Synspective

Matters concerning business plan and growth potential

March 31, 2025



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Agenda

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01 Company overview

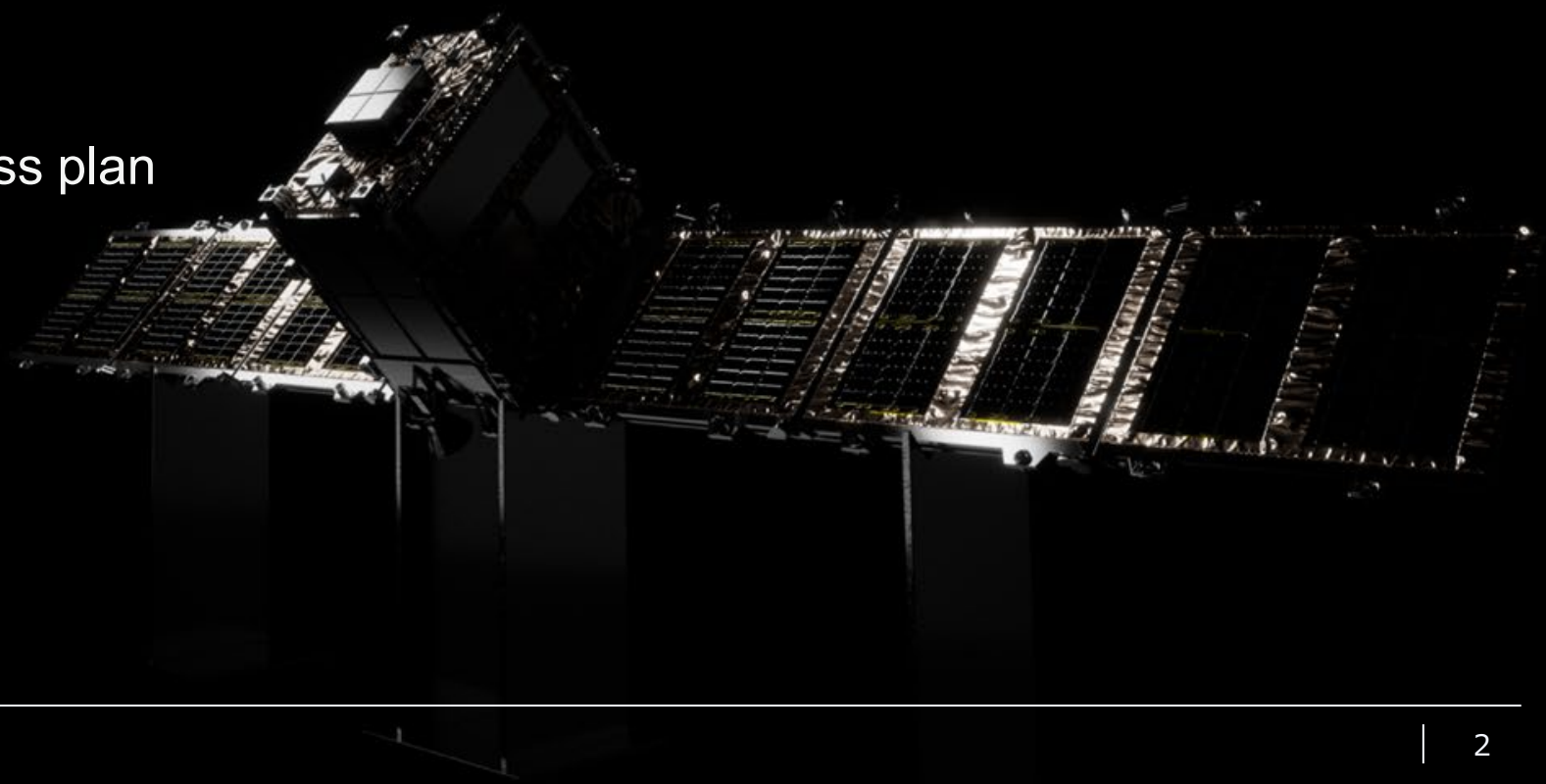
02 Market growth and competitive environment

03 Business model

04 Financial results and business plan

05 Team introduction

06 Risk information



01 Company overview

To create a new infrastructure that enables the next generation to understand our Earth and achieve a resilient future

Our lives and our economic environment are threatened by various risks on a global scale, such as disasters, conflicts and climate change. To help protect ourselves against these risks while taking into account our natural environment and future generations, it is essential to quantitatively visualize and understand these risks. This requires data that is homogeneous, stable and extensive on a global scale.

We believe we can make this possible.
We are working to build a new infrastructure consisting of a constellation of SAR satellites that consistently monitors the Earth, analytic tools to process the vast amounts of data obtained and a network of partners.



Whenever and wherever disasters occur around the world, we will quickly acquire wide-area data soon after the event, promoting the swift initiation of rescue and relief activities and the formulation of early recovery plans.



We will monitor global conflict situations and disruptions in logistics, contributing to world peace and the provision of stable lifelines.



By quantitatively and continuously monitoring global forest distribution and offshore wind conditions, we will promote carbon credit trading and the adoption of renewable energy.

Small SAR satellites and their data

Data acquired by SAR satellites(1) are useful for risk management related to disasters, geopolitics, and the environment issues



Image data of the Tokyo area from the first small SAR demonstration satellite we launched, StriX-α

(1) Satellites equipped with Synthetic Aperture Radar (SAR) are classified as Earth observation satellites. Satellites are categorized into three types: Earth observation, positioning, and communication satellites, with SAR satellites belonging to the Earth observation category. (Union of Concerned Scientists, “UCS Satellite Database” Published Dec 8, 2005 Updated May 1, 2023.)

Differences between SAR satellites and optical satellites

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Compared to optical satellites, which are the mainstream for Earth observation satellites, SAR satellites are capable of acquiring data regardless of weather conditions or time of day and are excellent at capturing continuous changes

	SAR		Optical
	Emit microwaves and observe the reflected waves	Observation method	Capture the Earth's surface using reflected sunlight
○	Capable of capturing images 24 hours a day, 365 days a year	Impact of weather and time	Visibility is obstructed in cloudy weather and visibility decreases at night
Shape	Physical characteristics of the target object	Observable information	Color of the target object
○	Strong in time-series analysis and change detection, enabling the analysis of continuous changes	Analysis of changes	Low suitability for change analysis

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※This is an illustrative image with clouds added to the original image. The original image is sourced from TerraMetrics.

Our technology

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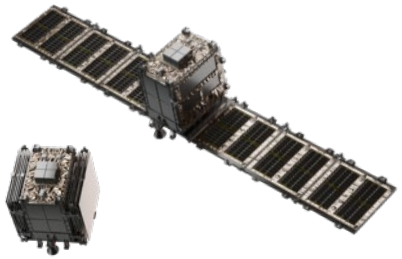
Our strengths lie in the development and manufacturing capabilities of SAR satellites to achieve miniaturization and cost reduction necessary for constellation formation, as well as in our analytical capabilities to deliver meaningful information obtained from SAR satellite data to customers

Acquire SAR satellite data and consistently provide value to the end-users

Development and manufacturing capabilities of small SAR satellites

StriX

100 kg-class Small SAR satellites



Comparison with traditional large SAR satellites(1)

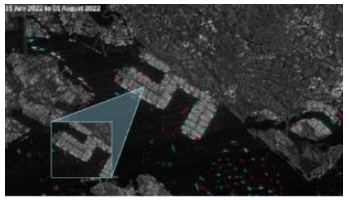
Miniaturization
Weight ratio:
Approximately 1/10 or less

Cost Reduction
Approximately 1/20 or less

Enables constellation formation
(High-frequency data acquisition)

+

Analytical capabilities of SAR satellite data



Technical domains necessary for analysis

- SAR Data Processing
- Remote Sensing
- Data Science

Challenges of SAR satellite data

- ✓ Low visibility
- ✓ Wide-area and large volumes of data

Significant information extraction enabled through automated analysis.

SAR satellite data

Solution

(1) Satellites over 1,000 kg are classified as large, while those weighing between 100-500 kg are classified as small. As an example of traditional large satellites, the large SAR satellite "Advanced Land Observing Satellite-4 (ALOS-4)" developed by JAXA and manufactured by Mitsubishi Electric has a mass of approximately 3 tons, with a total project cost of approximately 32 billion yen, including launch expenses (https://www.jaxa.jp/about/transition/index_j.html).

Strong relationship with the Japanese government

Our company, established through the Cabinet Office's "Impulsing Paradigm Change through Disruptive Technologies Program (ImPACT)," has continued to maintain close communication with the Japanese government through various projects. We are recognized by the government as a key startup capable of competing globally

Development of small SAR satellites through the ImPACT program

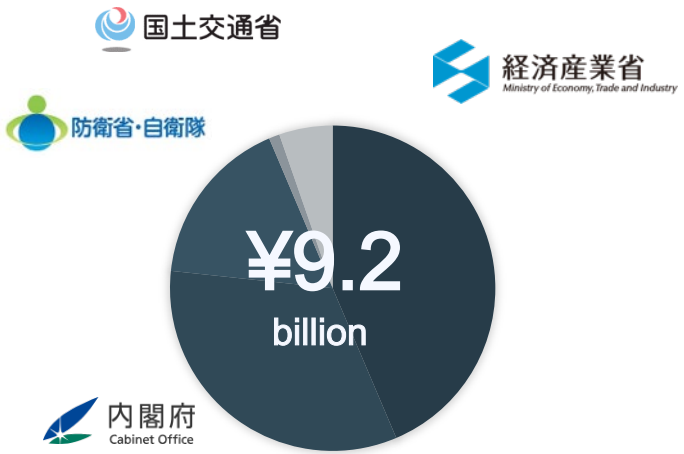
- Our small SAR satellite, StriX, was initially developed under the Cabinet Office's ImPACT program
- Experienced engineers from JAXA, the University of Tokyo, Tokyo Institute of Technology(currently, Institute of Science Tokyo) and Keio University participated in this program
- Synspective inherited those core technologies and engineers, and was established as a spin-off company through private fundraising

内閣府 Cabinet Office

革新的研究開発推進プログラム ImPACT Impulsing Paradigm Change through Disruptive Technologies Program

Cumulative government project contracts totaling approximately 9.2 billion yen(1)

- We have secured over 40 contracts for commissioned development, grants and various demonstration projects to provide data and solution services
- Along with receiving subsidy income, we have advanced business development and acquisition of government demand



Awards/Recognitions from the Government

- The government recognizes Synspective as a key startup capable of competing globally
- Acknowledged as an entity that provides social impact and nurtures the next generation

内閣府 Cabinet Office — Recipient of the Minister of State for Space Policy Award from the Cabinet Office（2024）

J-Startup Impact — Selected as a startup creating social impact（2023）

文部科学省 — Our CEO, Motoyuki Arai has been appointed as an Ambassador for Entrepreneurial Promotion（2023）

(1) Cumulative since 2018 (as of September 2024), includes contracts for which revenue has already been partially or fully recognized. As of September, 2024, the order backlog (of the contract amount, as of September 30, 2024, the total amount that has been recorded is approximately 3.1 billion yen and the amount that is expected to be recorded in the future is) is approximately 6 billion yen.

Company Overview

Synspective was co-founded in February 2018 by our CEO, Motoyuki Arai, and Seiko Shirasaka, who was in the ImPACT Program

Company Name	Synspective Inc.
Established	February 22, 2019
Paid-in Capital	¥8,389 million, as of February 28, 2025
Head office	3-10-3 Miyoshi, Koto-ku, Tokyo, Japan
Subsidiaries	Synspective SG Pte.Ltd. (Singapore) Synspective Japan, Inc.
Employees	192 (Consolidated, as of December 31, 2024), a global team with members from 24 countries
Business	・Sales of SAR image data ・Solution services using SAR data ・Development and operation of small SAR satellites

Head office / Synspective Japan





Synspective SG Pte. Ltd.



Yamato Technology Center



02 Market Growth and Competitive Environment

Expansion of the global SAR satellite market

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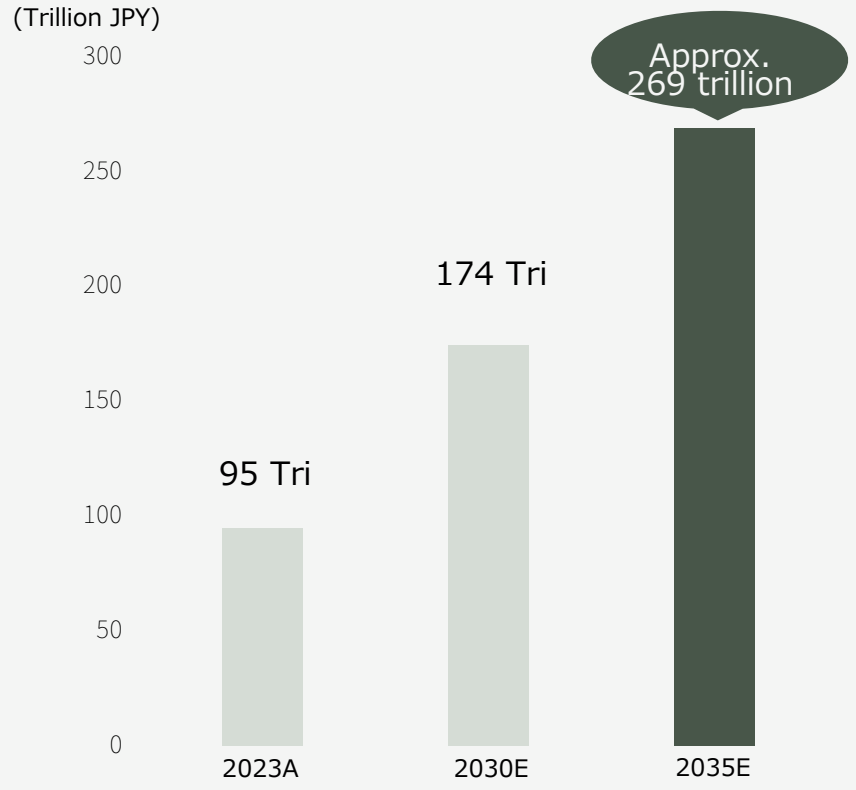
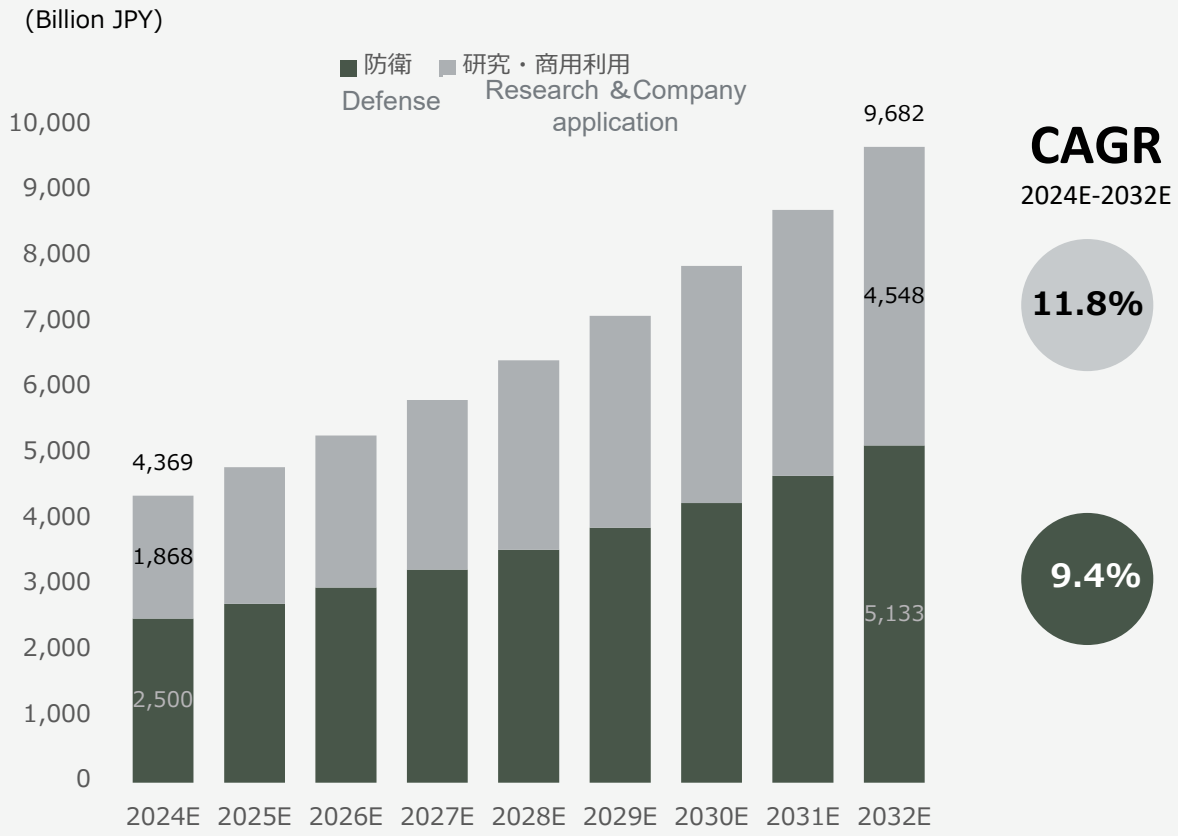
The SAR satellite market is expected to expand in the private sector, driven primarily by the demand from the stable defense industry and the need to address disaster and environmental risks

■ Market size projections for the space industry



■ Market size projection of SAR by application



Source : World Economic Forum, "Space: The $1.8 Trillion Opportunity for Global Economic Growth" (April 2024). Market size data in the source has been converted using an exchange rate of 1 USD = 150.0 JPY.

Source : Global Market Insights, "Synthetic Aperture Radar (SAR) Market Report, 2024-2032," (May 2024). Market size data in the source has been converted using an exchange rate of 1 USD = 150.0 JPY. The market size includes SAR data services captured by satellites, aircraft and UAV.

Expansion of private sector utilization in the space and defense industries

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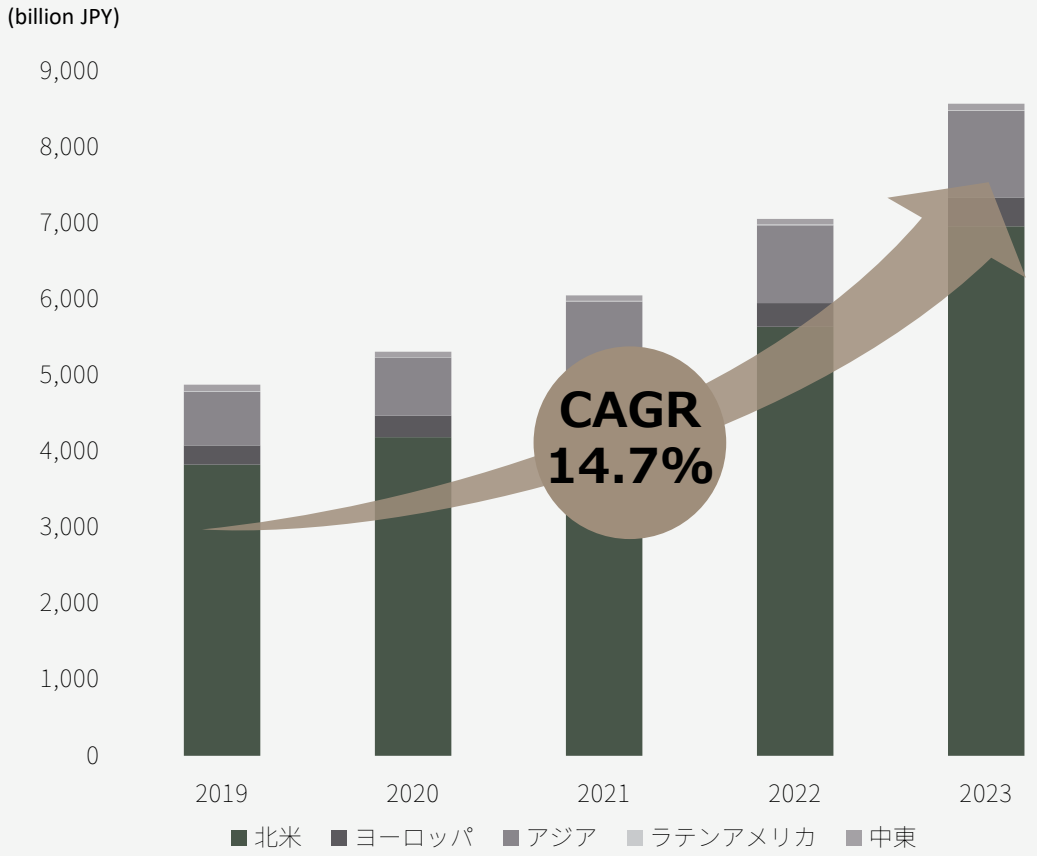
Global space and defense budgets, which drive the demand for SAR satellite data, have been continuously increasing over the past five years. Considering the high technological and financial risks in the space and defense industries, governments around the world have become more proactive in utilizing private companies

■ Global space budget in the defense sector



Source：Euroconsult, “Government Space Programs, 23rd edition.”（2023）Market size data in the source has been converted using an exchange rate of 1 USD = 150.0 JPY.

■ Examples of public-private contracts in the space business

July 2021: US Air Force× Umbra(1)
Umbra has secured an Indefinite Delivery/Indefinite Quantity (IDIQ) contract with a ceiling value of $950 million to achieve Joint All-Domain Command and Control (JADC2), aimed at the maturation, demonstration and proliferation of capabilities across platforms and domains.

May 2022: NRO × Maxar Technologies(2)
The National Reconnaissance Office (NRO) has entered into Electro-Optical Commercial Layer (EOCL) contracts with three companies—Planet Labs Federal, Inc., Maxar Technologies, and BlackSky—valued at several billion dollars over a period of up to 10 years.

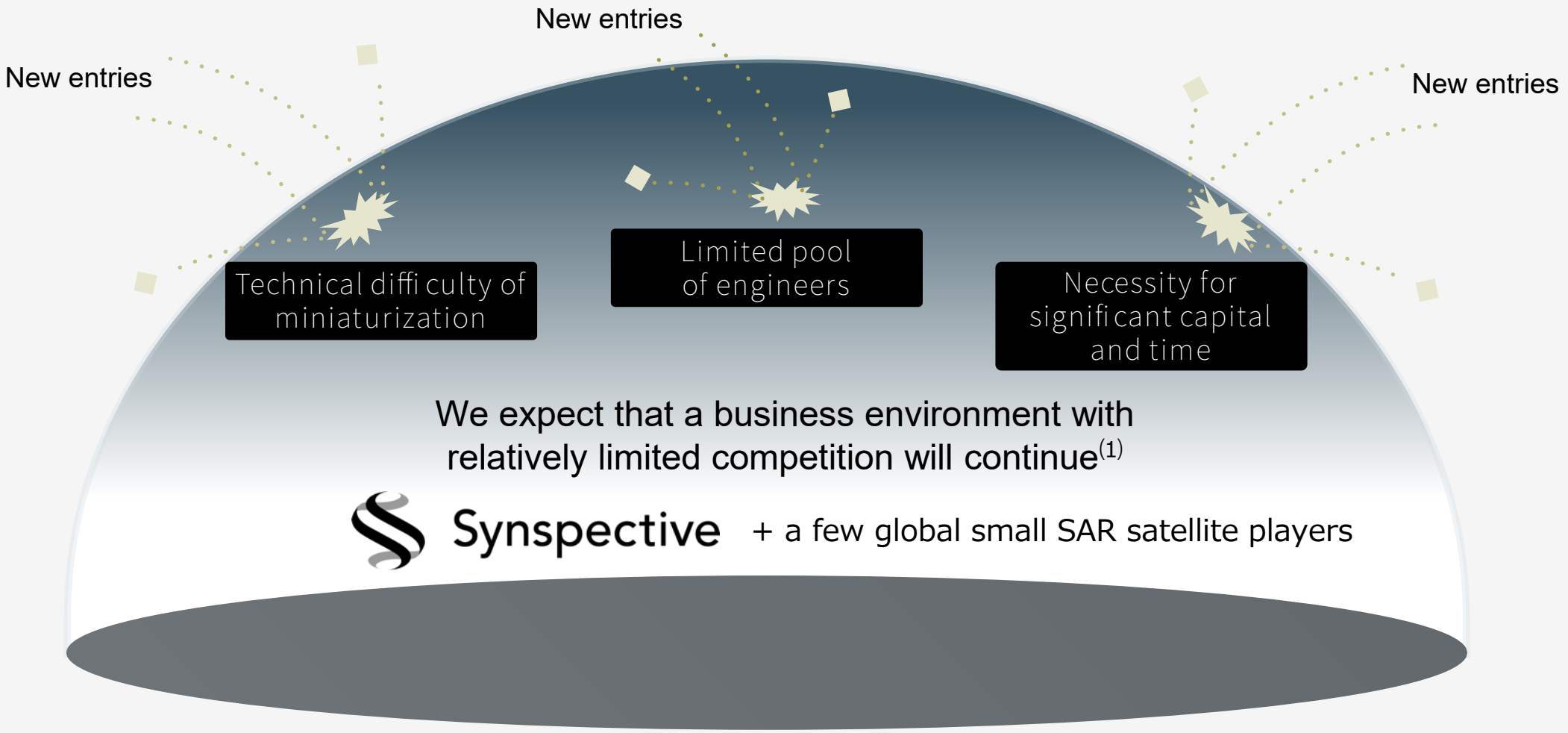
February 2023: NGA × Maxar Technologies(3)
The National Geospatial-Intelligence Agency (NGA) has entered into a five-year contract with Maxar Technologies to provide commercial satellite imagery to United States' allies. The contract is valued at up to $192 million and includes provisions for high-resolution, premium imagery as well as SAR imagery.

January 2024: SDA × L3Harris, Lockheed Martin, Sierra Space(4)
The Space Development Agency (SDA) has signed a contract of approximately $2.5 billion contract with three companies—L3Harris Technologies, Lockheed Martin, and Sierra Space—for the manufacturing and operation of missile-tracking satellites. A total of 54 satellites equipped with infrared sensors capable of tracking hypersonic missiles throughout all phases of flight are planned to be manufactured.

(1) Source：Umbra Press Release https://umbra.space/blog/umbra-awarded-950m-idiq-contract-following-space-x-launch/
(2) Source：National Reconnaissance Office Release https://www.nro.gov/Portals/135/documents/news/press/2022/press_release_05-22.pdf?ver=uKk6OOfq-yabhxjumr6yIA%3d%3d&timestamp=1661194501050
https://ir.blacksky.com/news-events/press-releases/detail/78/blacksky-reports-second-quarter-2022-results
(3) Source：Maxer Press Release https://www.maxar.com/press-releases/maxar-awarded-192m-foreign-commercial-imagery-program-idiq-contract
(4) Source：SPACE NEWS https://spacenews.com/space-development-agency-awards-contracts-worth-2-5-billion-for-missile-tracking-satellites

Limited competitive landscape

We anticipate that due to the shortage of players relative to global demand and various barriers to entry, an environment with relatively limited competition will continue for the foreseeable future(1)



(1) This is our assumption, and the long-term business environment may change.

Resolution of our StriX satellites

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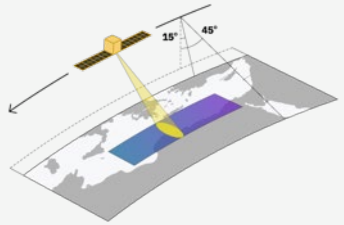
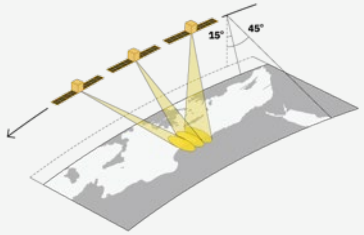
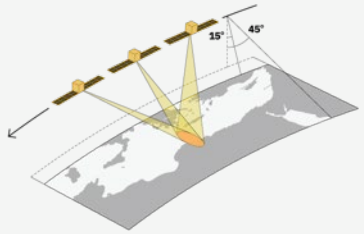
Our StriX satellites offer three observation modes: Stripmap, Sliding Spotlight and Staring Spotlight.
The choice of mode reflects the priority placed on either area or resolution.

Stripmap mode		
Smath width	10~30km （nominal(1) 20km）	
Nominal product length	50~70km	
Resolution	Range 3.6m × Azimuth 2.6m	
Sliding Spotlight mode		
Smath width	10km - Nominal(1)	
Nominal product length	10km	
Resolution	Range 0.46m × Azimuth 0.5m	
Staring Spotlight mode		
Smath width	10km - Nominal(1)	
Nominal product length	3km	
Resolution	Range 0.5m × Azimuth 0.25m	

(1) Nominal (value) is a reference value for dimensional tolerances and refers to the average of measured values.
(2) The highest resolution that can be observed, including the values verified by our company.

Achieved the highest resolution in Japan

With the launch of the satellite in 2024, StriX will achieve the world's highest ground resolution, and will also be able to image a wider area than other satellite operators by switching observation modes.

Comparison of specifications for each satellite operator (using each company's high-resolution observation mode for comparison)



Company	Country	Observation mode	Ground resolution	Imaging area
Synspective	Japan	Staring spotlight mode (High-resolution mode)	0.25m	10km×3km
		Sliding Spotlight mode	0.5m	10km×10km
		Stripmap mode (Wide-area mode)	2.6m	20km×50～70km
Company A	Finland	High-Resolution Mode	0.25m	5km×5km
Company B	USA	High-Resolution Mode	0.25m	5km×5km
Company C	USA	High-Resolution Mode	0.25m	10km×10km
Company D	Japan	High-Resolution Mode	0.46m	7km×7km

(1) Based on information released by each companies as of March 30, 2025
(2) Observed n January 17, 2025, central Barcelona, Spain, staring spotlight mode

Advantages of Wide-Area Imaging Capability

We believe our ability to capture wider areas compared to other satellite companies allows us to stand out, including in post-disaster situations that require timely damage assessment across a wide area

Bosai Xview: 2024 Noto Peninsula Earthquake

bosai Xview®

Image by Synspective(1)

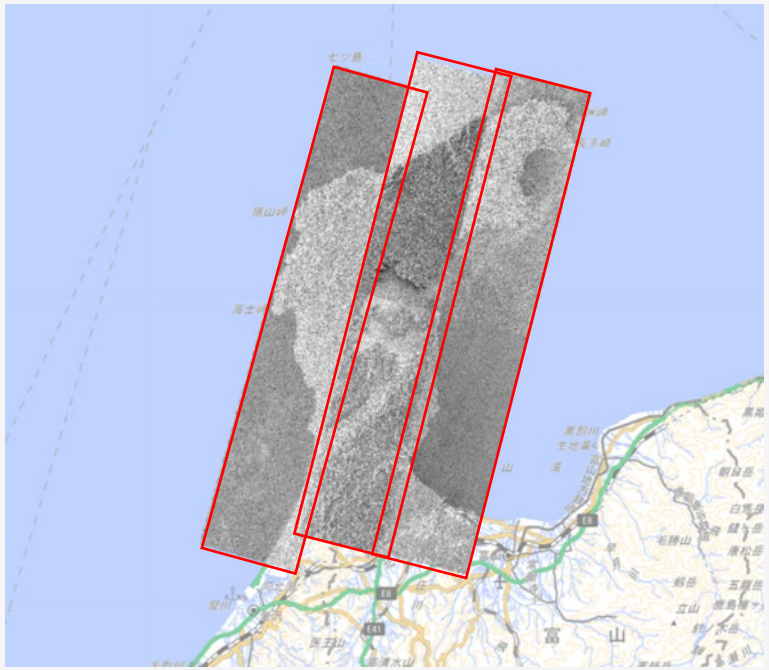


Image by C



Image by D



(1) In order to support disaster response, information aggregated by SIP4D (Core Disaster Prevention Information Distribution Network) operated by NIED is integrated and published for specific purposes. During the 2024 Noto Peninsula Earthquake, satellite images are available: https://xview.bosai.go.jp/view/index.html?appid=41a77b3dcf3846029206b8610787778

Stable Operation of Satellites and Synspective's Track Record

Synspective has the strength of having many engineers with long-standing experience in the development and operation of satellites, enabling us to achieve stable operations

Track record and status of satellite launches

StriX-α



Operational period	3 years
Launch date	2020/12/15
Design lifespan	3 years
Operational status(1)	Operation ended

StriX-β



Operational period	2 years and 11 months
Launch date	2022/03/01
Design lifespan	3 years
Operational status(1)	Operation ended

StriX-1



Operational period	2 years and 6 months
Launch date	2022/09/16
Design lifespan	3 years
Operational status(1)	currently in operation

StriX-3



Operational period	1 year
Launch date	2024/03/13
Design lifespan	5 years
Operational status(1)	currently in operation

StriX Series 5th Unit



Operational period	7 months
Launch date	2024/08/03
Design lifespan	5 years
Operational status(1)	currently in operation

StriX Series 6th Unit



Operational period	3 months
Launch date	2024/012/21
Design lifespan	5 years
Operational status(1)	currently in operation

Examples of measures to achieve stable operation based on experience in spacecraft development and operation

Hardware measures

- **Selecting of parts from a global perspective**
  Procurement of proven, safe parts from around the world, avoiding dependence on a single supplier
- **2. Additional quality verification tests**
  Conduct opportunity, thermal vacuum, and life tests to enhance quality assurance and incorporate findings into design and operations.
- **3. Enhancement of space environment resistance during satellite assembly**
  Implement measures to prevent anomalies, including reinforced harness shielding and vacuum exposure of components.
- **4. Ensure anomaly response methods during satellite operation**
  Equip satellites with backup components and a reset function to enable early recovery in the event of an anomaly.

Software measures

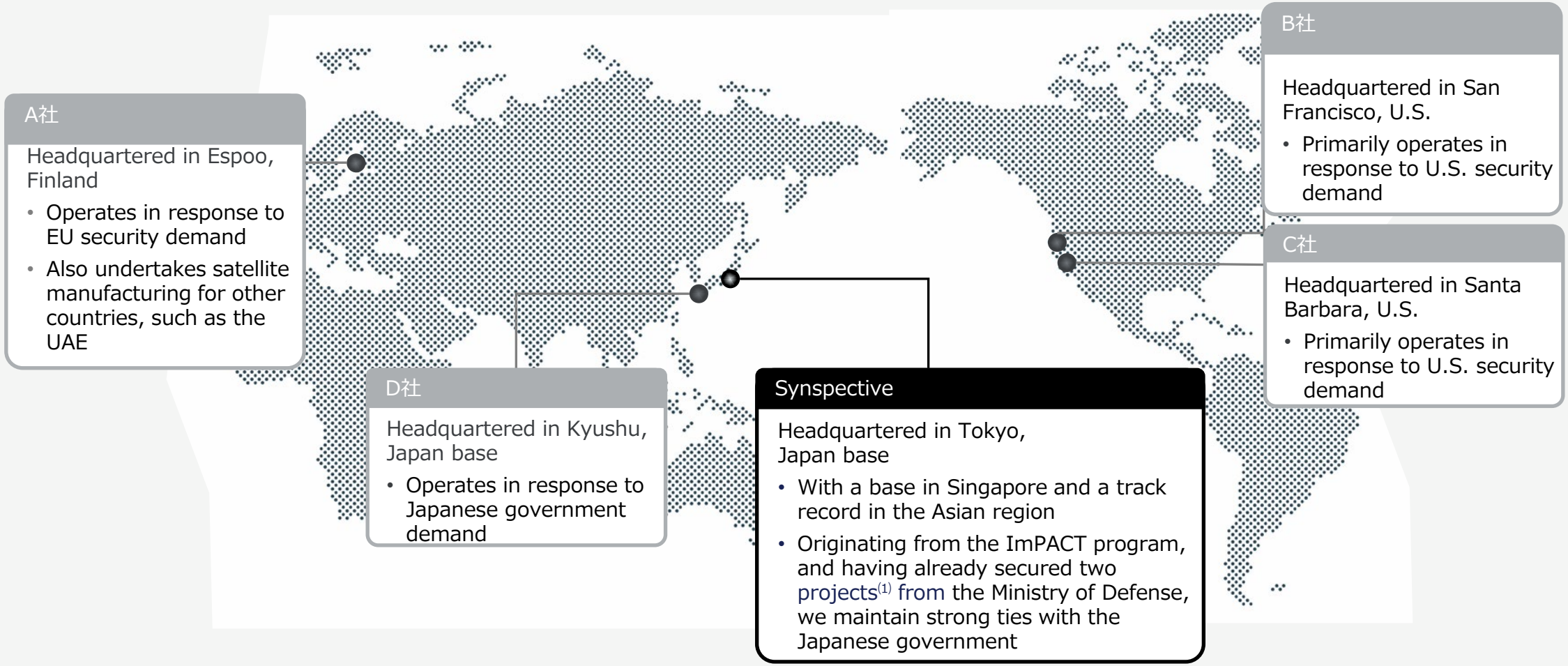
- **Preventing anomalies through enhanced in-orbit status monitoring**
  Detect early signs of anomalies and improve operational procedures to mitigate potential issues.
- **2. Establishing operational methods for stability**
  Develop software functions and countermeasures to ensure continuous operations under various anomaly scenarios.
- **3. Securing and training experts in satellite assembly**
  Retain skilled assembly specialists with expertise in spacecraft features and facilitate knowledge transfer to other operators.

(1) As of March 2025

Positioning of global SAR players

In regions with relatively strong technological foundations, such as Japan, the United States and Europe, small SAR satellite operators have emerged and are currently focusing their business operations on their respective local areas

With the ongoing increase in Japan's defense budget, we believe that the two Japanese companies have an advantage in securing additional government awards and contracts



A社

Headquartered in Espoo, Finland

- Operates in response to EU security demand
- Also undertakes satellite manufacturing for other countries, such as the UAE

B社

Headquartered in San Francisco, U.S.

- Primarily operates in response to U.S. security demand

C社

Headquartered in Santa Barbara, U.S.

- Primarily operates in response to U.S. security demand

D社

Headquartered in Kyushu, Japan base

- Operates in response to Japanese government demand

Synspective

Headquartered in Tokyo, Japan base

- With a base in Singapore and a track record in the Asian region
- Originating from the ImPACT program, and having already secured two projects(1) from the Ministry of Defense, we maintain strong ties with the Japanese government

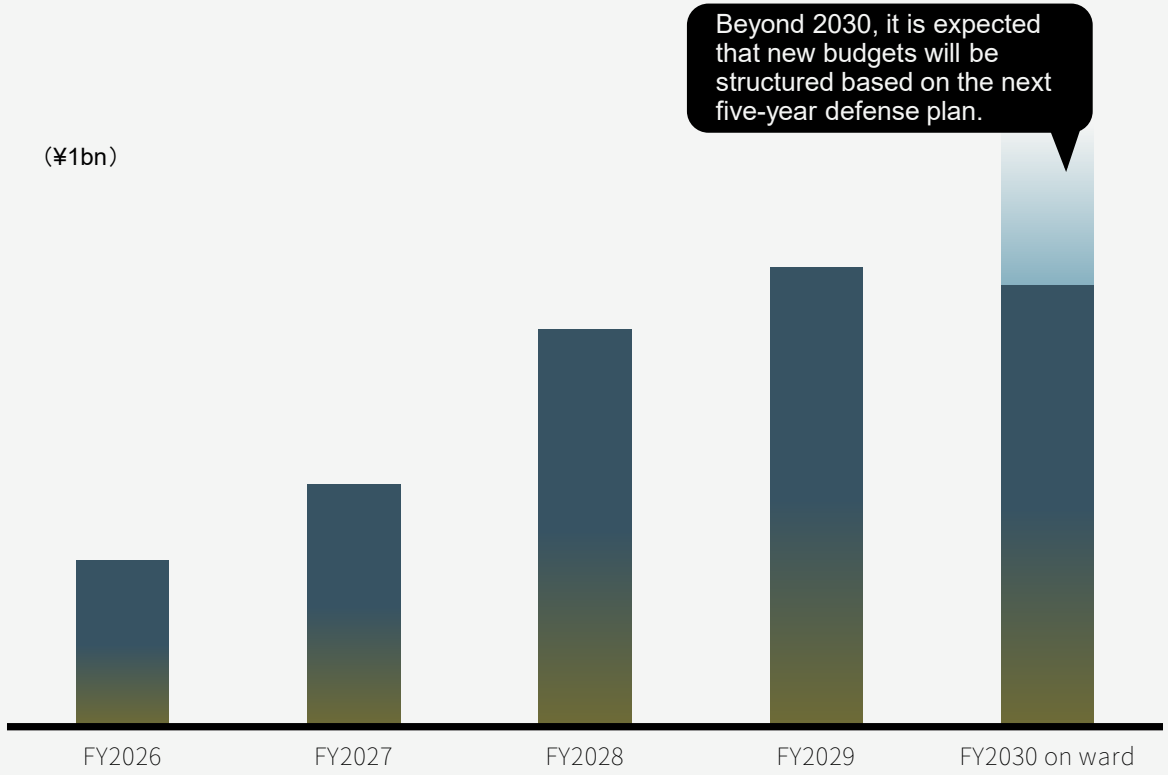
(1) Indicates the Acquisition, Technology & Logistics Agency's "Research on enhancing the functions of small SAR satellites" and the Ministry of Defense's "Space demonstration of SAR satellites suitable for security purposes."

Growing Budget(1) for Image Acquisition from Satellite Constellations

The Ministry of Defense's announced(2) budget request of 283.2 billion yen for image acquisition focuses primarily on SAR satellites, which is expected to significantly contribute to our revenue generation

■ The budget for image acquisition from satellite constellations and its projected distribution from FY2026 to FY2030

Begin establishing satellite constellations from the end of 2025 to develop target detection and tracking capabilities needed for national security (under a Private Finance Initiative)(3)



Overview of business scheme

■ Composition of satellite constellations

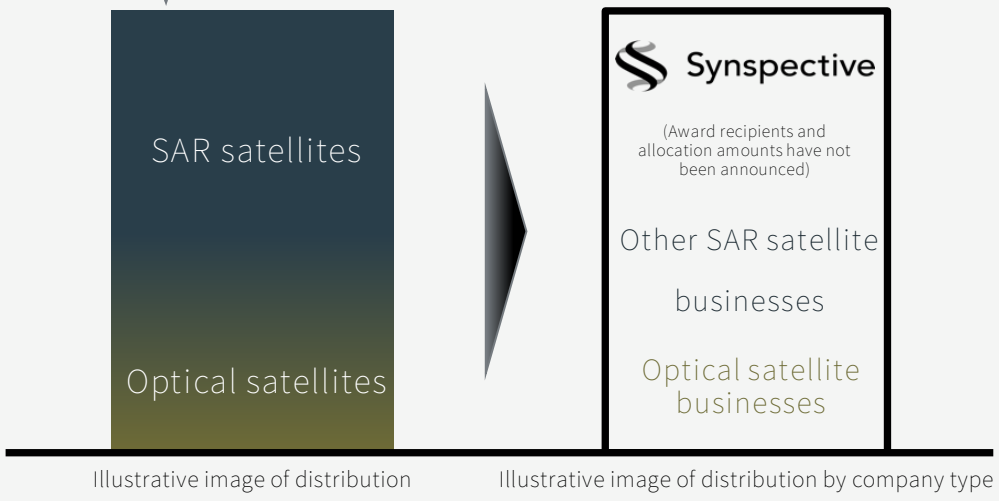
In consideration of functionality, the constellation will be a combination of SAR and optical satellites, but mainly SAR

■ Operation format, ownership

PFI, Build-Own-Operate (BOO) model(4); satellites and ground facilities will be privately owned in order to utilize private-sector expertise in operation and maintenance

■ Period

Six years from 2025 through 2030, in consideration of the lifespan of satellites (one year for preparation + 5-year lifespan of small satellites)



(1) Source: "Ministry of Defense Space-related Budget Appropriation Request for Fiscal 2025" (page 2) https://www8.cao.go.jp/space/comittee/dail14/siryou2-9.pdf (in Japanese)
(2) Announced in September 2024
(3) PFI stands for Private Finance Initiative,;Source: Ministry of Defense Space-related Budget Appropriation Request for Fiscal 2025 (page 3) https://www8.cao.go.jp/space/comittee/dail14/siryou2-9.pdf (in Japanese) Progress and Budget in Fundamental Reinforcement of Defense Capabilities: Overview of the FY2025 Budget (page 6) https://www.mod.go.jp/j/budget/yosan_gaiyo/2024/yosan_20240830_summary.pdf (in Japanese)
(4) The amounts referred to as national treasury obligation amounts. The figures presented in the graph are rounded to the first decimal place, leading to potential discrepancies between the annual totals and the TOTAL figure. Source: Ministry of Defense's FY2025 Budget Request Document (p.400) https://www.mod.go.jp/j/budget/gaisan/r7/gaisanyoukyu.pdf
(5) The government has not yet announced any recipients or allocation of the award.

Accelerate technological development and business deployment through the adoption of the Space Strategy Fund

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In November 2024, Synspective was selected as one of four companies for the “Accelerating the Construction of Commercial Satellite Constellations” initiative under the Space Strategy Fund (total budget of 95 billion yen). The company received funding to support the mass production of satellites and the and development of related services (1)

■ Selected for the Technical Development Proposal: “Mass Production, Launch and Stepwise Performance Improvement of Small SAR Satellite”(2)

Establishment of constellation and mass production system

Establishing a manufacturing system capable of producing 12 satellites per year to quickly deploy a satellite constellation of over 30 satellites.

Demonstration for immediate response

On-board data processing and inter-satellite communications will be used for in-orbit demonstrations to provide immediate response services.

Development of internationally competitive high-frequency interferometric SAR technology

Develop high-frequency interferometric SAR technology (orbit control autonomous technology) in light of our strength in the solutions business and overseas expansion.

Expected project results

- ✓ Establish a stable revenue base through subsidy income
- ✓ Deliver services and increase sales growth by responding to Japanese government demand

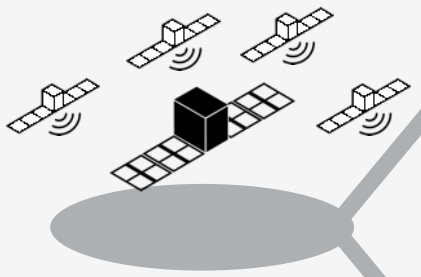
(1) The Space Strategy Fund is a fund established by JAXA as a nexus between industry, academia, and government (totaling 1 trillion yen) to support startups, private companies, universities, etc. to boldly engage in research and development over multiple years (up to 10 years). The first phase was implemented in the 2024 supplementary budget. The outline of the second period was announced as the 2025 supplementary budget. https://fund.jaxa.jp/
(2) Granted ¥16.5 Bn (toward March 31, 2027) on March 6, 2025 https://contents.xj-storage.jp/xcontents/AS04951/b6d7a3de/c34f/4d9d/b32e/dd5a84955118/140120250306589324.pdf
(3) The technical development proposal is the plan at the time of proposal and may change during future stage gate reviews.

03 Business model

Business Model

We provide two services to government and private customers with expected recurring demand: the sale of observation data acquired by SAR satellite constellations and solutions involving data analysis

SAR Data Acquisition



Service

SAR Data Sales

- Sell SAR data to customers
- Contract based on the number of images x price per image

Analytics Solutions Sales

- Automated analyze SAR data using data science and sell the obtained information to customers
- Contract based on the number of images x analysis unit price(1)

Customer

Government

Traditional markets with SAR data analysis capabilities, enabling direct use of the data.

- Security
- Risk for disasters

Recurring demand

Fixed-point observation needs for sites/objects of interest.

- ✓ Security
- ✓ Disaster prevention/mitigation
- ✓ Infrastructure/National development

Private operators

Emerging markets demand analysis rather than raw data due to lack of SAR data analysis capabilities.

Recurring demand

Time-series analysis needs for sites/objects of interest.

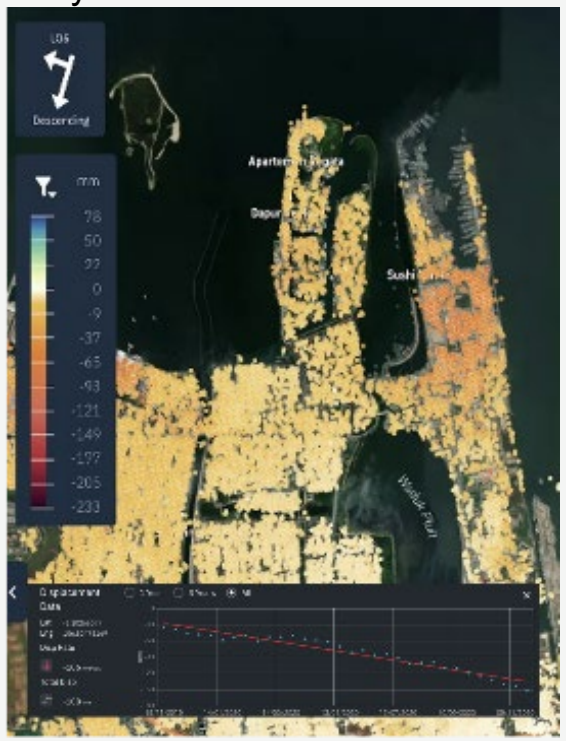
- ✓ Disaster risk/damage assessment
- ✓ Safety management and maintenance of large facilities and construction
- ✓ Environmental surveys of terrain, wind conditions, forests, etc.

(1) The analysis price indicates the analysis fee per image captured

Solution examples driving business expansion

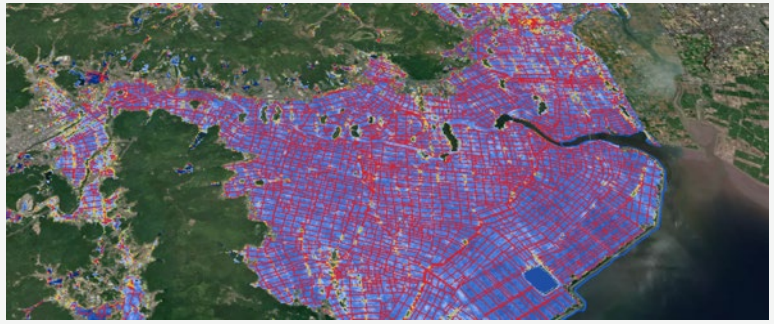
To expand into new markets in the private sector, solution services that include data analysis are essential. As the frequency and volume of SAR data, which remains insufficient in the market, increase, the improvement in analysis accuracy is expected to lead to significant expansion

■ Ground/Foundation and Infrastructure Analysis

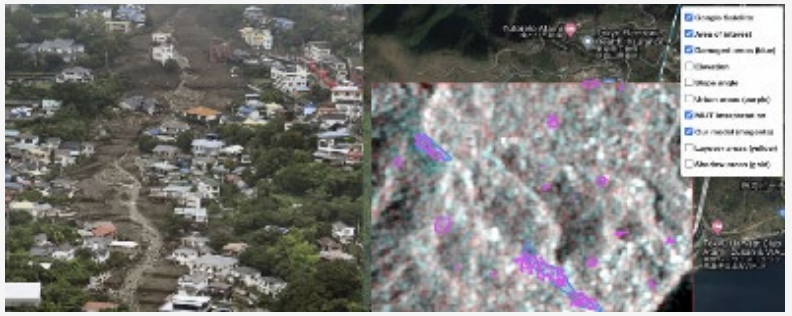


Land Displacement Monitoring
A service that detects wide-area surface and infrastructure movement in millimeters and provides time-series analysis results. It is used for disaster risk assessment like subsidence or landslides and infrastructure maintenance.

■ Disaster Damage Analysis



Flood Damage Assessment
A service for evaluating flood-related inundation damage (inundation area, depth, damaged roads and buildings). The service is used for insurance damage assessments and quick investigations for rescue operations.

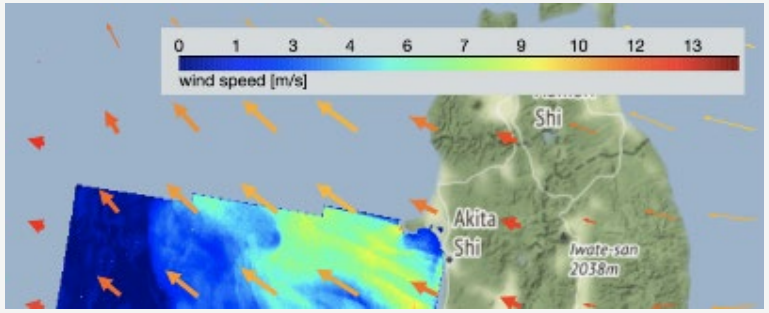


Disaster Damage Assessment
A service for analyzing pre- and post-disaster changes (such as landslides and house collapses).

■ Environmental Analysis



Forest Inventory Management
A service for analyzing tree height, biomass, forest type classification and logging status. The service is used for reducing forest management costs and carbon credit trading.



Offshore Wind and Wave
A service for observing and analyzing wave heights and wind strength across wide ocean areas based on actual measurements. The service aids in selecting locations for offshore wind farms and improving maintenance and operation management efficiency.

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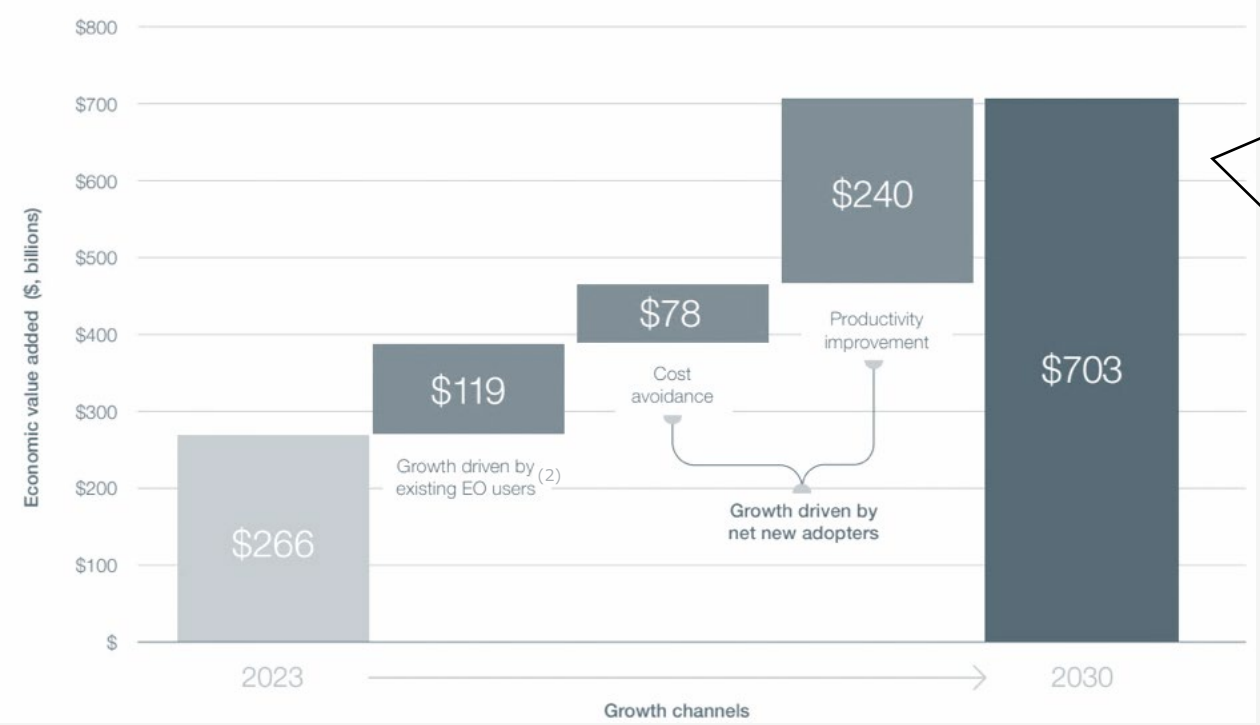
Importance of Solution ①: Expansion into the growing private market

Synspective

Data sets enhanced through analysis are provided to private companies as solutions aimed at risk reduction and productivity improvement, with the market expected to exceed 100 trillion yen by 2030(1)

■ Scalability of the satellite data market through solutions

Approximately 39.9 trillion yen (2023) → Approximately 100 trillion yen (2030) (1)



Market forecasts by industry

The market is expected to expand in the following industries, aimed at risk reduction, such as monitoring threats to critical infrastructure and improving disaster response, as well as enhancing productivity by incorporating satellite data into industry operations.

Key Industries

- Agriculture: 59.9 trillion yen
- Mining/Oil & Gas: 16.2 trillion yen
- Government/Disaster Response: 7.1 trillion yen
- Electric: 7.1 trillion yen
- Transportation: 5.3 trillion yen
- Finance & Insurance: 3.5 trillion yen

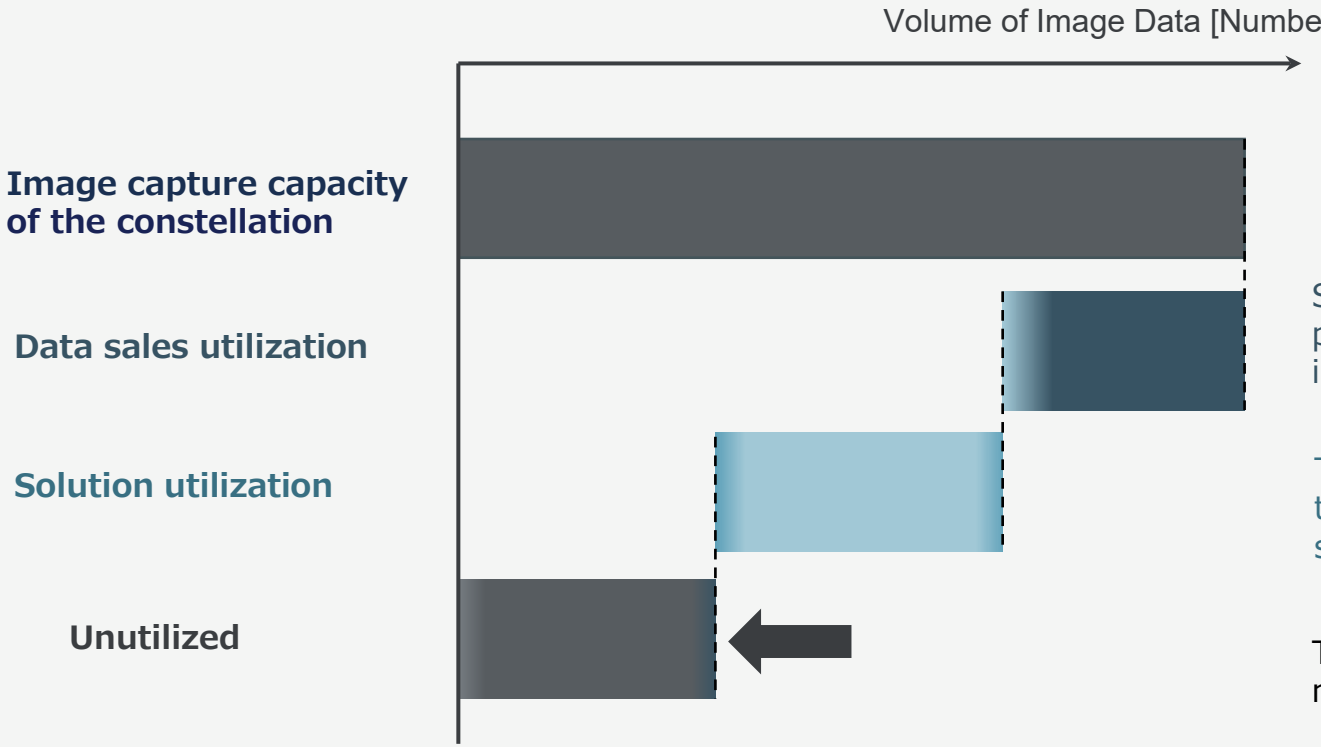
(1) Market size source data converted at an exchange rate of 1 USD = 150.0 yen.
(2) The 'EO' in question includes not only satellite data but also 'In-situ' data collected through on-site IoT sensors.
Source：Amplifying the Global Value of Earth Observation INSIGHT REPORT MAY 2024: https://www3.weforum.org/docs/WEF_Amplifying_the_Global_Value_of_Earth_Observation_2024.pdf

Importance of Solution ②: High Profitability through Utilization of Surplus Data

Synspective

By allocating surplus image capture capacity(1) that is not used for data sales to solutions, we aim to maximize the profits generated by the constellation
The ability to internally produce and use large amounts of data improves analysis accuracy, providing a competitive advantage over other analysis companies

■ Image of Effective Utilization of Image Capture Capacity in Solutions(2)



Since a cycle of charging(3) and imaging is repeated, only a portion of the total capacity actually aligns with the areas of interest of customers

▼

The private sector has different areas of interest, allowing the unutilized capacity mentioned above to be used for solutions

▼

This allows for a reduction in unutilized capacity, maximizing the profits generated by the constellation(4)

(1) Maximum number of images that can be captured by satellites currently operating in orbit. This includes the number of images that have not been actually captured.
(2) The above is a conceptual illustration of the satellite constellation after its establishment and does not reflect the actual number of uses or usage proportions, nor does it imply actual performance.
(3) The charging time refers to the period during which solar energy is stored for imaging, during which imaging cannot be performed.
(4) In reality, archived data can also be sold at a later date, allowing for further reduction of unutilized capacity.

Importance of Solution ③: Shift from Data to Solution

Synspective

In the defense sector, interpreting SAR data requires expertise and is currently done by government analysts. However, with constellations producing massive amounts of data, there is an increasing demand for automated analysis. Simultaneously, this shift is effective as a hedge against the long-term risk of price erosion in data sales

■ Automated analysis becomes mainstream with the acquisition of massive data

Current situation

Purchasing daily data for a few locations, analyzed manually by experts/analysts.

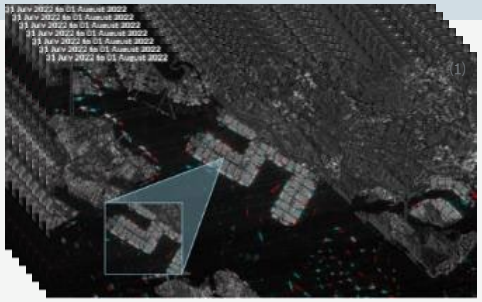
Selling a limited amount of data to experts/analysts



In the future

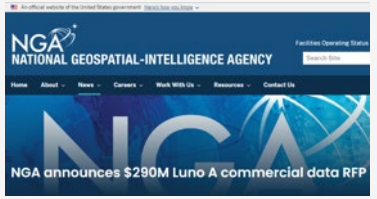
Analyzing multi-location, multi-hour data provided by constellations manually becomes difficult.

Conduct automated analysis of vast amounts of data to assist experts/analysts, and report the high-value-added information obtained.



Movement towards Transitioning to Solution Services

◆ **US: LUNO project**



- ✓ Strengthen the National Geospatial-Intelligence Agency's (NGA) initiatives in machine learning/AI.
- ✓ The focus is on using commercial data to build a system for managing large volumes of data(2)

◆ **Japan: Ministry of Defense AI Utilization Promotion Basic Policy**

防衛省・自衛隊 MINISTRY OF DEFENSE

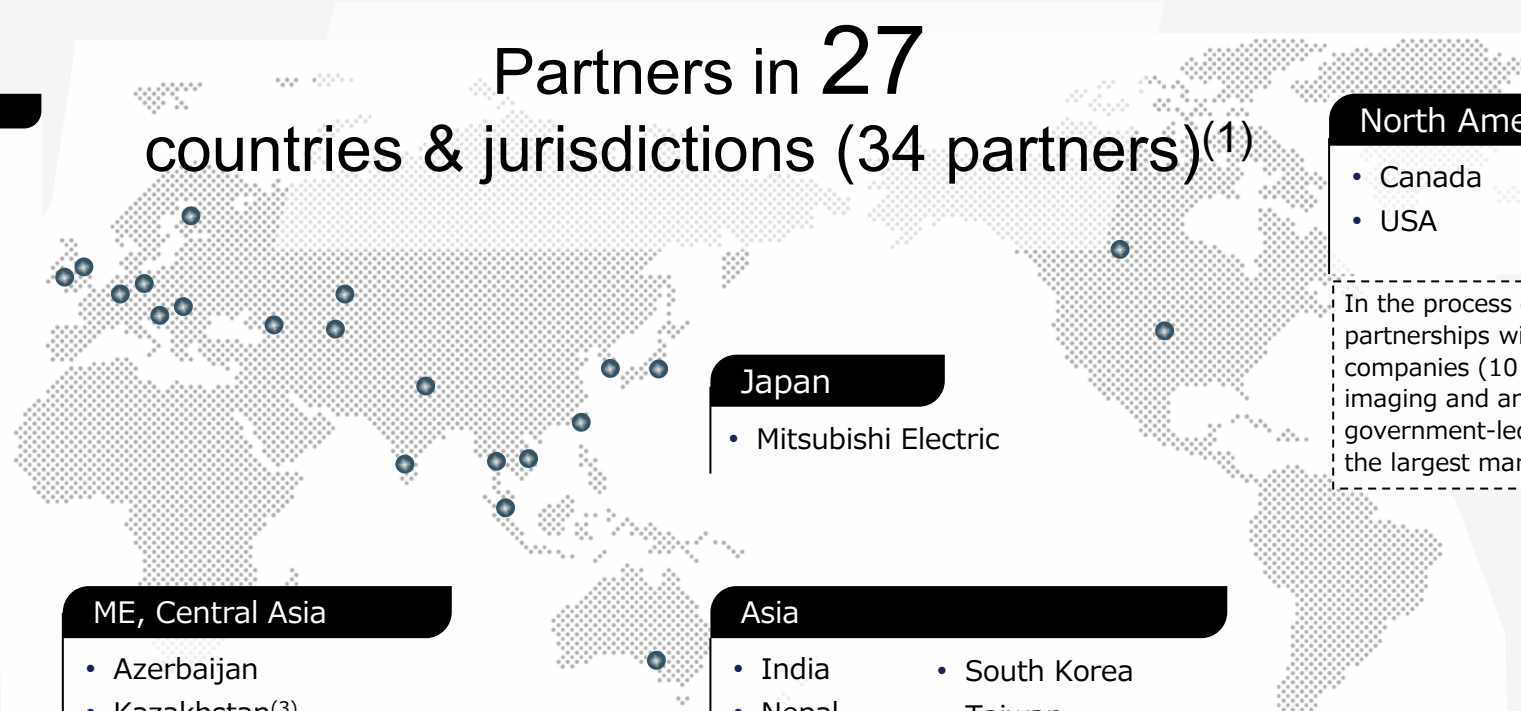
To handle the exponential growth in target information resulting from the increase and enhancement of diverse sensing information like radar tracks, satellite images and aerial images, AI and edge computing with AI will be utilized to improve and expedite the detection and identification tasks that were previously done manually(3)

(1) Extracted from examples on our website, "Synspective's small SAR satellite 'StriX-β' captures vessel movements in Singapore's port." : https://synspective.com/jp/usecase/2022/daily-visit-singapore/
(2) NGA > News https://www.nga.mil/news/NGA_announces_$290M_Luno_A_commercial_data_RFP.html
(3) Regarding the formulation of the Ministry of Defense AI Utilization Promotion Basic Policy https://www.mod.go.jp/j/press/news/2024/07/02a_03.pdf

Track record in overseas business

Beginning with contracts with the Japanese government, we are expanding our business globally in both governmental and private sectors. In 2024, we secured government and private contracts in multiple countries, in collaboration with the Japanese government and partner companies

Partners in 27 countries & jurisdictions (34 partners)(1)



Europe

- Croatia
- Finland
- Germany
- Hungary
- Ireland
- Poland
- U.K.
- Romania
- Turkey

Japan

- Mitsubishi Electric

North America

- Canada
- USA

In the process of establishing partnerships with prominent US companies (10 or more) to provide imaging and analytics services for a government-led project in the US, the largest marker(2)

ME, Central Asia

- Azerbaijan
- Kazakhstan(3)
- Uzbekistan(3)
- UAE

Asia

- India
- Nepal
- Malaysia
- Vietnam(3)
- Thailand
- South Korea
- Taiwan
- Australia
- Mongol
- Philippine
- Indonesia

(1) As of February 2025
(2) This refers to stages including memorandums of understanding (MoU) toward partnership collaborations and those that are still under negotiation.
(3) Regarding Uzbekistan, Kazakhstan and Vietnam, MoUs have been signed with the governments in these countries

Purpose and structure of subsidiaries in USA

Decision to Establish Local Subsidiaries to Expand Business Opportunities in the United States

■ Purpose of establishment

➢ Overview

We have decided to establish two companies in the United States: Synspective USA HD, Inc., a 100% wholly-owned subsidiary serving as a holding company, and Synspective USA, Inc., a 100% wholly-owned subsidiary of Synspective USA HD, Inc., serving as an operating company.

- To drive sales activities in the United States and North America, the world's largest space-related market
- To rapidly develop business operations tailored to local needs.

➢ Market Forecast for North America centered on the United States

According to the "Synthetic Aperture Radar (SAR) Market Report, 2024-2032" by Global Market Insights, the SAR market in North America, driven by the United States, was valued at USD 9,625 million (approximately 1.5 trillion yen) in 2023. It is projected to grow at an annual rate of approximately 10%, reaching USD 19,569 million (approximately 3.1 trillion yen) by 2030.

■ Structure

➢ Profile of Dr. Kumar Navulur, Representative of Synspective USA, Inc.:



Dr. Kumar Navulur has over 30 years of experience in the geospatial industry and holds a Ph.D. in Agricultural and Biological Engineering from Purdue University. He serves on the Board of Directors of the Open Geospatial Consortium (OGC) and is a member of the Private Sector Network (PSN) of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM). Previously, he chaired the DigitalGlobe Foundation for five years, expanding the program to over 500 universities. He holds several patents in remote sensing and GIS, with extensive expertise in research and development, product development, and business development.

Growth strategy leveraging global expansion and solutions

Synspective

Starting with data sales to the Japanese government, primarily in the security sector, we aim to expand the client base to include foreign governments to establish a stable revenue foundation. As the volume of available satellite data increases, we aim to expand revenue through solution sales

Short-term:
Primarily focused on data sales to the Japanese government

Mid-term:
Expand data sales to foreign governments

Long-term:
Expand solution offerings

Revenue composition
for each growth stage

Establish a stable revenue base through government demand and subsidy income

Current 4 units(2)

Strengthen expansion into the international defense market through business partnerships

MITSUBISHI ELECTRIC Changes for the Better

Accelerate high profitability by leveraging surplus data

Analytics Solutions Sales

International data sales

Domestic data sales

Customer expansion
with increased data volume

X >10satellites

< 24 h

Expand internationally in the defense and disaster prevention sectors through increased data volume

X >30satellites

< 1 h

Multiple locations

Deploy analysis technology from the defense and disaster prevention sectors to the private sector

The number of operational units is expected to increase beyond the mid-term

Ministry of Defense	Other ministries and agencies	Foreign defense ministries and agencies	Ministry of Defense	Other foreign ministries and agencies	Other ministries and agencies
			Construction companies	Mining and resource companies	
					Insurance companies
					Electric power companies
					Foreign defense ministries and agencies
					Ministry of Defense
					Construction companies
					Mining and resource companies
					Other foreign ministries and agencies
					Other ministries and agencies

(1)The above illustrates the transition of our medium to long-term revenue composition and is intended as a conceptual image. It does not correspond to the actual size of revenue and does not imply actual performance
(2)As of March 31, 2025

04 Financial results and business plan

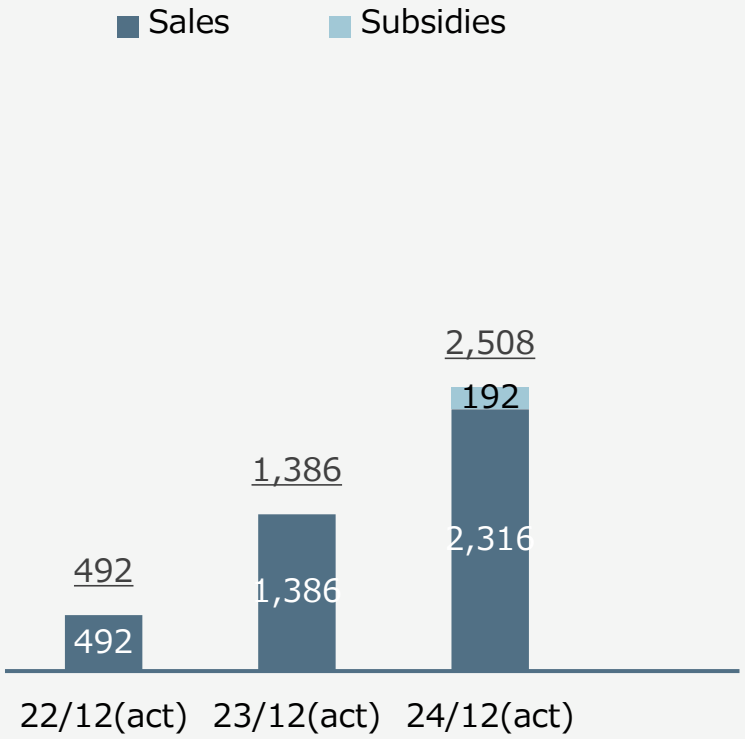
Financial highlights - consolidated

Synspective

Achieved total revenue increase in FY2024, driven by a significant increase in satellite data capacity following the start of launch of the fourth and fifth StriX satellites.

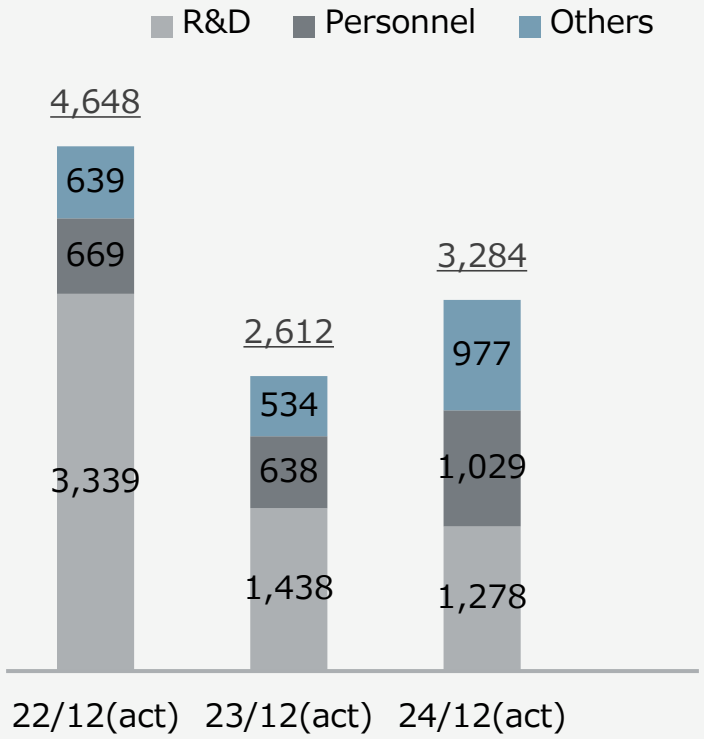
Unit: million yen

Total revenue(1)



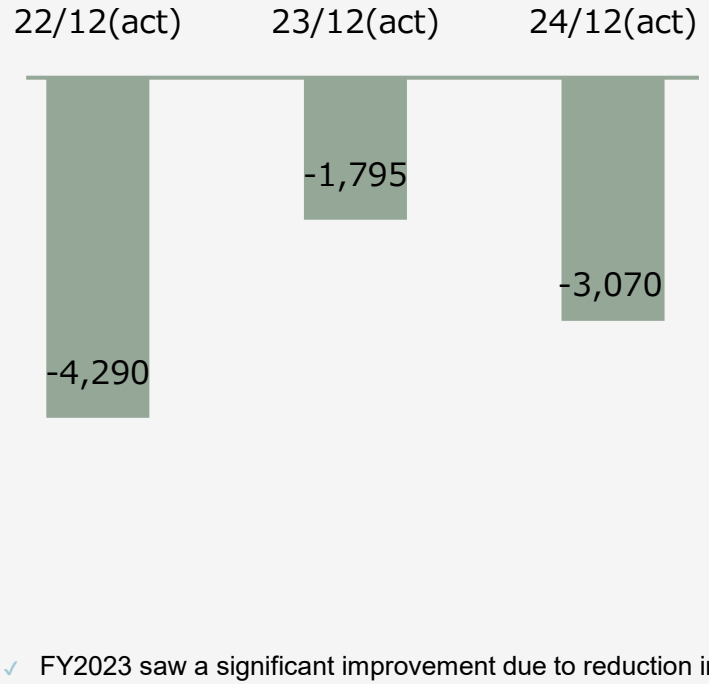
- In FY2023, the third StriX began operations and significantly increased revenue through data sales and solutions under a contract with the Cabinet Office.
- In FY2024, sales increased with beginning operations for the fourth and fifth StriX satellites.

SG&A



- The costs for manufacturing and launching our first three demonstration satellites were recorded as research and development (R&D) expenses. Noted high R&D expenses in FY2022 because two of these satellites were launched.
- From 2023 onward, R&D expenses decreased following the completion of satellite demonstration launches by the end of 2022.

Operating income/(loss)



- FY2023 saw a significant improvement due to reduction in R&D expenses.
- In FY2024, amortization burden increased because of the capitalization of manufacturing and launch costs for the fourth and subsequent units as commercial satellites, with a five-year amortization. In addition, costs associated with establishing a mass production system rose.

(1) Total Revenue: a Non-GAAP measure. This is a financial measure that we believe is useful to investors in evaluating the performance of our group. Total revenues are calculated by adding government subsidy revenues to net sales.

Consolidated P/L

Synspective

Total revenue increased in FY2024, driven by the Cabinet Office's demonstration project, the SAR satellite space demonstration project, and METI’s SBIR subsidy income.
Costs increased due to system enhancements for constellation development

（Unit: million yen）	FY2023 （act）	FY2024 （act）	Changes	Reason for changes
Total Revenue	1,386	2,508	1,122	Sales growth driven by key contracts and 192 million yen in subsidy income from METI’s SBIR program.
Sales	1,386	2,316	930	Contract execution for the Cabinet Office's demonstration project (1.28billion yen) and the SAR satellite space demonstration project (1.05 billion yen).
Cost of Goods Sold	569	2,102	1,532	Increased costs due to depreciation for the 4th and later SAR satellites (+330 million yen), higher direct costs for contracted research (+589 million yen), and rising satellite operation costs. No depreciation burden in FY2023, as manufacturing and launch costs for the first to third SAR satellites were fully expensed as R&D in previous years.
SG&A	2,612	3,284	672	—
Personnel	647	1,029	382	Stock compensation expense of 184 million yen (fourth series of stock acquisition rights, recorded until June 2026) and an increase in personnel.
R&D	1,438	1,278	(160)	—
Others	526	977	450	Increase in outsourcing costs related to manufacturing and sales activities and employee recruitment costs, and business tax from the current period.
Operating income/(loss)	(1,795)	(3,070)	(1,274)	—
Non-operating income	24	195	170	192 million yen in subsidy income from METI's SBIR
Non-operating expenses	180	719	539	Increase in interest expenses and fees (108 million yen) due to higher borrowings, and IPO-related expenses (383 million yen).
Ordinary income/(loss)	(1,951)	(3,594)	(1,643)	—
Extraordinary income/(loss)	446	8	(437)	410 million yen gain from the reversal of provision for loss on contracts in FY2023.
Net loss attributable to owners of the parent	(1,520)	(3,592)	(2,072)	—

Consolidated balance sheet

Capital increase of 15.1 billion yen through third-party allotment and public offering in FY2024. Ongoing capital investments in satellite constellation construction will lead to continued growth in fixed assets.

(million yen)	2023/E (Actual)	2024/E (Actual)	Changes	Reasons for increase/decrease
Assets	11,314	28,195	16,880	
Current assets	5,980	16,253	10,273	—
Cash and cash equivalent	4,468	14,239	9,771	Increased by 5,700 million yen in third-party allotment and 9,450 million yen in IPO, partially offset by an increase in fixed assets of 6,107 million yen
Other current assets	1,511	2,013	501	—
Fixed assets	5,334	11,942	6,607	—
Satellites in operation and in production	4,881	10,988	6,107	Increased mainly due to progress in manufacturing and launch of 4th to 7th StriX
Other fixed assets	453	953	500	—
Liabilities	3,444	8,322	4,878	
Current liabilities	1,505	2,229	723	—
Short-term borrowing	1,091	1,195	104	—
Other current liabilities	414	1,034	620	—
Fixed liabilities	1,938	6,093	4,154	—
Long-term borrowing	1,938	6,093	4,154	Increase due to execution of existing contracts. Unexecuted balance of existing contracts is 1,000 million yen.
Net assets	7,870	19,872	12,002	

Revenue model

Synspective

The data sales price to national defense ministries is set higher due to the granting of privileges and ownership rights. Utilizing data in solutions can enhance both the sales rate and unit price

Revenue model for data sales primarily anticipated from government demand

Revenue from data sales	=	Imaging capacity(1)	×	Data sales ratio(2)	×	Sales price per unit	×	# of satellites
		Approx. 1,200 images / month		Approx. 20-40%		Approx. ¥300-500K per image		Aim for a 30-sat constellation by 2028 or later

- Imagery capacity per third-generation satellite (40 images per day)
- Includes sales to foreign ministries and agencies already projected
- Standard unit price based on past performance

✓ addition to the above, sales of archive data are also possible

✓ Utilizing data in solutions can enhance the sales rate

✓ Future sales to meet expected defense demands in various countries are anticipated to be priced at approximately 2 to 3 times higher.(3)

✓ In solutions, this corresponds to the "analysis unit price(4)." By providing high-value-added information, it is possible to set a higher unit price than the above

✓ Entered into a "Memorandum of Strategic Partnership for Satellite-Related Business" with Mitsubishi Electric Corporation on October 31, 2024. Collaborate with them on data sales to the Ministry of Defense and certain security agencies in Asia and other regions (a sales commission is expected to be incurred as a result of this collaboration)

(1) The maximum number is calculated based on the capacity of currently operational satellites in orbit and includes images that haven't actually been captured.
(2) Calculate using the number of sheets offered for data sales divided by the imaging capacity
(3) In some cases, we may be able to double our target unit price with respect to a portion of specific government demand in the future. However, actual pricing may differ
(4) The analysis unit price is the price for performing analytics on one image

Major KPI in short/medium term

In the short- to medium-term, demand in the domestic defense sector is expected to grow, and sales are expected to increase as the number of satellites increases.
In the medium- to long-term, sales to the domestic defense sector are expected to increase gradually, and the ratio of overseas data sales and solution provision is expected to increase.

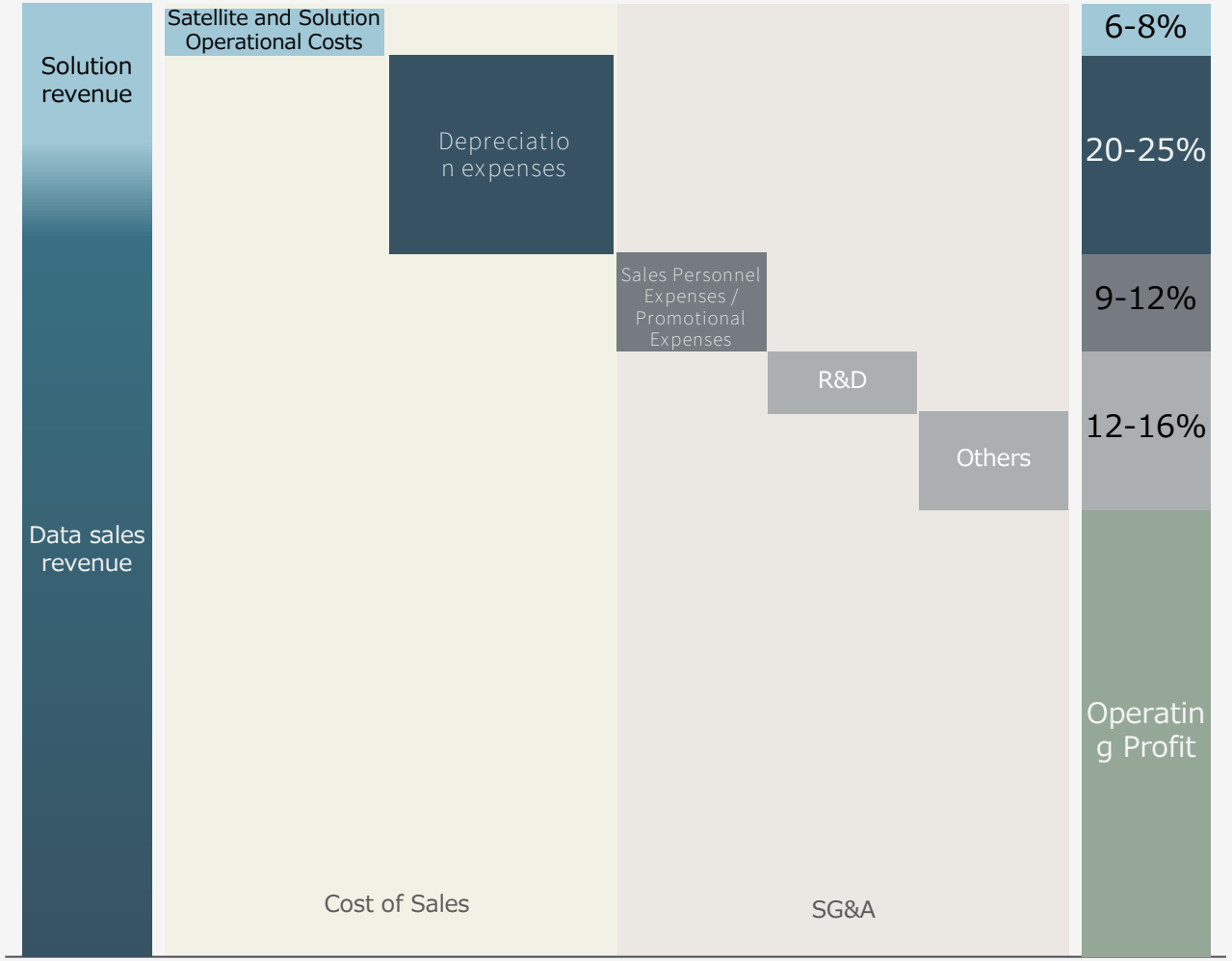
Items	Current (actual)	Short-term(1)	Medium-term(1)
# of sat in operation	4(2)	Around 11	Over 30
timing(3)	—	Around 2026	On/after 2028
# of images can be taken per month (4)	900 scenes	11,700 scenes	36,000 scenes～
Data sales ratio(5)	30.7%	Approx. 20～40%	30%～
Assumed sales unit price	Approx. 300～500 K JPYen(6)	Approx. 300～500 K JPYen(6)	—(7)
Clients	**Current (actual)**	**Short-term(1)**	**Medium-term(1)**
Domestic Defense Sector	65.1%	80%	60%
Others	34.9%	20%	40%

(1) In the short term, data sales will primarily be to the Japanese government. In the medium term, in addition to sales to the Japanese government, we plan to expand data sales to overseas governments and gradually develop solutions.
(2) As of February 2025, we are operating four satellites in orbit.
(3) The timeline may vary due to delays in manufacturing and launch, as well as changes in planning.
(4) The number of images that can be captured is the maximum calculated from the capacity of the satellites currently in operation orbit. In reality, there may be times when images are not captured. Currently (actual figures), satellite No. 6 is excluded from the count of the maximum number of images that can be captured because it is immediately after launch and before regular data sales have started. In the short term, the maximum number of images that can be captured is calculated by multiplying the capacity of the second and third generation satellites by 11. In the medium term, the calculation is based on multiplying the capacity of the third generation satellites by 30.
(5) The data sales rate is calculated by dividing the number of data provided by the number of images that can be captured. Data usage for solutions is excluded, and we plan to increase this ratio by acquiring diverse needs through solutions.
(6) Currently (actual figures), the range of actual sales prices is provided, and it is expected to remain at the same level in the short term. Furthermore, future sales at specific specs for certain government demands are expected to be at sales prices approximately two to three times higher.
(7) In the medium to long term, sales prices for data excluding the defense sector are expected to decline. However, by adding value through solutions, it is assumed that overall maintenance or increase of sales prices is possible.
(8) Currently (actual figures), the results for 24/12 are provided.

Long-term Cost Structure Image(1)

Synspective

Key costs include satellite manufacturing expenses, operational costs and research and development expenses In the long term, our goal is to achieve high margins by reducing the proportion of fixed costs relative to revenue.



<Key Assumptions>

Satellite and Solution Operational Costs

- Composed of ground station usage fees, data storage costs, operational personnel expenses, etc.
- We anticipate reductions relative to revenue through increased automation from ongoing R&D and stable operations from accumulated know-how.

Satellite Manufacturing Costs (Satellite Depreciation Expenses)

- The manufacturing cost per satellite is approximately 1.1 to 1.4 billion yen, depreciated over five years.
- We anticipate potential cost reductions through shorter manufacturing periods due to learning effects, reduced fixed costs per unit from mass production and increased purchasing and negotiating power with suppliers.

Satellite Launch Costs (Satellite Depreciation Expenses)

- The cost per launch with our dedicated vehicle is approximately 1.1 billion yen, depreciated over five years.
- Shared launches with other satellites are about 300 million yen, and costs can be reduced by increasing this shared use. We also anticipate future cost reductions for dedicated launches due to intensified competition among providers.

Sales Personnel Expenses / Promotional Expenses

- By internalizing the sales team, costs are incurred as fixed expenses, and the increase in personnel required for expanding sales is expected to be limited.
- We anticipate incurring certain sales commissions through partnerships with sales partners

R&D

- We plan to continuously invest approximately 600 to 700 million yen per year in next-generation satellite R&D and about 500 million yen per year in solution R&D.

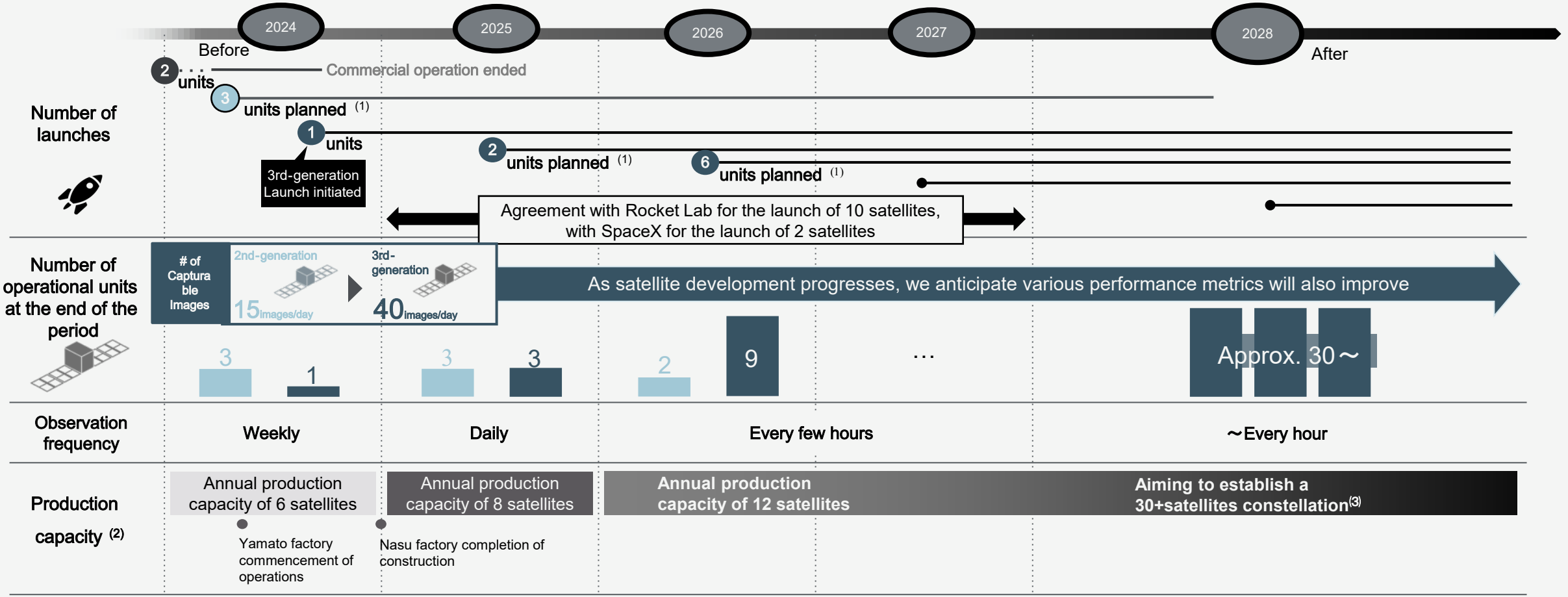
(1) The above illustrates the long-term profit structure once our services are stably supplied. It is an image diagram and does not match actual revenue, costs, or operating profit sizes, nor does it imply actual performance.

(2) The forward-looking statements on this page may be significantly affected by business, economic, regulatory, and competitive uncertainties and contingencies beyond our control. These statements are based on certain assumptions about our future strategies and policies, which may change. Actual future figures may vary from targets depending on various factors, and the differences may be significant. The contents of this document do not indicate that these targets will be achieved, nor do we have any obligation to update these targets as circumstances change.

Satellite manufacturing and launch plan

Synspective

With steady improvements in satellite performance and expanded manufacturing capabilities, we aim to establish a constellation of over 30 satellites to enhance observation frequency and ultimately achieve high profitability.



(1)The actual number of satellites manufactured may fluctuate based on customer demand and business conditions. Additionally, even after increasing manufacturing capacity, a certain amount of time is required for production, so the number of satellites launched will not immediately match the production capacity. Actual number and timing of launches will depend on launch provider capacity, weather and other factors. The number of images captured by one third-generation satellite launched in 2024 is 15 images per day, and the number of images captured by third-generation satellites launched from 2025 onwards will be 40 images per day.
(2)This refers to the capacity to procure parts and materials and to begin manufacturing a specified number of units. It takes approximately two years from the start of manufacturing to completion.
(3)The forward-looking statements on this page may be significantly affected by business, economic, regulatory and competitive uncertainties and contingencies beyond our control. These statements are based on certain assumptions about our future strategies and policies, which may change. Actual future figures may vary from targets depending on various factors, and the differences may be significant. The contents of this document do not indicate that these targets will be achieved, nor do we have any obligation to update these targets as circumstances change.

Major contracts/projects with domestic ministries and agencies and their recording periods

Synspective

We have been building up a track record of contracts primarily with the domestic government
A profit is expected to be achieved with an operational fleet of around 10 aircraft, after which there are plans to expand data sales to foreign governments as the number of aircraft increases

■ Major contracts up to the Expansion Stage and their anticipated P/L recording periods

Expected recording period based on contract details and other factors

Recording period estimated by our company based on public information

Contract/Project Name		Accounting category	2023	2024	2025	2026	2027	2028	2029	2030
Contracts/Approved Projects	1.Research and Study of Small SAR(1)	Revenue	¥450mn							
	2. FY2023 Cabinet Office Demonstration(2)	Revenue	¥1.2bn		▷ Order backlog：Total ¥5.36bn(8) plus Space Strategy Fund					
	3.Space Demonstration of SAR Satellite (3)	Revenue		¥1.1bn(7)						
	4. FY2024 Cabinet Office Demonstration(2)	Revenue		¥1.3bn(7)						
	5. METI SBIR(4)	Subsidy income			¥4.1bn(7)					
	6. Space Strategy Fund Phase 1 (5)	Subsidy income			Granted ¥16.5bn toward March 31, 2027(8), Total amount is undisclosed (4 companies have adopted a total of 95 billion yen)					
	7. FY2025 Cabinet Office Demonstration(2)	Revenue			¥1.1bn(8)					
Projects expected to be acquired in the future	8. . FY2026 Cabinet Office Demonstration(2)	Revenue				¥?bn				
	9. Ministry of Defense Satellite Constellation(6)	Revenue				portion of ¥283bn(9)				
	10. Space Strategy Fund Phase 2 ~	Subsidy income/Revenue					portion of approximately ¥700bn			
Number of operational units at the end of the period			2 units	4 units	6 units	11 units	>30 units			

(1) Research and study on enhancing the functions of small SAR satellites (Ministry of Defense)
(2) Demonstration for expanding the use of small SAR satellite constellations (Cabinet Office)
(3) Space demonstration of SAR satellites suitable for security purposes (Ministry of Defense)
(4) Small and Medium Enterprise Innovation Promotion Project (METI)
(5) Space Strategy Fund / Acceleration of Commercial Satellite Constellation Development (METI)

(6) Construction of a satellite constellation from the end of FY2025 to acquire detection and tracking capabilities necessary for stand-off defense capabilities (Ministry of Defense). For details, see P28
(7) The order backlog (of the contract amount, as of December 31, 2024, the amount that is expected to be recorded in the future is) amounts to 390 million yen for 3, 650 million yen for 4, and 3.91 billion yen for 5
(8) As of December 31, 2024, not include the amount of Space Strategy Fund
(9) Announced on December 27, 2024

Series C and IPO financing

Raised a total of 15.1 billion yen through a 5.7 billion yen third-party allotment in the Series C round prior to the IPO and a 9.4 billion yen public offering in the IPO

■ Purpose of IPO

- Financing for building a satellite constellation

Since the business requires a large amount of capital investment in satellites, it is important to secure up-front financing for building a satellite constellation

- Ensuring management transparency in the satellite data business, which handles sensitive information

In the future, it is expected that transactions with government agencies in Japan and around the world will increase, and it will be important to demonstrate to the outside world that we have a governance system and highly transparent management as a public company

■ Use of funds by IPO including third-party allotment (over allotment) as of January 17, 2025

Unit: million yen

Use of Funds(1)	FY2025	FY2026	FY2027	Total
Capital investment	5,737.0	3,087.2	289.9	9,114.1
Working capital	595.4	325.1	453.3	1,373.8
Total	6,332.4	3,412.3	743.2	10,487.9

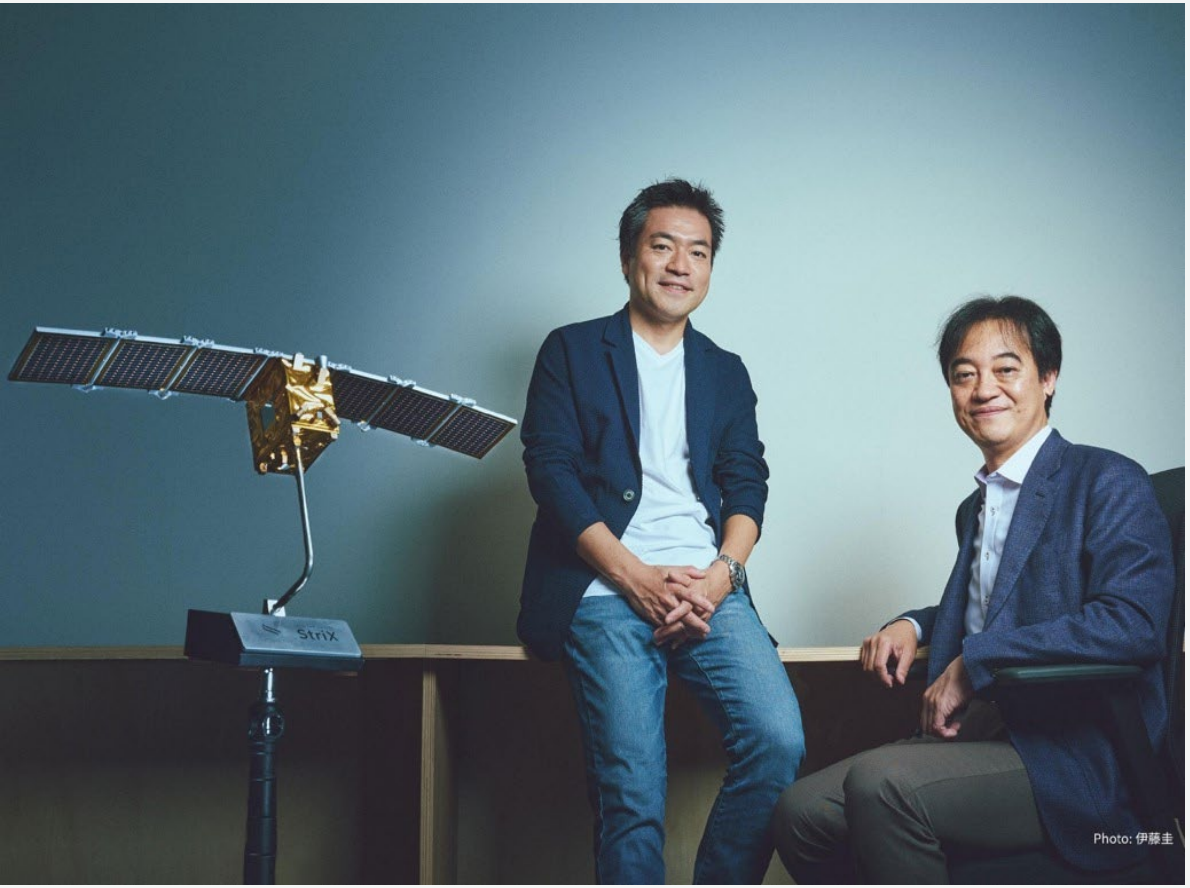
- Capital investment：plan to allocate to satellite development and manufacturing and related capital investment, etc.
- Working capital：plan to cover personnel costs, training and recruitment costs, research and development costs, outsourcing costs, system usage fees associated with business development, etc.

(1) The amount of use for funds is the one obtained by deducting the estimated amount of issuance costs from the total amount paid.

05 Team introduction

Introducing the Founders

Founder profiles



Motoyuki Arai　　Seiko Shirasaka

Founder & CEO

Motoyuki Arai

Motoyuki Arai founded Synspective in February 2018. As the CEO, he leads Synspective's mission, overall strategy and operations.
He began his career working at the Tokyo office of a U.S.-based consulting firm for five years. He helped more than 15 global companies design new business and technology strategies to improve corporate governance and internal controls.
He received his PhD in Technology Management for Innovation from the University of Tokyo. His research focused on the construction of energy systems to promote economic growth in developing countries. He then implemented his knowledge of business development to lead projects in areas such as energy, water and sanitation, agriculture, and recycling in Saudi Arabia, Bangladesh, Laos, Cambodia, Kenya, Tanzania and disaster-stricken areas in Japan.

Founder & Advisor

Seiko Shirasaka

Dr. Seiko Shirasaka earned a Master's Degree in Astronautics from University of Tokyo and a Doctoral Degree in Systems Engineering from Keio university.

He worked for Mitsubishi Electric Corporation as a space systems engineer for 15 years. One of the projects he worked on was the HTV, H-II Transfer Vehicle, from the ground up to the international space station. His final position in the HTV project was a technical lead at Mitsubishi Electric Corporation.

He has been an Associate Professor at Graduate School of System Design and Management at Keio University since 2008, and a Professor since 2017. His main research topics are Innovative Thinking Methodology and System Development Methodology, especially systems architecture.

From December 2015 through March 2019, he was a program manager at ImPACT (Impulsing Paradigm Change through Disruptive Technologies Program) led by the Cabinet Office of Japan, and developed a Small Synthetic Aperture Radar (SAR) Satellite System for On-Demand Observation.

Introducing the Management

A globally competitive leadership team comprising specialists in multiple fields with abundant experience in overseas business

Satellite Development / Space Industry



Toshihiro Obata
Board Director Head of the Technology Strategy Office

Toshihiro joined Synspective in April 2019 as a member of the Board of Directors and the General Manager of Satellite System Development. Toshihiro oversees the development, manufacturing, and operations of Synspective's small SAR satellites. Currently as the Head of the Technology Strategy Office, he drives efforts to formulate the company's technology roadmap, form strategic partnerships, and conduct relevant research.
Prior to joining Synspective, Toshihiro worked at Mitsubishi Electric Corporation for more than 19 years, first leading the team working on attitude control subsystems for Earth observation satellites, then as the manager of systems engineering for Earth observation satellites. Toshihiro also worked for TerraSAR-X in Astrium (now Airbus DS) in Friedrichshafen, Germany as an exchange engineer in 2004. Toshihiro holds an MS in Engineering from the University of Tokyo. In 2016, he joined the University of Tokyo to work on the system design of small SAR satellites, which has since become the basis for Synspective's demonstration satellites.

Finance



Atsushi Shito
Board Director General Manager of Corporate Administration Dept.

Atsushi joined Synspective in July 2018 as the General Manager of Corporate Administration. He manages accounting, finance, auditing, investor relations, and legal strategy and operation. He became a member of the Board of Directors in April 2021.
Prior to joining Synspective, Atsushi worked for a number of audit corporations where he performed financial audits and provided support to achieve IPOs, J-SOX compliance, and financial due diligence. In addition, Atsushi was the co-founder and CFO of a startup where he raised more than ¥1.2 billion yen from venture capital firms, operational companies, and government organizations. He is a Certified Public Accountant.

APAC Space Development



Lynette Tan
Board Director of Synspective SG Pte. Ltd.

As Space Faculty's CEO, Lynette promotes Asia’s space ecosystem and cultivates talent, R&D, and the industry roadmap for the region's space sector. The organization nurtures aspiring space professionals and enhances existing professionals' knowledge. Lynette also assists non-space businesses to utilize space tech's innovative potential and helps regional governments grow their space industries.

A Karman Fellow and Myelin-H advisor, Lynette actively encourages STEM interest among young people and women. Accolades for her work include the 2018 Lancôme Visionary Award, recognition for contributions to the Science & Technology Industry by a top women’s publication, and a position on the inaugural “Singapore 100 Women in Tech List” in 2020.

Satellite Systems Development



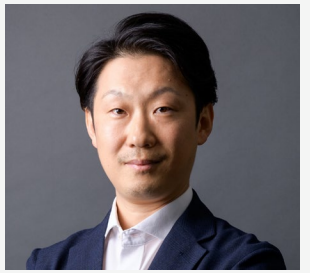
Stefan Chelariu
Executive Officer
General Manager of Satellite System Development No. 1 Dept.
Tranzas / Radian Technology SRL

Manufacturing Technology



Hajime Morioka
Executive Officer
General Manager of Satellite System Development No. 2 Dept.
Sony

Data Science



Tomoyuki Imaizumi
Executive Officer
General Manager of Data Production Dept.
PASCO

Geospatial Business Growth



Takayuki Odawara
Executive Officer
General Manager of Business Dept.
Maxer Technologies / NAVETEQ

AI Solution Development



Keizo Fujiwara
Executive Officer
General Manager of Solution Development Dept.
Microsoft

Global Sales



Vincent Kessler
Executive Officer
General Manager of Synspective SG Pte. Ltd.
Planet

06 Risk Information

Major risks

(1) Risk of Satellite Launch Failure

- Likelihood: Low
- Potential Timing: No specific timing
- Impact: Medium

Our group develops and manufactures satellites internally and uses satellite launch services provided by external rocket operators. Although the success rate of satellite launches has improved in recent years, there remains a certain risk of failure. To mitigate financial losses from launch failures, our group subscribes to launch risk insurance for satellites (hereafter referred to as "rocket insurance"). The insurance covers events starting from rocket ignition until the separation of the launch rocket from the satellite and does not cover communication issues occurring after separation. While rocket insurance provides financial compensation for a complete launch failure up to the separation of the launch rocket and our satellites, an inability to collect planned SAR satellite data may impact our group's business and performance.

(2) Risks Related to Satellite Operation

- Likelihood: Medium
- Potential Timing: within a few year
- Impact: Medium

Our group's small SAR satellites have a relatively long operational lifespan of around five years. However, there is a risk of malfunction or decreased operational capacity due to manufacturing defects, collisions with debris (remnants of non-functional satellites or rocket fragments) or meteors, satellite control, or operational issues. To address these risks, we aim to reduce reliance on individual satellites by regularly launching multiple units for continuous SAR satellite data acquisition. Currently, our group plans to launch multiple satellites annually to minimize business impact in the event of satellite malfunction. Such incidents could result in business and performance impacts due to revenue loss stemming from customer attrition caused by the inability to maintain imaging capabilities.

(3) Intellectual Property Rights

- Likelihood: Low
- Potential Timing: No specific timing
- Impact: High

Our group routinely conducts patent investigations of competitors, and no infringement on others' patents requiring resolution has been identified. We strive to secure the rights to inventions created by our group to protect our unique technologies and prevent other companies from using them. The management of intellectual property rights, particularly avoiding infringement on third-party intellectual property, is crucial for business activities. We mitigate this risk through enhanced patent publication investigations. However, should intellectual property issues such as invalidation, imitation, or infringement arise with third parties, there could be an impact on our group's performance.

In this document, the slide titled "Risk of Launch Failure" has been removed from the "Business Plan and Success Likelihood" section dated December 19, 2024. This decision was made because the failure risks for the two companies mentioned have converged within a certain range, meaning that the likelihood of significant changes in risk levels is limited. Additionally, this risk is encompassed within section (1) "Risk of Satellite Launch Failure" on this page. Furthermore, as the construction of the constellation accelerates, the impact of this risk is expected to diminish, leading to its removal from the document.

Major risks - regulations

(1) Compliance with Laws Related to Satellites

- Likelihood: Low
- Potential Timing: No specific timing
- Impact: High

We are regulated under laws related to satellite launches and operation, including the Space Activities Act, the Radio Law, and the Remote Sensing Data Act. Our group has structured an internal management system to comply with these laws and related government ordinances. However, as international and national legal frameworks are still under development, changes in regulations could result in administrative sanctions or business obstacles due to stricter regulations affecting future operations and business results. Below are outlines of important laws:

i. Space Activities Act

To control the position, attitude, and condition of satellites from within Japan, prior permission from the Prime Minister is required by applying to the Cabinet Office's Space Development Strategy Promotion Office. A satellite management permit is needed for each satellite. Permits require compliance with the basic principles of the Space Activities Act, measures to prevent equipment or part dispersion, and actions to prevent harmful space contamination.

ii. Radio Law

Operating satellites involves using radio stations (ground stations), which requires a license application and permission from the Ministry of Internal Affairs and Communications. The Radio Law includes foreign capital restrictions, which pose a risk of license suspension post-listing when foreign control cannot be managed. Our wholly-owned subsidiary, Synspective Japan, holds the necessary licenses. Successful license applications require prior interference coordination and agreement with existing license holders, and registered ground stations must be inspected.

iii. Remote Sensing Data Act

When satellite remote sensing equipment exceeds Cabinet Office-defined raw data resolution standards (e.g., less than 3m for SAR sensors), prior permission is required from the Prime Minister. Permissions necessitate measures against unauthorized access, data leakage, and damage. After obtaining permission, obligations like data encryption and restricted equipment usage ensure ongoing compliance.

Appendix

Business domain

Synspective

Synspective is expanding its business in the growing field of constructing and operating SAR (Synthetic Aperture Radar) satellite constellations and utilizing satellite data

What is a Satellite Constellation?

A satellite Constellation is a system that operates multiple satellites in coordination. By placing them in orbits so that their communication ranges do not overlap, it enables high-frequency imaging of the entire world.
'Constellation' means 'star constellation'.

Major types of satellites and their roles

Observation Satellite

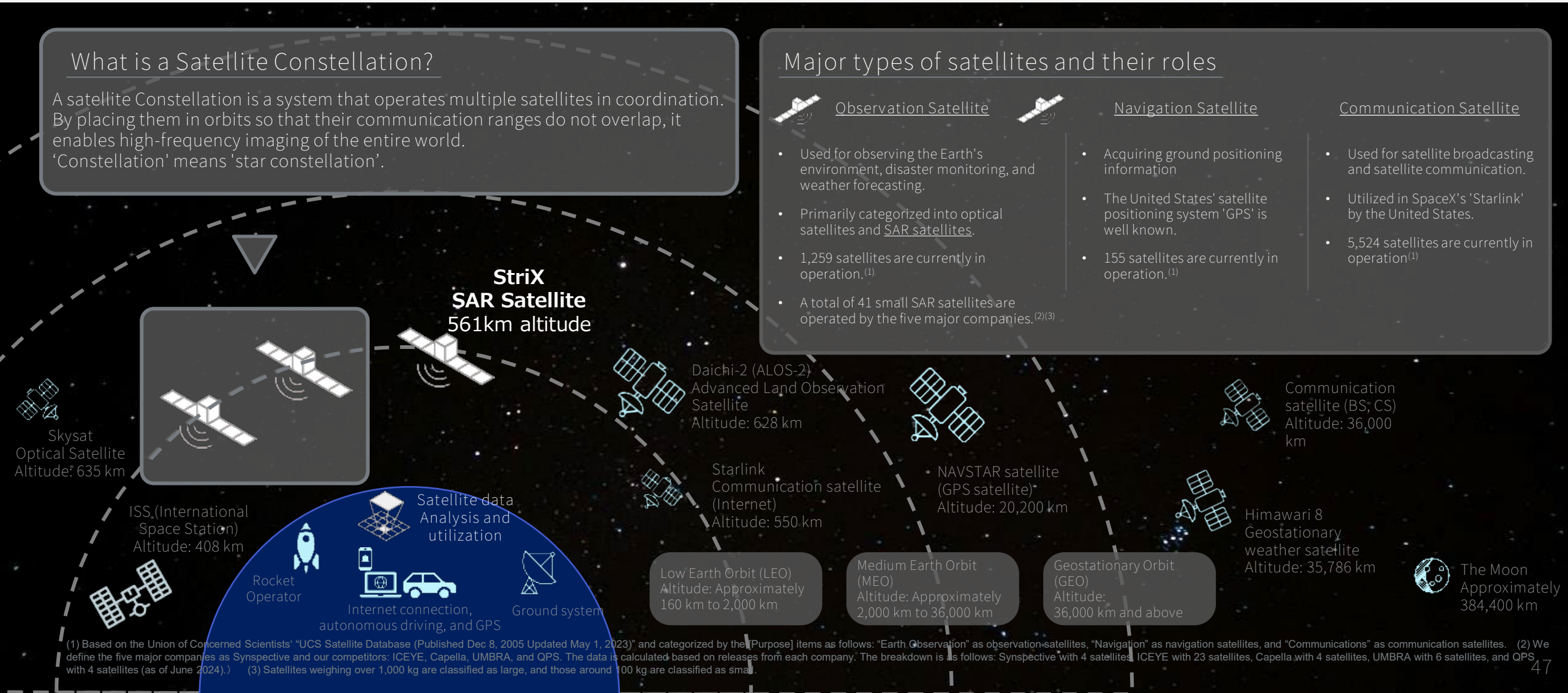
- Used for observing the Earth's environment, disaster monitoring, and weather forecasting.
- Primarily categorized into optical satellites and SAR satellites.
- 1,259 satellites are currently in operation.(1)
- A total of 41 small SAR satellites are operated by the five major companies.(2)(3)

Navigation Satellite

- Acquiring ground positioning information
- The United States' satellite positioning system 'GPS' is well known.
- 155 satellites are currently in operation.(1)

Communication Satellite

- Used for satellite broadcasting and satellite communication.
- Utilized in SpaceX's 'Starlink' by the United States.
- 5,524 satellites are currently in operation(1)



(1) Based on the Union of Concerned Scientists' "UCS Satellite Database (Published Dec 8, 2005 Updated May 1, 2023)" and categorized by the [Purpose] items as follows: "Earth Observation" as observation satellites, "Navigation" as navigation satellites, and "Communications" as communication satellites. (2) We define the five major companies as Synspective and our competitors: ICEYE, Capella, UMBRA, and QPS. The data is calculated based on releases from each company. The breakdown is as follows: Synspective with 4 satellites, ICEYE with 23 satellites, Capella with 4 satellites, UMBRA with 6 satellites, and QPS with 4 satellites (as of June 2024).) (3) Satellites weighing over 1,000 kg are classified as large, and those around 100 kg are classified as small.

JICA: Information Gathering and Confirmation Study on Development Cooperation in the Corona Disaster, Central America and Caribbean Region

The project aims to build a smart disaster management system by providing Synspective's LDM(1) service for disaster prevention projects against ground motion hazards including earthquakes, landslides, land subsidence, and volcanic activities in Guatemala.

Issue/Background: Subsidence in soft ground

Transient satellite-based monitoring of subsidence phenomena in soft ground





Implementation: Wide-area observation using LDM

Wide-area land subsidence monitoring using LDM analysis with Sentinel-1 satellite



Successfully detected 3 areas of concern not recognized by local staffs

Expected effect: Preventive maintenance ground monitoring

Sharing technical knowledge through interviews, questionnaires, and field surveys





■ Challenges in project implementation, implementation methods, and results achieved

The counterpart agency had no knowledge of SAR and started by forming an image of how satellite imagery could be used. As a result, detailed analysis was conducted on sites that showed characteristic trends of change, and three sites were identified as new sinkhole risk sites that had not been identified using the conventional survey method. The time from analysis to provision of data was also shortened from the conventional method through automated analysis.

(1) LDM stands for Land Displacement Monitoring, a ground displacement monitoring solution offered by MAPEC. This service is a solution service that analyzes ground displacement over a wide area and provides the results (see p. 23).

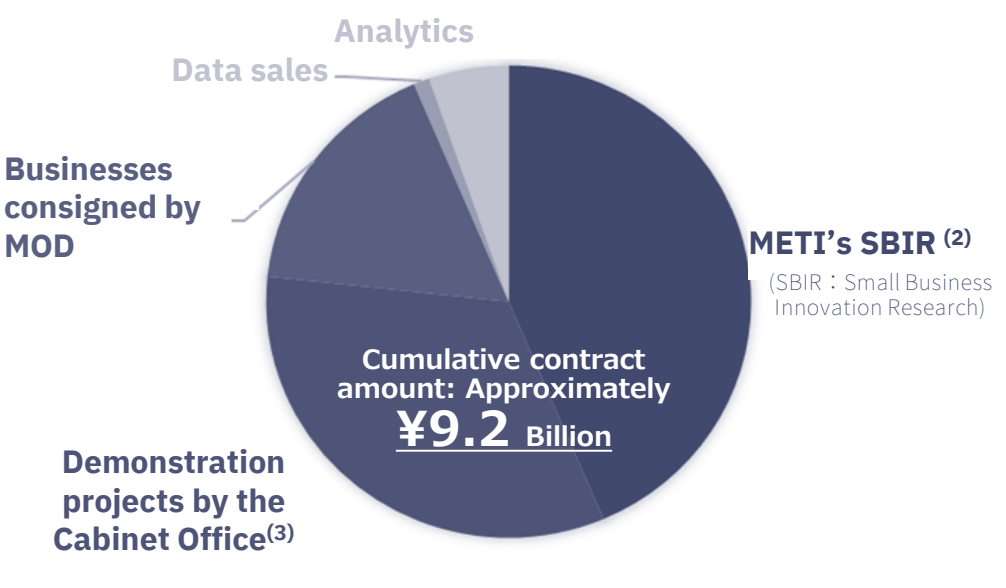
Track record in public sector business

There appears to be large demand beyond the demonstration projects conducted under the Japanese Cabinet Office's Stardust Program, and we aim to continue to acquire new projects going forward

■ Track record in public sector business

Cumulative contract amount: c. ¥9.2bn (1)

We acquired 40+ projects (incl. ongoing projects) for data delivery and analytics services, other than large-scale public bidding projects such as METI's SBIR and experimental businesses by the Cabinet Office



■ List of Major Publicly Announced Government Projects

Name of projects	Offices	Amount(1)
FY 2022 Demonstration for Expanding the Use of Small SAR Satellite Constellations	Cabinet Office	¥0.65bn
Research and study on improving the functions of small SAR satellites	Acquisition, Technology & Logistics Agency (ATLA)	¥0.45bn
FY 2023 Demonstration for Expanding the Use of Small SAR Satellite Constellations	Cabinet Office	¥1.18bn
SME Innovation Promotion Program (METI SBIR)	Ministry of Economy, Trade and Industry (METI)	¥4.1bn
FY 2024 Demonstration for Expanding the Use of Small SAR Satellite Constellations	Cabinet Office	¥1.28bn
Space demonstration of SAR satellites suitable for security applications	Ministry of Defense	¥1.05bn

- Agencies are planning to expand satellite data use

  Relevant government ministries and agencies will take the lead in promoting the use of satellite data in their respective operations and work to expand its use.(4)

- The Stardust Program

  A framework established in 2021 to oversee the entirety of space policy, identify strategic projects and promote technological development with the collaboration of relevant ministries and the participation of various players from within the industry and academia.(5)

(1) Cumulative since 2018 (as of June 2024), includes contracts for which revenue has already been partially of fully recognized.
(2) Development of daily InSAR service technology using small SAR satellite constellations. InSAR stands for Interferometric SAR, which is a specific processing technique unique to SAR data that detects land displacement with high precision.
(3) Demonstration for the expansion of utilization of small SAR satellite constellations.
(4) Source: '3rd Ministerial Meeting on Satellite Remote Sensing Data Utilization Task Force Agenda' https://www8.cao.go.jp/space/taskforce/rs/dai3/gijisidai.html
(5) Source: Cabinet Office 'Basic Policy on the Space Development and Utilization Acceleration Program' https://www8.cao.go.jp/space/comittee/dai92/siryou3.pdf

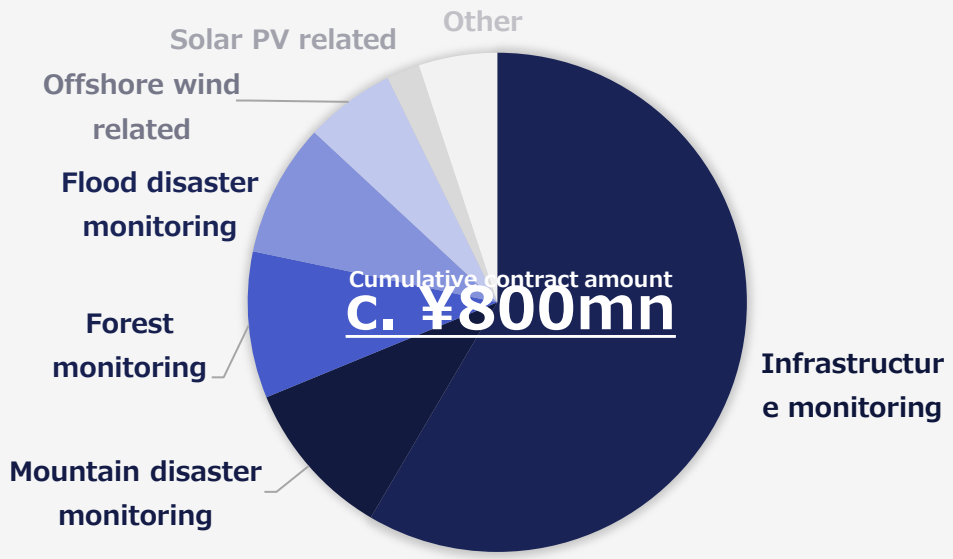
Track record in private sector business

We have built a track record in the private sector business centering on analytics solutions services and have sufficient potential projects (pipelines)

- Track record in private sector business

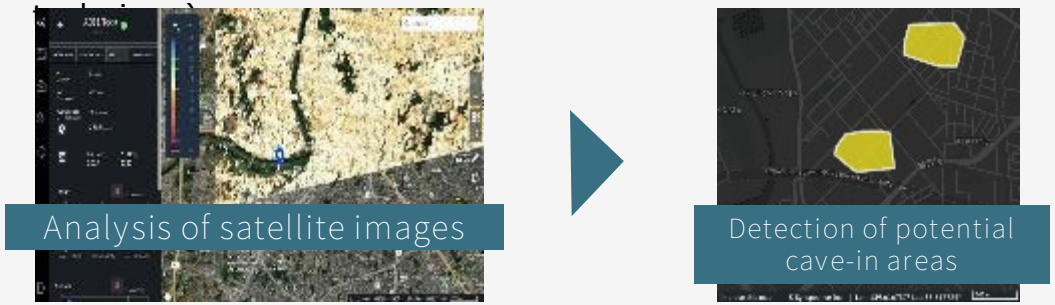
Cumulative contract amount: c. ¥800mn(1)

We achieved 100+ projects to provide analytics solutions, focusing on our core businesses of infrastructure monitoring and disaster monitoring



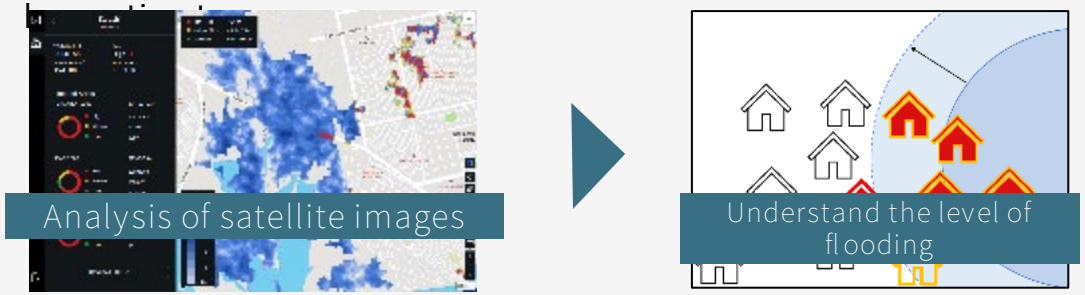
Case 1: Detection of potential cave-ins during underground tunnel construction (domestic general contractor A)

We utilized machine learning to analyze data obtained from satellite images taken at different times to automatically identify areas with a high risk of cave-in (our patented



Case 2: Monitoring of flood damage caused by heavy rain (domestic non-life insurance company B)

We performed comparison analysis of images before and after flooding to estimate flooded areas and the level of flooding measured



(1) Cumulative since 2018 (as of June 2024), includes contracts for which revenue has already been partially of fully recognized.

Expansion of the Production Framework and Improvement of Quality

Synspective

Establish a system for large-scale in-house production by constructing a new factory(1)
Maximize quality improvement during production, as post-launch repair is nearly impossible

■ Commitment to realizing stable production at a new factory and quality control

Establishment of an efficient large-scale production framework

Establishment of a large-scale production framework through construction of the Yamato factory

Construction of a mass production factory to achieve stable production by improving production capacity

2. Strategic location of the new factory

Location of the new factory was chosen for ease of securing manufacturing staff and convenient delivery of components and material and access to inspection sites

3. A large facility set up on a single floor

A single-floor factory for efficient production flows and streamlined internal logistics

4. Improvement of production equipment, tools and reconfiguration of manufacturing layout

Improvement of manufacturing tools and factory layout to improve the quality of wo and reduce the burden on staff

Enhancement of the quality control system

Emphasis on quality control

Quantify the quality control process through multiple measurements during the manufacturing process

2. Use of quality-related data

Streamline changes in designs and reviews of manufacturing processes by using quality-related data obtained during manufacturing









(1) The facility was opened in July 2024, but full-scale production has not yet been achieved

Mid- to long-term workforce planning

In the short- to medium-term, we expect to increase the number of satellite manufacturing personnel to accommodate mass production of satellites.

	December 31, 2024	In Short-term(1)	In medium-ter(1)
Total (personnel)	192	280	—(2)
Sat development	19%	16%	15%
Sat manufacturing	18%	27%	27%
Sat operation & solution	31%	22%	23%
Business development, sales and administration	32%	35%	35%

(1) In the short term, data sales to the Japanese government will be the main focus. In the medium term, in addition to data sales to the Japanese government, we will expand data sales to overseas governments and gradually increase the number of solutions.
(2) In the medium term, we expect to increase the number of employees by 20-30% compared to the short term.

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- Forward-looking statements in this material are based on current beliefs, assumptions, and information available to us. These statements, which may include projections about business plans, market size, competitive conditions, industry insights, and growth potential, are subject to various risks and uncertainties. Actual results may differ materially from those expressed or implied.

- This material includes information about other companies, competitive environments, industry trends, and changes in social structures. We have not independently verified the accuracy or appropriateness of this information and do not make any guarantees regarding it.

- Updates to this document will be disclosed around March of each fiscal year following the end of the fiscal year.

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Synspective

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