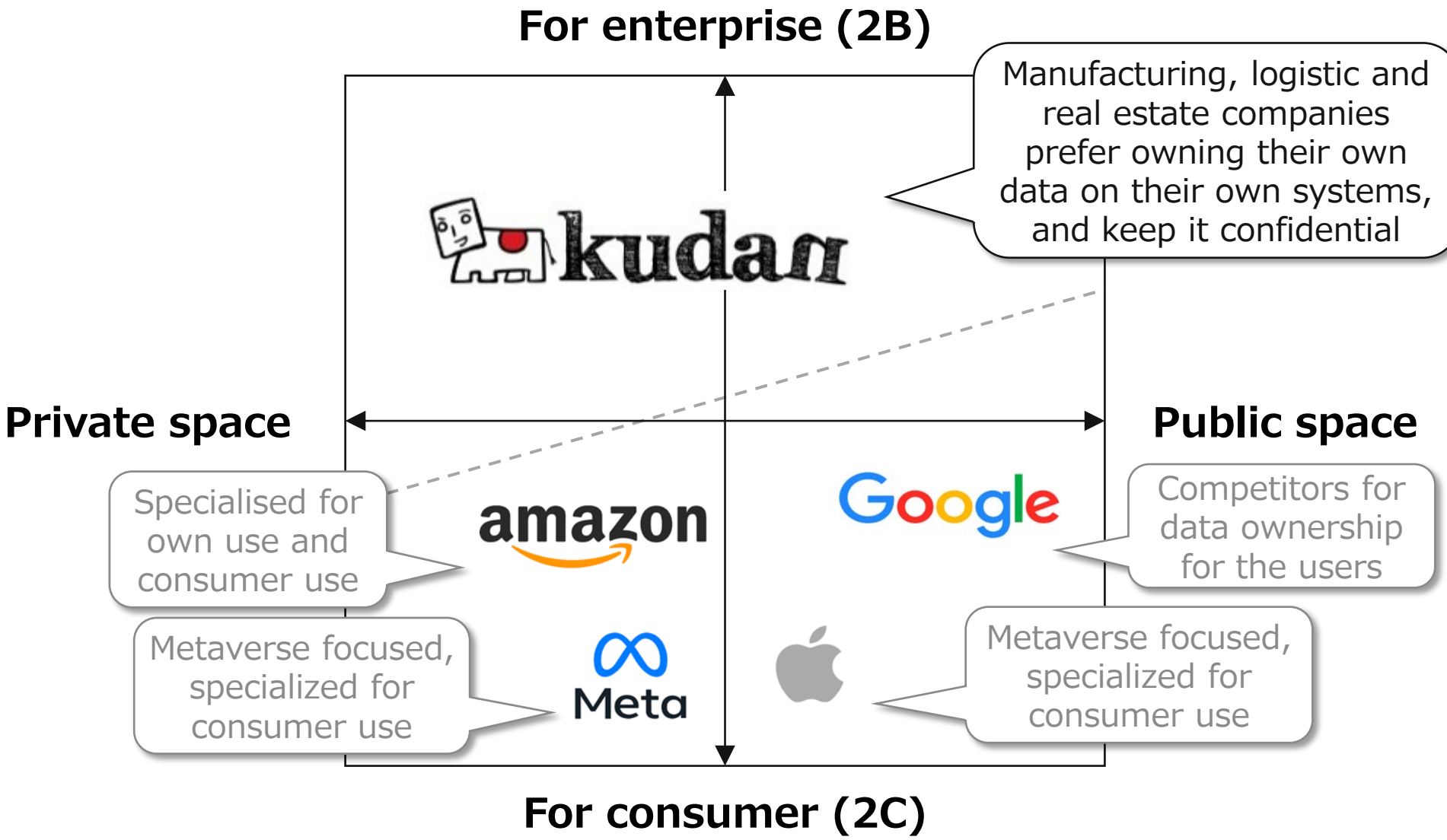
Meta

Apple

NIANTIC (Google)

Specialised in metaverse

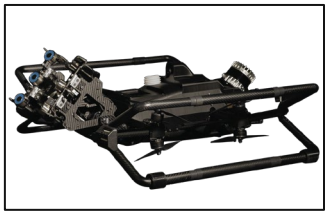
Establish de facto standard technologies in the markets where the large players cannot easily fit

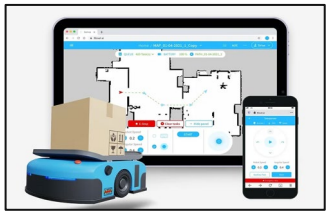


Achieved a series of customer commercialization through high technological competence

Robotics

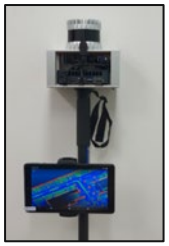
- intel.
- whale dynamic
- MOVEL AI
- VESTEC

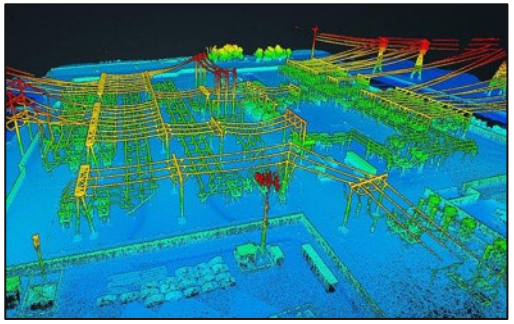


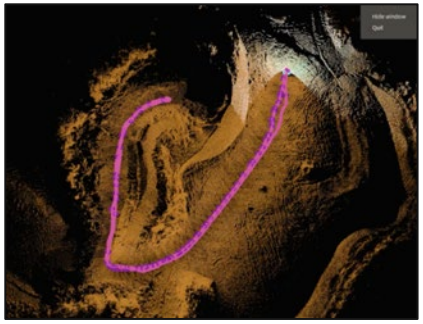


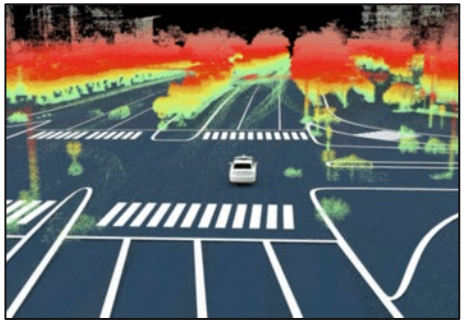
Digital Twin

- InertialLabs
- DM DATES METRON
- whale dynamic
- US
- TerraDrone
- VESTEC



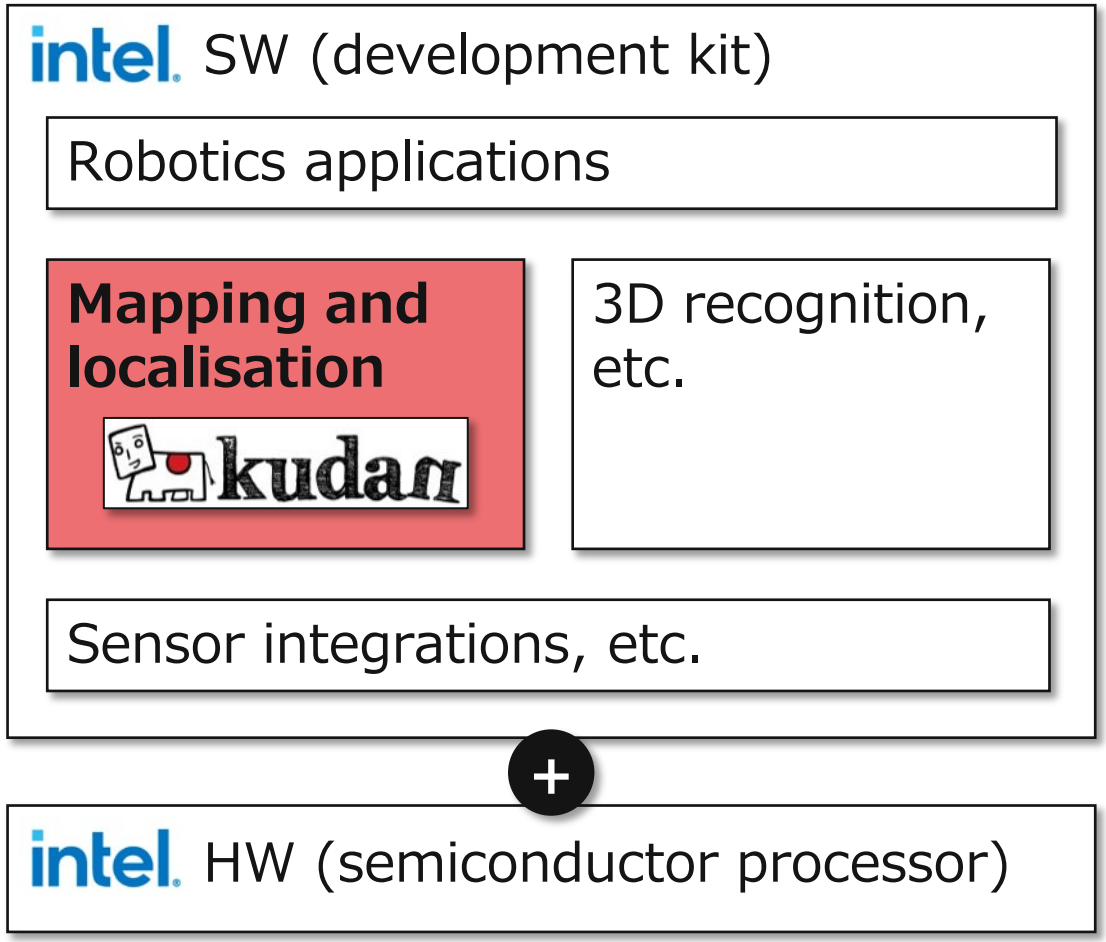






The adoption in Intel products is a “world-first industry milestone[*1]”

Package for robotics



“Kudan inside” in “Intel inside” [*2]

- ✓ Improved performance
- ✓ Shorter development times
- ✓ Further acceleration of robotic applications

1 The world's first full-scale adoption of commercial SLAM on a major semiconductor platform as a company specializing in the SLAM domain.
2 Kudan SLAM technology is integrated in “Edge Insight”, Intel’s development package for robots. (Refer to Intel’s HP)

3. Future Growth Potential

Continuation of growth strategies from the previous fiscal year and new initiatives from the current fiscal year

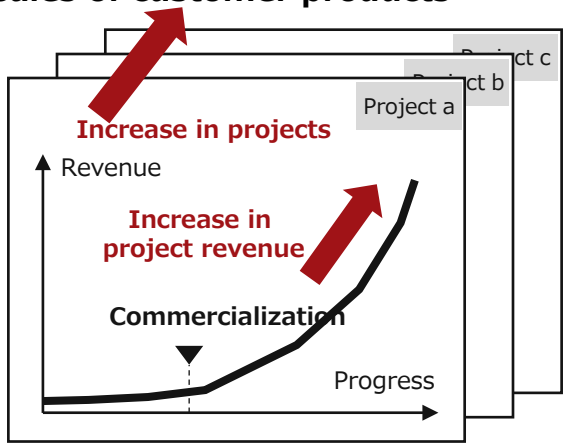
– In addition to the "two pillars of growth," focus on initiatives to support

Continuation

Two pillars of growth

A Customer commercialization[1]

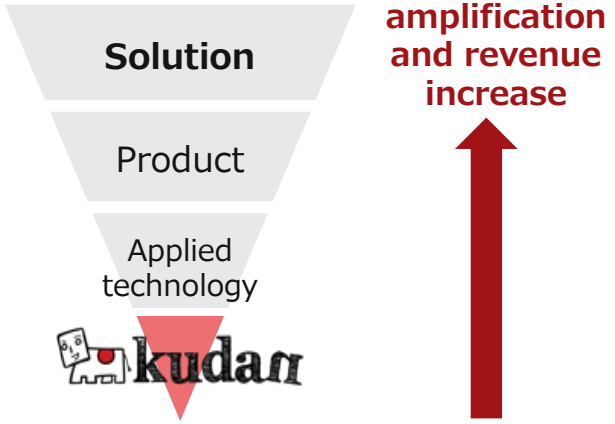
- Revenue expansion due to increased sales of customer products



×

B Solution

- Scaling projects through collaboration

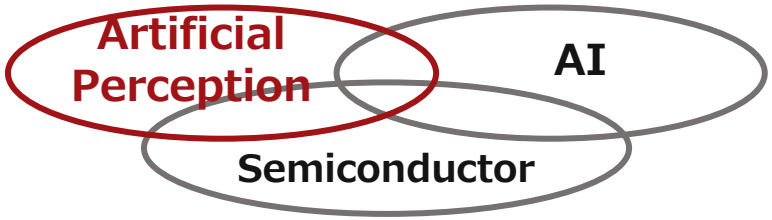


New

Supporting initiatives

C Integration with AI and semiconductors

- Expand business opportunities through "high value-added by integrating AI" and "high efficiency by integrating semiconductors



1 The tipping point in projects where Kudan's direct customers adopt its technology in their products and decide to release the customers' products

Introduced productization packages for robots, and increased the number of projects in preparation

- As "priming" for customer commercialization, **the productization package[1] was introduced for digital twin followed by the productization package for robots[2], and the number of projects has been increased**

Introduction of a productization package as "priming"

Increase in the number of projects in each area

Digital twin (mapping)

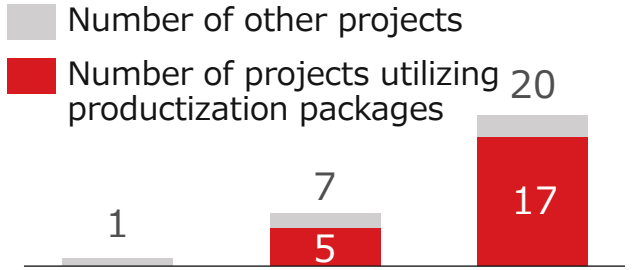
Robot[2]

Market launch in 3Q FY23

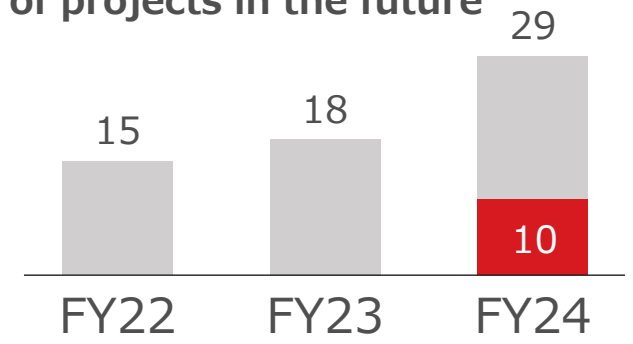
Market launch in 4Q FY24

New

Achievements



Expect to increase the number of projects in the future



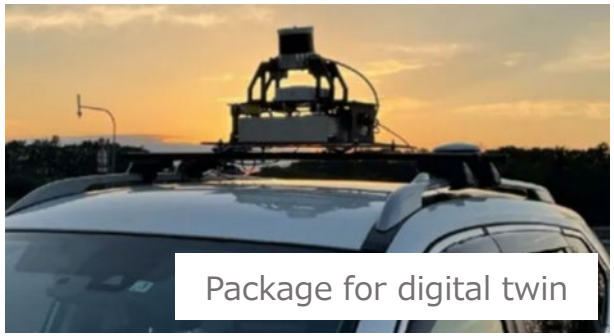
1 Package that shortens the development and test operation period of customer products and directly enables practical use as products
2 Robotics in the broadest sense, including drones and autonomous driving

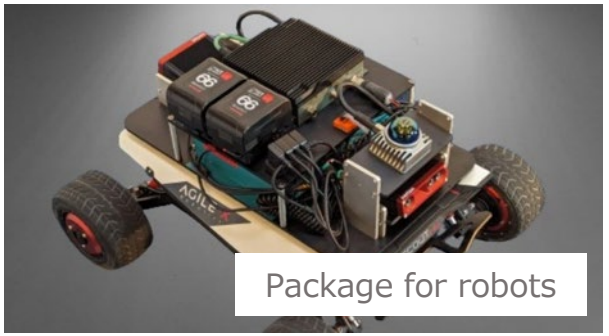
A Customer commercialization

Improved "quality of projects" even in the preparation development phase

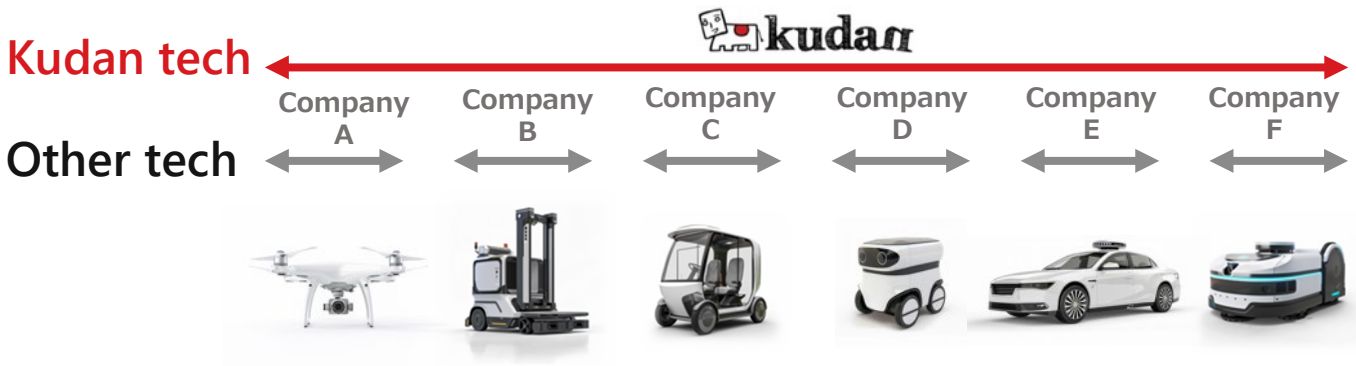
- In addition to **the use of productization packages, the accumulation of cross-sectional knowledge has greatly improved the efficiency of development projects**

Productization packages become implementation samples, improving implementation support capabilities





Accumulation of knowledge[1] through cross-sectional technical methods to provide effective support



Reduced development support costs[2]
（▲24%）

Shortened development lead time[3]
（▲37%）

1 Knowledge that can be applied across areas, such as sensor selection and fusion methods and parameter tuning, has been accumulated, and horizontal deployment of successful and unsuccessful cases can be effectively realized
2 Man-hours of support per project (FY2023 vs. FY2024)
3 Development lead time per project (FY2023 vs. FY2024)

Customer commercialization is expected to make progress while expanding its areas

- While there were **4 new projects** in the previous fiscal year, **the expansion of the area into drones and autonomous driving is progressing**
- **Expect progress in all areas and a significant increase in new projects** in the current fiscal year

Progress in expanding customer commercialization projects

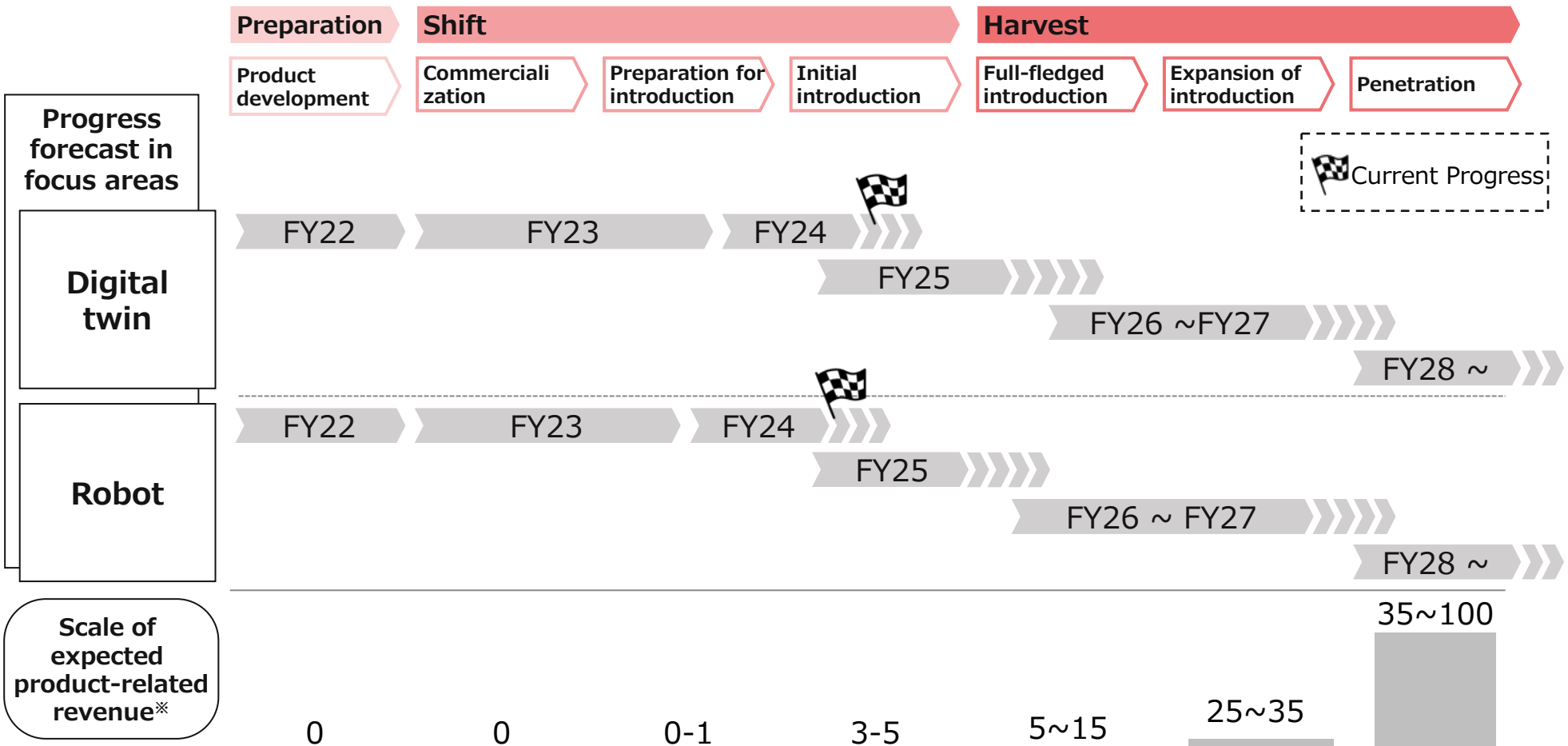
	FY2023	FY2024	FY2025	
Digital twins	UCS	Dates Metron	Coming soon	
	Whale Dynamic[3]			
Drones		Inertial Lab		
		Avestec[2]		
		Terra Drone		
Robots[1]	Intel		Chinese Robot	Coming soon
	Movel AI		US Robot	Coming soon
	Whale Dynamic[3]			
Drones		Avestec[2]		
Autonomous driving		Whale Dynamic[3]		

1 Robotics in the broadest sense, including drones and autonomous driving
2 Both mapping function (point cloud generation) and robotics application (autonomous flight) are implemented
3 Implemented for digital twins and robots in FY2023 and expanded implementation to autonomous driving applications for passenger in FY2024
4 Due to progress in commercialization, 'number of projects per certainty of commercialization' is no longer subject to KPIs and not disclosed

Business progress toward growth (short- and mid-term)

- Product-related revenue for this fiscal year are expected to be 250~400 million yen (**up to 50% growth**)
- Aiming to increase product-related revenue through the introduction and market penetration of customers' products, **Kudan will continue to strategically promote measures to accelerate it, using the progress stage of customers' products as an indicator**

Business phases along with the progress of customers' products



※The penetration phase is set at 100

B Solution

Utilize Kudan's Deep Tech as Solutions in digital twin area in the previous fiscal year

- Structured Kudan's spatial recognition technologies as **end customer solutions for facilities and infrastructure management DX, and scaled up the projects**

Digital twin demand is growing, driven by national DX policies in major countries

Energy facilities management

Infrastructure management

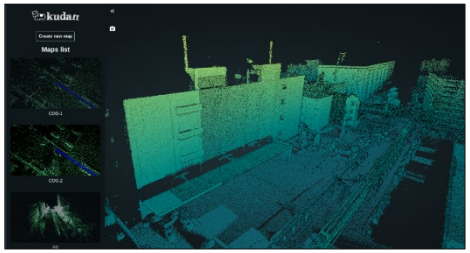
Building survey

Green cadastre

Launched DAMS[1], an integrated solution from digitization of all assets to database management, with partners[2]

Mapping equipment / scanning

3D digitization by point cloud



Information assignment / Database management

Expected Impact

- **Data collection efficiency: 10~20x**
- **Data use efficiency: 2~5x**
- **Realization of innovation**
  - **Expand assets that can be managed**
  - **New business through information sharing**
  - **Work decentralization, etc.**

1 Assets are any equipment or buildings that need to be managed, and DAMS (Digital Asset Management Solution) can digitalize the management and operation of those assets.
2 Established collaboration with 10+ companies for system integration, data management, survey, application development, etc. and developed and launched the solutions

Project orders and agreements for new energy facilities management in Europe are growing

– **Photovoltaic infrastructure management projects are progressing, driven by investment** trends that are gaining social and public momentum

Tailwind for growth of new energy facilities management projects in Europe

Acceleration of the decarbonization shift

- Increased decarbonization investment in industry and public sector, including the European Green Deal[1]

The move away from Russian natural gas is rapidly increasing

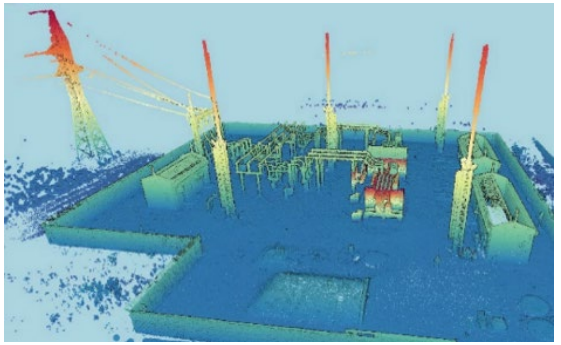
- Security measures are further boosting investment in new energy equipment

Kudan works with government and public sector projects

- Started collaboration with the German Ministry of Transport and Digital Infrastructure for expanding DX in Europe

Launch of solution projects

Ordered photovoltaic infrastructure (transmission networks and substations)



Although a policy agreement was reached for larger projects (Gigawatt-class infrastructure), due to adjustments delays in public projects, large projects' order received will be postponed from the previous fiscal year to the current fiscal year and onward[2]

1 EU roadmap for zero carbon emissions by 2050, with public and private sector investment of 40 trillion a year planned.
2 "large-scale solar power plants and infrastructure totaling 500 MW scale within the European region (including a transmission network of over 100 km and approximately 10 large-scale substations) and projects to large-scale gigawatt-scale solar power plants and infrastructure (including a transmission network of over 300 km and approximately 30 large-scale substations" in the release on Jan 30, 2024" haven't been ordered/launched, and expected to be the current fiscal year and onward.

Solution initiatives in the areas of robotics and autonomous driving starting the current fiscal year

- **Focusing on solution initiatives from the current fiscal year** to expand the ecosystem and collaboration**, expecting a large number of public sector projects**

Participation in the ecosystem for autonomous driving

THE AUTOWARE FOUNDATION

- **Join Autoware**
- **Enter an ecosystem of 85 partners to collaborate and provide technology**

Begin collaboration with a Japanese autonomous driving company

- **Wide range of technical implementations, including public projects, are scheduled to begin this fiscal year**
- **Aim to realize solutions for autonomous driving in the broadest sense** (outdoor robotics, logistics, mobility, etc.)

- **Consistently develop from deep technology to autonomous driving solutions available to end customers**
- **Discover end-market demand and accelerate the development speed of technology integration**

Innovative value creation through the fusion of Artificial Perception and Artificial Intelligence

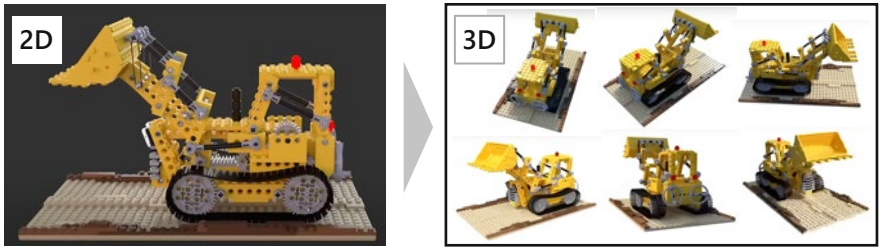
– Solve fundamental issues in 3D spatial information processing and impact on all 3D and spatial DX

Challenges in the evolution of Artificial Intelligence (AI)

	Training data	Evolution speed
Language & Writing	Advanced with abundant training data, and largely ahead of the technological curve	
2D Images & Movies		
3D & spatial data	3D training data is difficult to acquire and lagging far behind technologically	

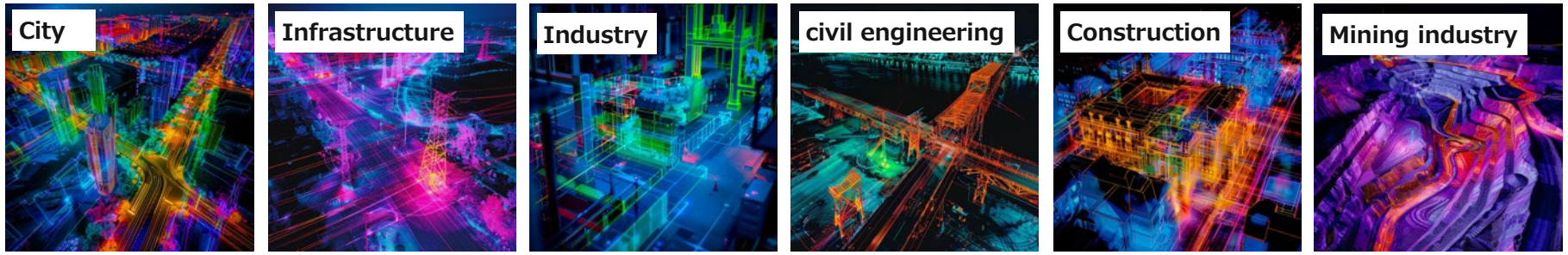
Artificial Perception (AP) solution

Generating 3D training data from 2D data fundamentally solves the issues in AI processing of 3D/spatial data



Semantic digital twins (digital twins implied by AI) bring disruptive value to all DX solutions involving 3D and spatial information

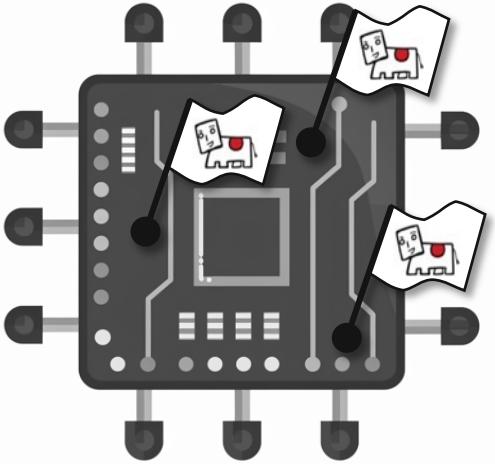
Analysis of spatial digital twin by generic AI, generation of metaverse by generative AI, etc.



In addition, the integration of semiconductors significantly improves processing efficiency

- Aiming with partners for **a technological foundation that integrates artificial perception, artificial intelligence, and semiconductors as a trinity**

The direction in which technology is advancing: the integration of algorithms and semiconductors [1]

Software (Artificial Perception･AI)		Hardware (semiconductor)
	Hardware a commonly used program pattern as a circuit ⇄ Restructure the program to maximize the effective circuits	

Reference: Semiconductor partner excerpts

Qualcomm NVIDIA cadence Texas Instruments SYNOPSYS intel

1 See link for details

(Reference) Other highlighted projects (1/2)

Project excerpts

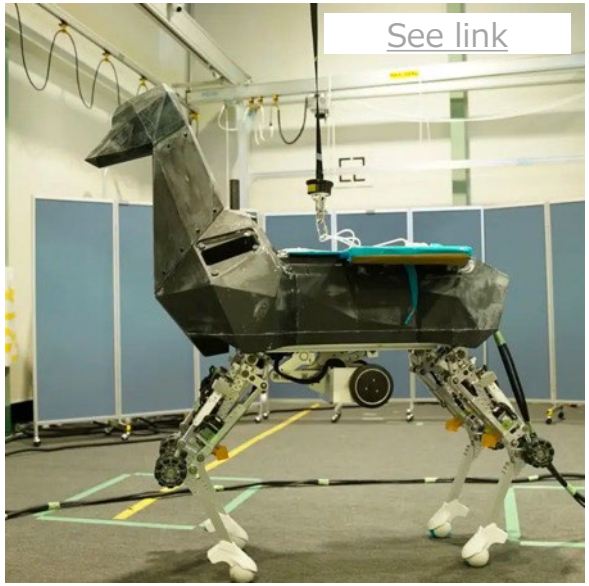
	Customer	Project overview	Release
Digital twin	Major telecommunication	Digital twin for smart cities	
	Major energy	Digital twin for facility management	See link
	Ministry of Agriculture and Forestry, Finland	Digital twin for forest management and resource survey	
	Major general electricity	Mapping devices for digital twin	
	Many mapping-related	Mobile mapping devices for digital twin	
Robots	Many robot-related	Automated industrial transport robot	Coming soon
	Robot-related	Delivery robot	Coming soon
	Major heavy industry	Automation of industrial outdoor logistics	
	Major Japanese automobile manufacturer	Automated passenger car and robo-taxi service	
	Major Japanese automobile manufacturer	Platform-based autonomous mobility	See link
	EUSPA(European Union Space Program Agency)	Autonomous driving in environments with no GPS signal	
	Major Media	Drone for special photography	
Details on next page	Kawasaki Heavy Industries	Quadruped robot	See link
	NASA	Lunar exploration robot	See link
	Robot-related	Autonomous movement of bipedal humanoid	

(Reference) Other highlighted projects (2/2)

- **Expanding our initiatives in advanced and futuristic robotics fields**, challenging more dynamic movements, unknown and complex environments

Quadruped robot

Kawasaki Heavy Industries

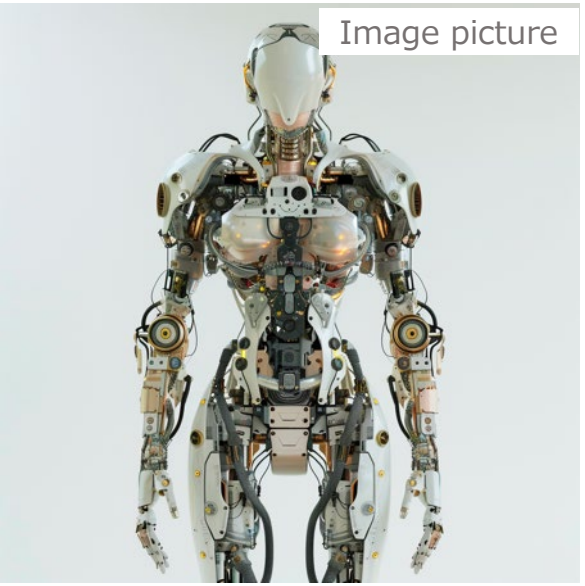


Lunar exploration vehicle

NASA (*reference release)

Humanoid

U.S. robotics company



Financing（January-March 2024）

- Completed financing of approx. 1.4 billion yen through share acquisition rights to **strengthen the 'two pillars of growth'**[*1]

two pillars of growth	Business progress	Use of funds
A Customer commercialization	• Achievement of customer commercialization, accumulation of projects and upward revision (FY2023) • Product license MOU with Whale Dynamic (300-400 million yen) • The launch of product-related revenue,	• Expand revenue by strengthening alliance with Whale Dynamic • Continued expansion of customer commercialization • Revenue growth in each project
B Solution	• Build an ecosystem as a business foundation • Participation in government, public projects (Japan and Europe) • Launch of digital twin projects, mainly in Europe	• Large scale digital twin projects in Europe and global expansion • Development of solution business in the robotics area

1 488 million yen was used for customer commercialization and 33 million yen was used for solution as of now

Financing (June 2024~)

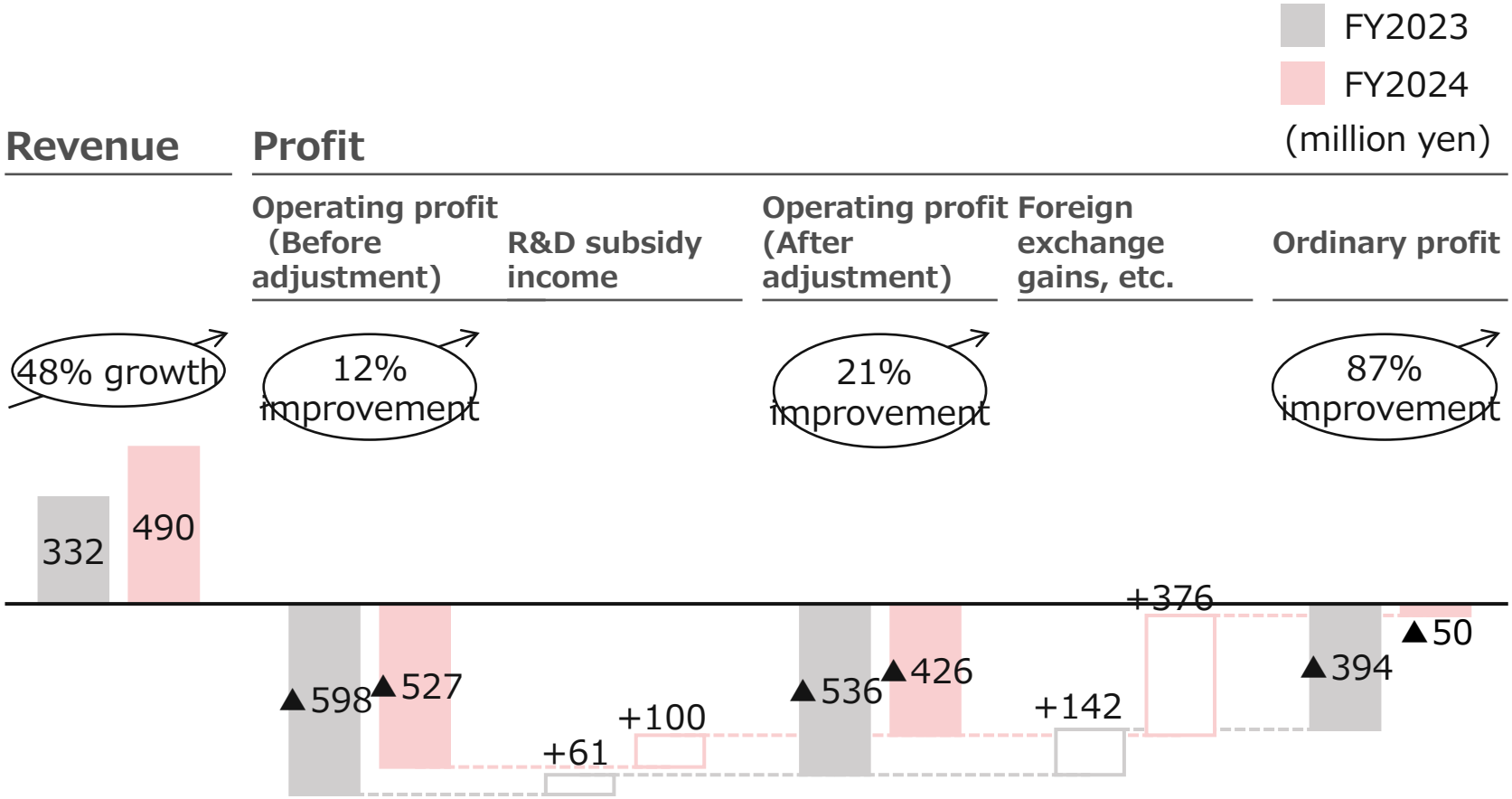
- Financing of 3 billion yen (9.74% dilution rate) through share acquisition rights to **strengthen "two pillars of growth"** and promote **initiatives to support them**

	Business progress	Use of funds: Supplementation of previous financing[2]	Use of funds: New use of funds
two pillars of growth			
A Customer commercialization	• Steady accumulation of customer commercialization • Growth of product-related revenue	• Strengthen productization packages as "priming" • Promotion of each project incl. WD	
B Solution	• Built an ecosystem and participation in government and public projects • Launch of order/agreement of digital twin projects in Europe	• Large scale digital twin projects in Europe and global expansion • Development of solution in the robotics area	• Development of solution in autonomous driving in the broadest sense • Business investment such as M&A[3]
Supporting initiatives			
C Integration with AI and semiconductors	• Built a collaboration structure with major semiconductor manufacturers • Customer commercialization with Intel		• Optimization development for major semiconductor manufacturers • Development of innovative technologies through technological integration with generative AI

1 The estimated funding amount is based on the assumption that all subscription rights are exercised at the initial exercise price of 3,020 yen. There is no change to the forecast for the current financial year announced on 15 May 2024.
2 In the financing by the 17th warrant with an amendment to the exercise price (third-party allotment), the funding amount was approximately ¥1.4 billion compared to the initial estimate of approximately ¥1.9 billion, and approximately ¥0.5 billion was not achieved.
3 Investment including M&A, to strengthen the company's development and technology embedding structure for larger-scale solution projects.

Full-year performance for the fiscal year ending March 2024 (vs. previous year)

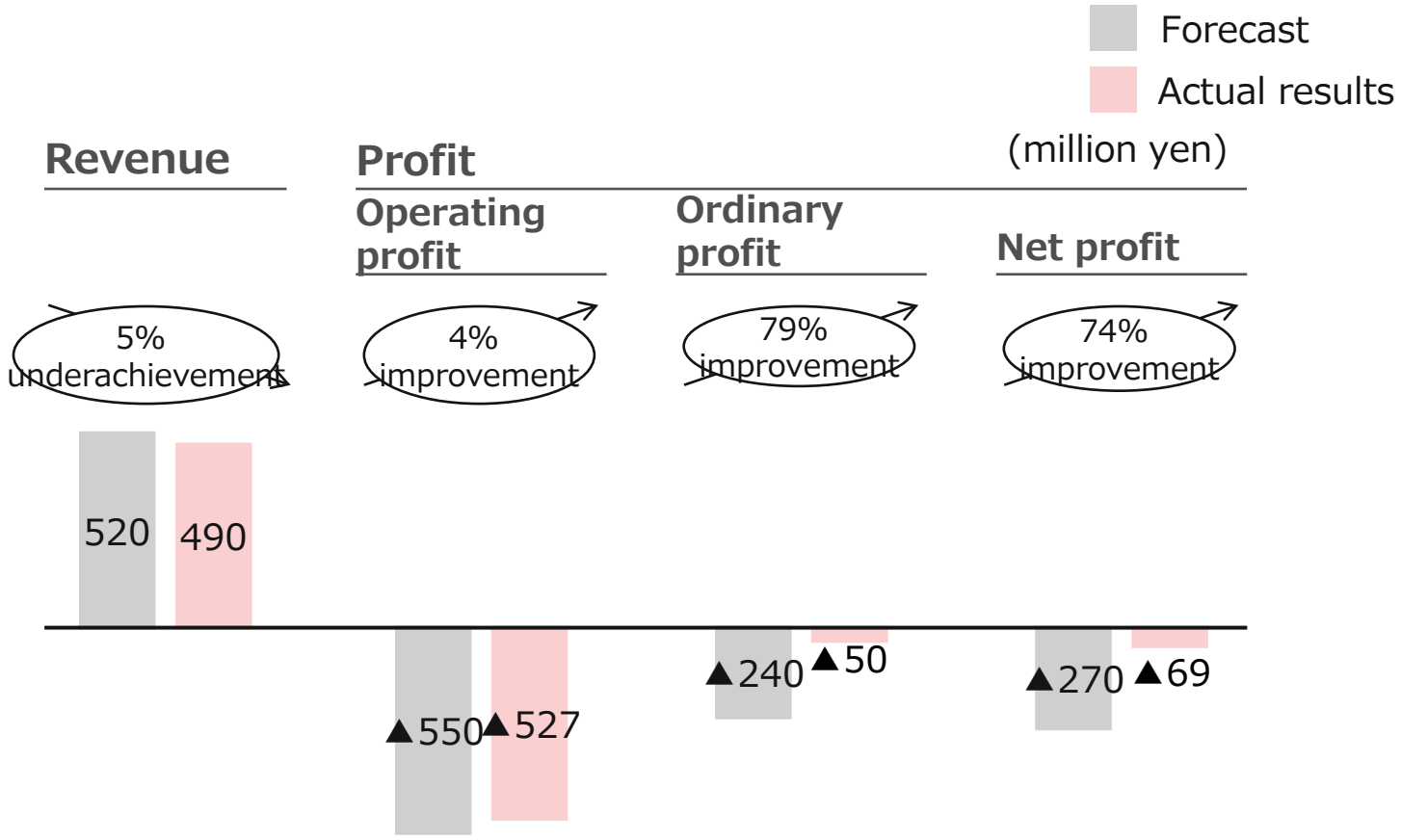
- **Significant growth in revenue and improvement in operating losses**
- **Adjusted operating profit, an indicator of business profitability**, including subsidy income[1] occurring every year, **has improved**
- In addition, **ordinary profit** including foreign exchange gains **has significantly improved**



1 Subsidies for research and development from foreign governments

Full-year performance for the fiscal year ending March 2024 (vs. forecast)

- **Revenue slightly underachieved, but all profit indicators are positive due to improved profitability**



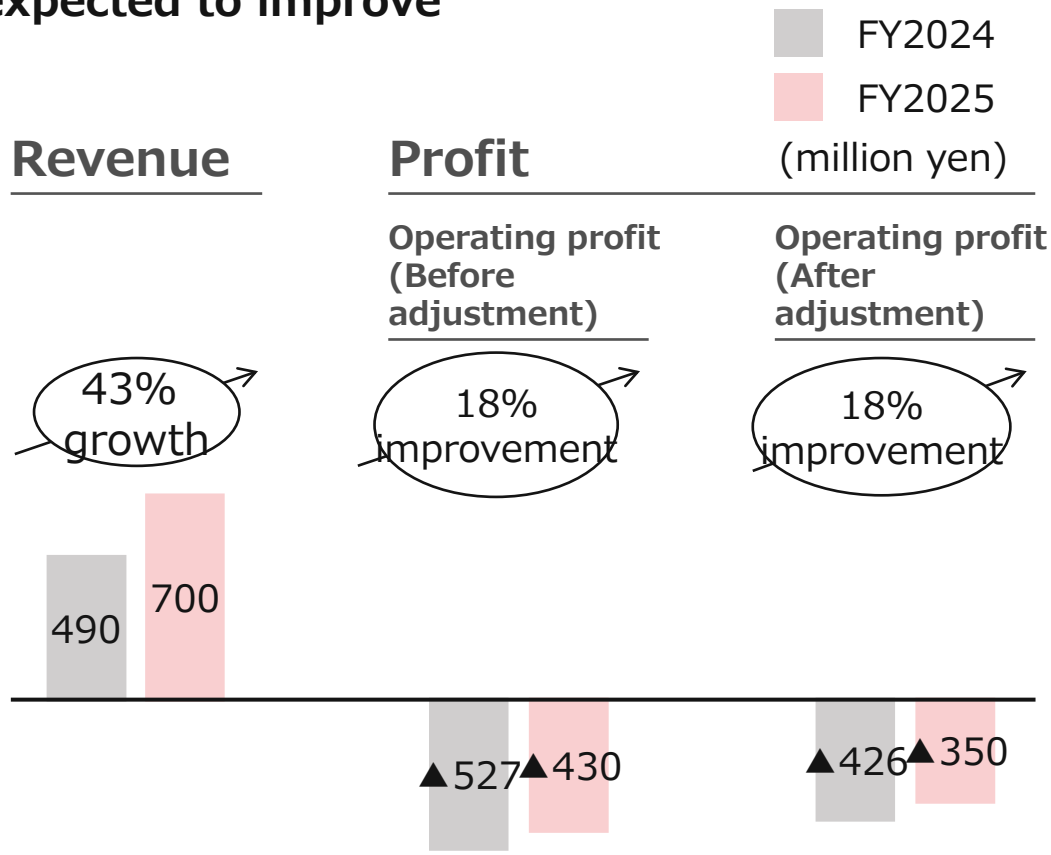
Full-year performance for the fiscal year ending March 2024 (summary)

(million yen)	FY2023 Actual result	FY2024 Forecast	FY2024 Actual result
Net Sales	332	520	490
Operating Profit	△598	△550	△527
Ordinary Profit	△394	△240	△50
Profit Attributable to Owners of Parent	△413	△270	△69
(Reference) Adjusted operating profit[1]	△536	△451	△426

1 Operating profit (losses) plus government R&D subsidy income occurring every year, a profit figure that serves as an indicator of business profitability
2 Major breakdown of non-operating and extraordinary losses/income (million yen): (FY2023) Foreign exchange gains 146, Subsidy income 61, Impairment losses 20 (FY2024) Foreign exchange gains 384, Subsidy income 100, Impairment losses 18

Forecasts for the fiscal year ending March 2025

- **Revenue growth through progress in the "two pillars of growth" of Ⓐ commercialization and Ⓑ solution**
- Although investment in human resources and development will expand to a certain extent, **profits, including adjusted operating profit[1], which is an indicator of business profitability, are expected to improve**



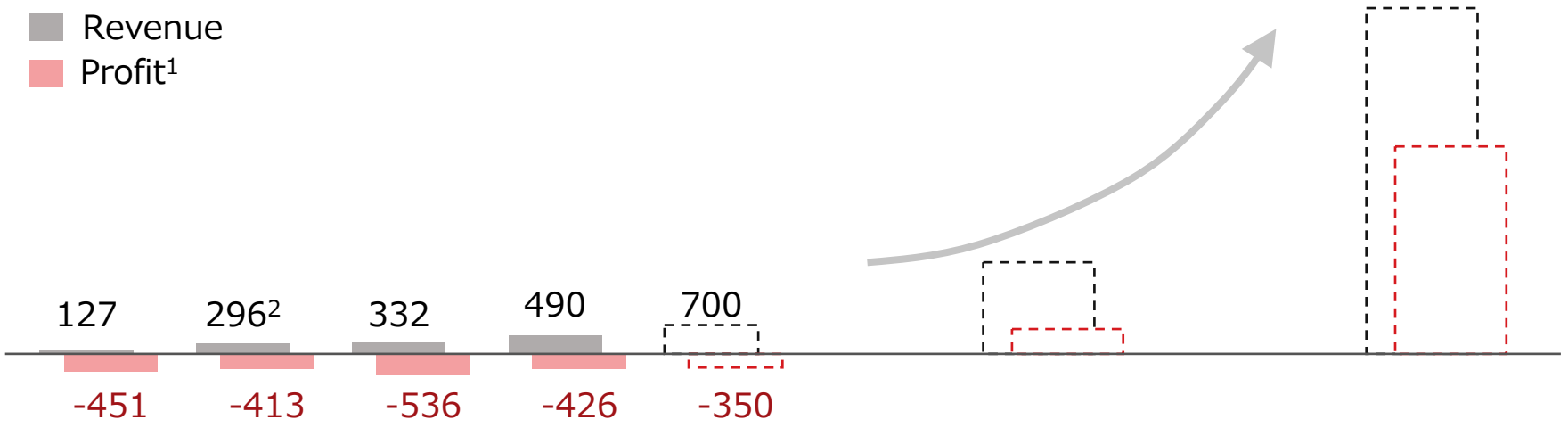
1 Operating profit (losses) plus government R&D subsidy income occurring every year, a profit figure that serves as an indicator of business profitability
2 Forecasts for ordinary profit and net profit are not disclosed due to difficulty in forecasting foreign exchange gains/losses, which have a large impact on ordinary profit and net profit

Future growth potential (mid- to long-term)

- **Continuously push forward customer commercialization and progress of customer products** to quickly achieve the transformation of the earnings structure
- Aim for dramatic profit growth by building up significant product-related revenue **through market penetration of technology by expanding focus areas and spreading customer products**

Mid- to long-term growth vision [million yen]

FY2021	FY2022	FY2023	FY2024	FY2025	Mid-term (3-5years)	Log-term (5~10years)
Selection and retention of prospective customer			Continuous customer commercialization in focus areas		Expansion of Focus Areas	
Development support for customer commercialization			Customer product progress (~introduction)		Customer product progress (~penetration)	



1. Adjusted operating profit
2. Revenue adjusted for the impact due to accounting standards change

4. Risk Information

Key risks and countermeasures

- Identified the following risks and countermeasures that could have a significant impact on our growth strategy
- Please refer to "Business and Other Risks" in the Annual Report for the year ended March 31, 2024 for other risks

Key risks	Period	Impact	Countermeasures
Risk that the development of each market requiring AP (Artificial Perception) does not proceed as expected	Mid- to long term	Delays in revenue growth due to delays in expected customer commercialization and product-related revenue expansion	- Support for accelerating customer development projects by providing a productization package - Promote market expansion of our technology through solutionization - Focus on markets and customer projects with high prospects for commercialization over the mid- to long term - Promote joint R&D and business development through alliances with leading global sensor and semiconductor companies
Risk that our technological advantage cannot be sustained	Mid- to long term	Decrease in mid- to long term revenue forecast due to inability to continue to maintain technological advantage in the SLAM market	- Maintain technological superiority through continuous updates of Kudan/Artisense integrated SLAM technology - Strengthen technology by integrating AI
Risk that the amount and timing of revenue recognition may vary depending on the progress of the project	Short～mid- to long term	Volatility in revenue	- Leveling of the timing of revenue recognition by increasing the number of projects - Expansion of stable revenue base through the increased commercialization and product-related revenue

Important Notice

- This document contains Kudan's plans, estimates and expectations for the future based on its current business situation and industry trends.
- All such projections for the future inherently involve uncertainty and a wide variety of risks.
- It is conceivable that risks both understood and unforeseen, uncertainties and other factors may cause actual results to differ from the projections contained within this document.
- Kudan offers no guarantee of the accuracy of its projections for the future and accepts that they may differ significantly from actual results.
- All projections for the future included in this document are based upon information available to Kudan as of June 28, 2024.
- Kudan plans to continue to disclose each indicator in its supplementary documentation to the financial report and other materials on a regular basis, including the progress of projects for customers' commercialization disclosed in this document.
- The next update of this document will be disclosed in June 2024.