



# FY2025 First Half Business Update Presentation

**Astroscale Holdings Inc.**  
**(Ticker: 186A)**

August 19, 2024



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# Today's Speakers



**Nobu Okada**  
Founder & CEO

Nobu is a globally recognized leader in the start-up space ecosystem. He has a history of entrepreneurship and a visionary philosophy that has driven the advancement of the on-orbit servicing industry.



**Chris Blackerby**  
COO

Chris brings two decades of experience in the space sector. He has built teams, forged international partnerships and implemented strategic visions in the public and private sector.



**Nobu Matsuyama**  
CFO

Matsu comes with a wealth of experience in financial strategy, capital markets and risk management. He has advised numerous global companies on strategic capital raises and M&A, and led investments into multiple startup companies.



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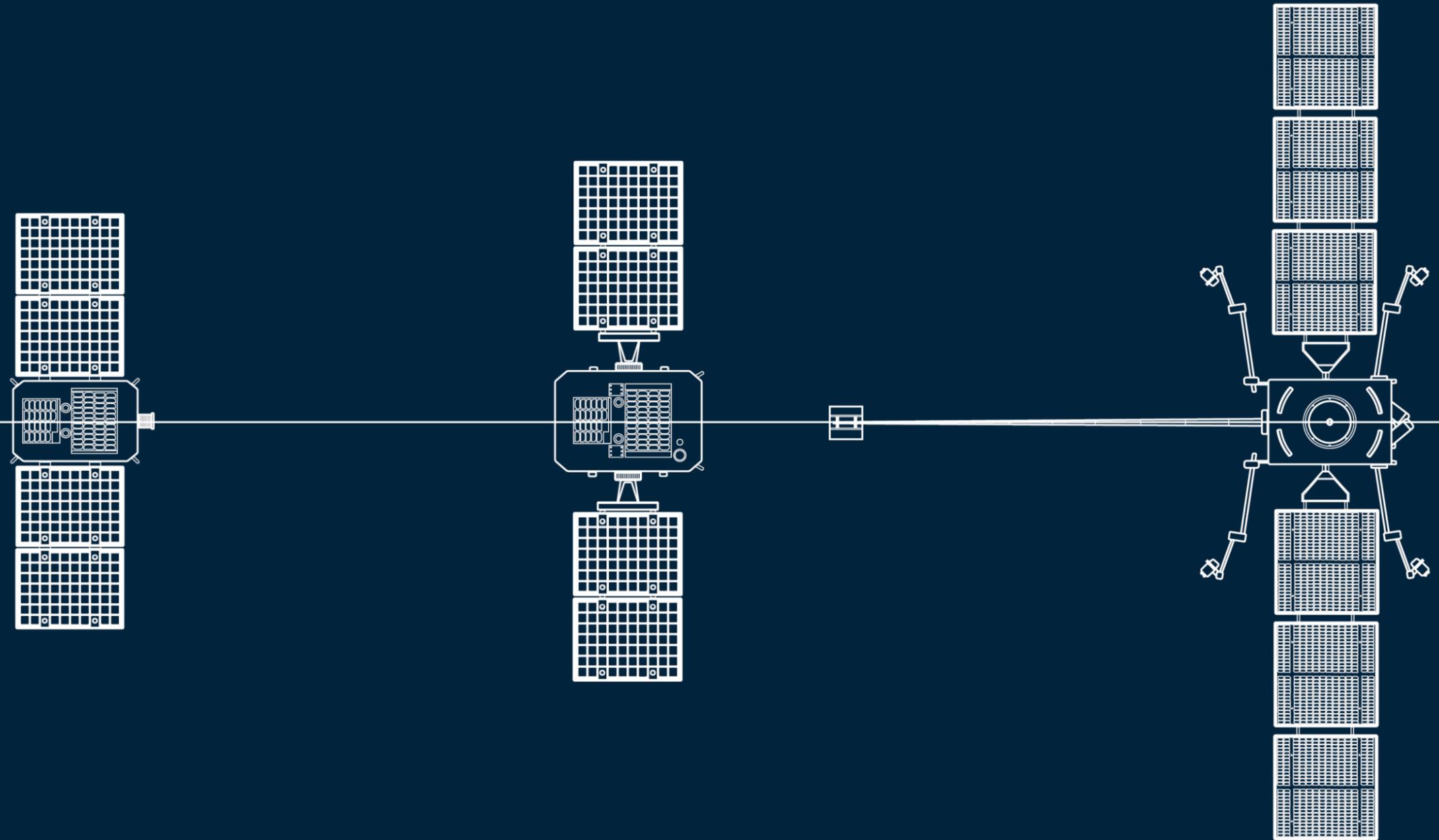
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Information is presented based on the following unless otherwise noted.

FX rate assumptions: US\$1 = ¥140, €1 = ¥150, £1 = ¥175

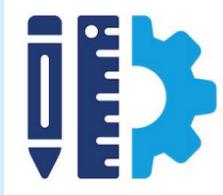
Fiscal years: “FY202X” is equivalent to the “fiscal year ending April 202X”.



# Executive Summary & Introduction



# Why Astroscale?



## TECHNOLOGY

1. The only private company globally to demonstrate Rendezvous and Proximity Operations (RPO) technology for non-cooperative objects with 2 missions on orbit.
2. RPO technologies are putting us at the forefront of 4 diverse business lines.



## BUSINESS

1. The on-orbit servicing (OOS) is a significant global market with a \$18.2bn<sup>(1)</sup> revenue opportunity.
2. Established a project portfolio diversified across various services and geographies.
3. Achieved a projected order backlog of ¥28.5 billion yen as of Apr. 2024 (5.8x YoY).
4. Aiming for operating profit close to breakeven in FY2026 through further growth.



## GLOBAL PRESENCE

1. Established access to global demand through our geographical presence in 5 countries.
2. Increasing focus on regulations at various governments and institutions such as the UN and G7. This focus and increasing recognition of Astroscale provides strong support to our business.

(1) Source: Northern Sky Research In-Orbit Services Report (NSR IOSM ) 3rd, 7th edition. Indicates the 11-year cumulative revenue from on-orbit services globally.



# Key Messages

## The Importance of a Sustainable Space Environment

- Utilization and exploration of space is vital for humanity.
- The rapidly increasing number of satellites in orbit leads to more debris and dangerous levels of risk to vital assets.
- On-Orbit Servicing (OOS) for satellites is essential for reducing risk and increasing return in this new space ecosystem.

## Astroscale Technology as a Competitive Advantage

- We are the world's only private company to prove Rendezvous and Proximity Operations (RPO) with a non-cooperative object in space.
- RPO technology is the baseline for our four business lines that will remove orbital debris and service satellites in orbit.

## Emergence of the On-Orbit Servicing Market

- Government regulations, national space budgets, and policies from multi-national organizations have rapidly expanded the market.
- Our established presence in 5 countries drives our valuable brand and allows us to lead a market with an \$18.2bn cumulative revenue opportunity over the next 11 years.

## Our Business Pipeline is Robust and Growing

- Government demand drives our current business and serves as the foundation for significant commercial demand in the future.
- We achieved a projected order backlog of ¥28.5 billion as of April 2024 (5.8x YoY) with an increase in profitable projects.
- We established a diversified business portfolio across four mission lines with customers in countries around the world.
- Through continued mission line growth, greater manufacturing efficiencies and decreased spending, we aim for operating profit close to breakeven in FY2026.
- We are targeting a gross margin of mid-30% range and an operating margin of mid-20% range in the long term.

## Our Global Management Team is Built for Success

- We have a global Board of Directors that provides leadership and guidance based on decades of experience.
- Our Board is diversified by geography (50% non-Japanese) gender (33% female) and skill set.



# Astroscale global footprint drives business



7 Offices



588 Diverse Team Members\*\*



75% Engineers  
26% Women



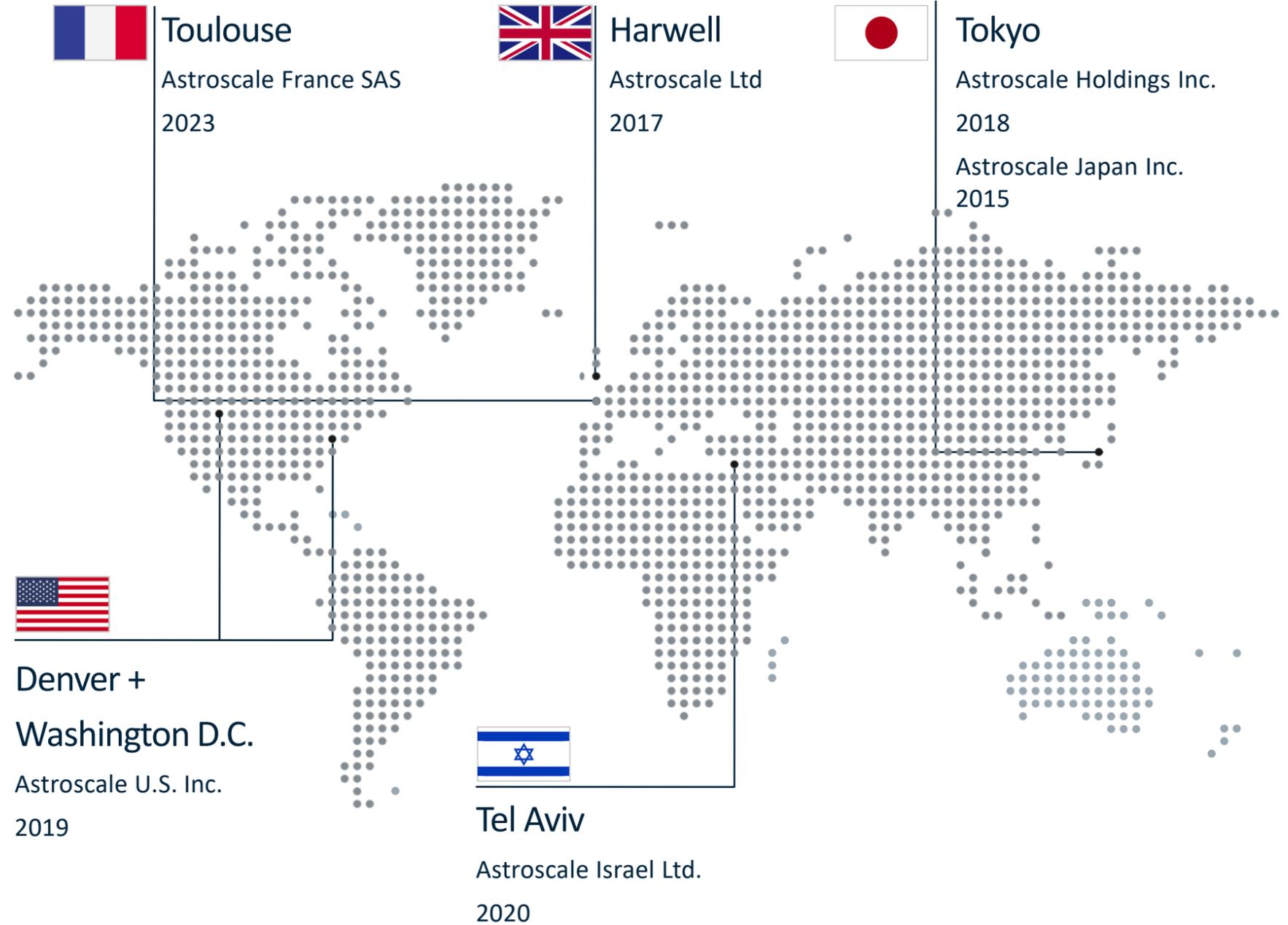
30+ Awards  
(International, Japan)



Diverse and Experienced  
Global Leadership



Private offering:  
¥44.5bn(US\$383mm)  
Raised \*\*\*  
Public offering: ¥20.1bn



\* All figures as of April 2024 excluding funding information. Funding information as of July 2024.  
 \*\* Team members include consultants and temporary staff. Number of full-time employees is 494.  
 \*\*\*Represents total amount of equity raised up to Series G, showing the amount as of March 2024. The different foreign exchange rate is used from page 5 and we have applied the exchange rates at the time of contracts signing for each series.

## ***VISION***

***Safe and sustainable development of space for the benefit of future generations.***

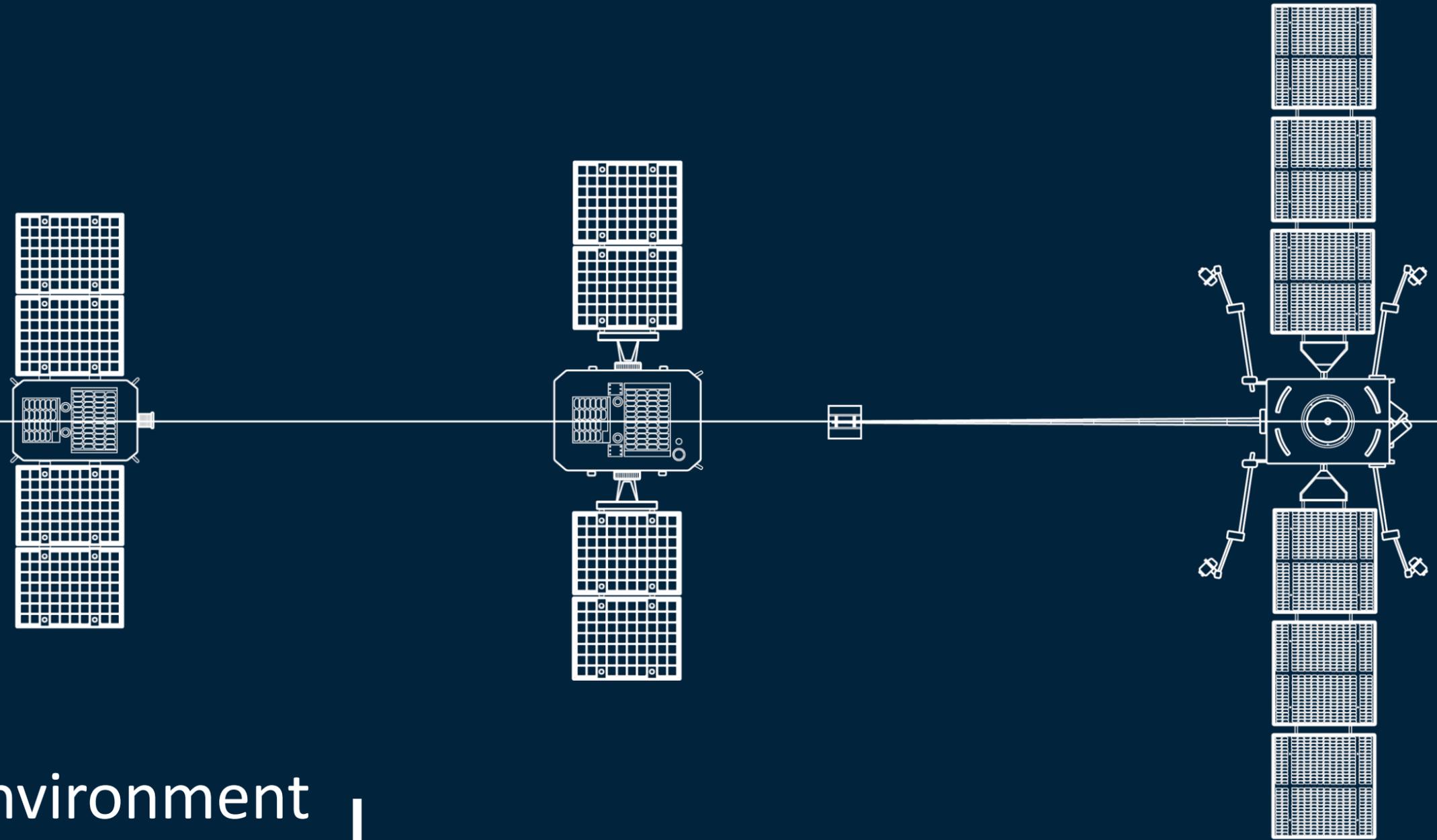
## ***MISSION***

***Develop innovative technologies, advance business cases, and inform international policies that reduce orbital debris and support long-term, sustainable use of space.***

***On-Orbit Servicing (OOS) is the key to unlocking the promise of the circular space economy.***

The logo for Astroscale, featuring a stylized white 'A' with a satellite-like orbit around it, followed by the word 'Astroscale' in a bold, white, sans-serif font. The background of the slide is a view of Earth from space, with a bright sun rising over the horizon, creating a lens flare effect.

**Astroscale**

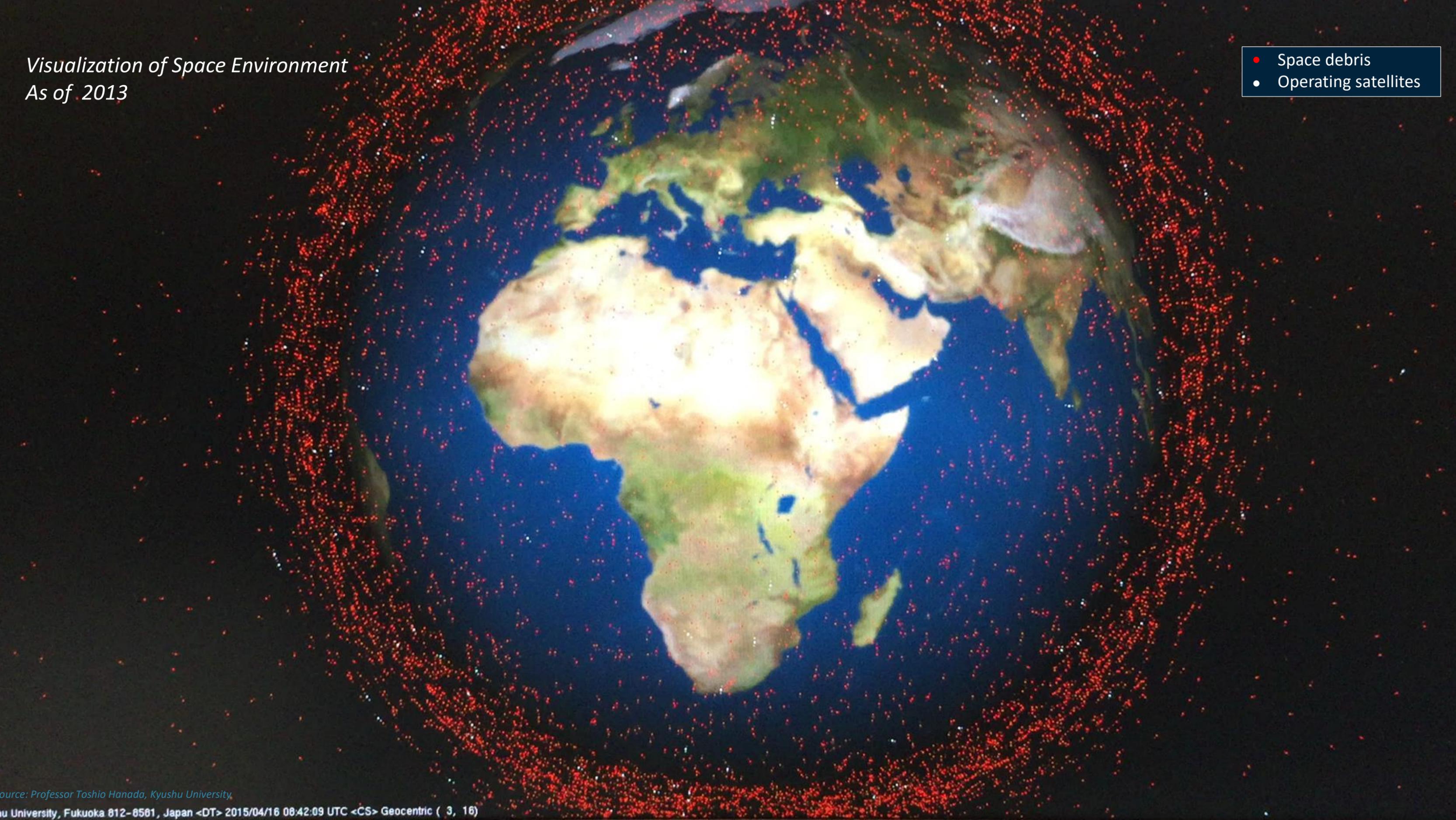


SECTION 1

The Importance of  
a Sustainable Space Environment

*Visualization of Space Environment  
As of 2013*

- Space debris
- Operating satellites

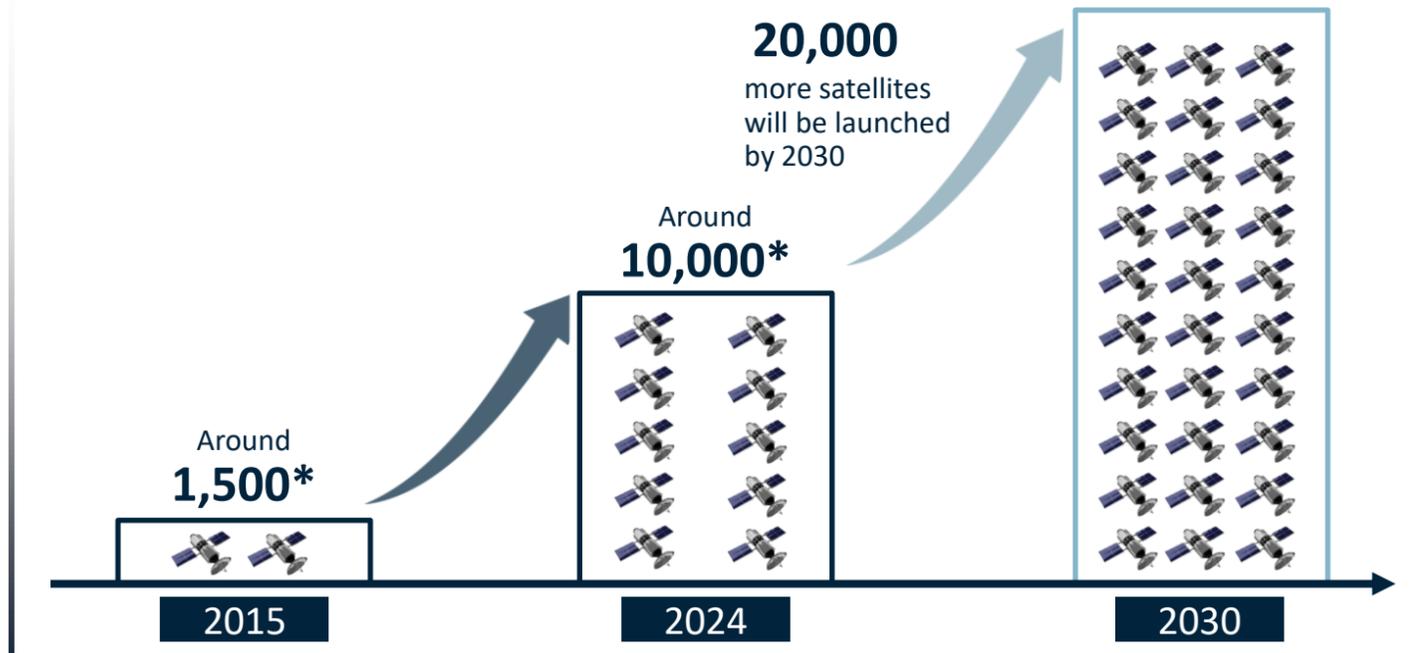




# Unsustainable orbits are driving up risks

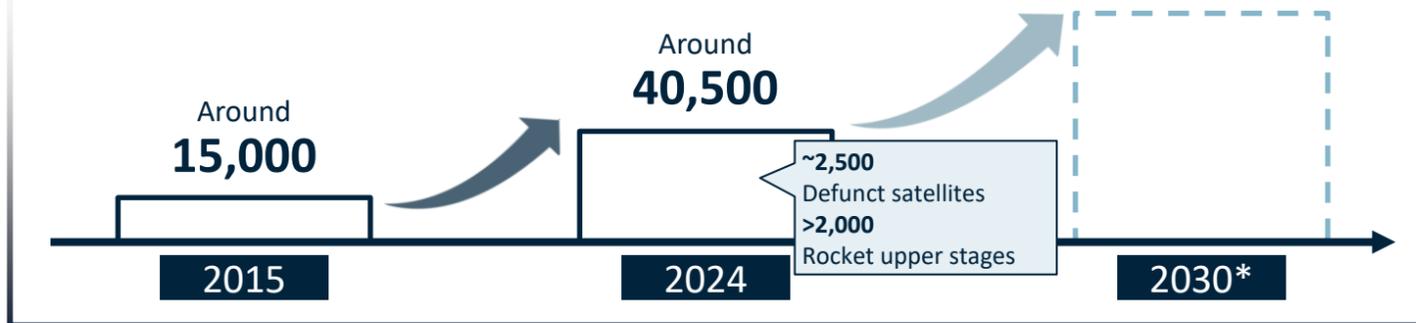
Since 2020, the number of constellation satellites launched has rapidly increased. As a result, the likelihood of collisions between satellites and debris, as well as between debris themselves, has risen, making it an urgent issue for the sustainable use of space.

## Number of Satellites in Space



Source: UCS Satellite Database(2023) "In-depth details on the 7,560 satellites currently orbiting Earth, including their country of origin, purpose, and other operational details", Space News(2023) "Industry report: Demand for satellites is rising but not skyrocketing", Jonathan McDowell "Satellite and Debris Population: Past Decade". \* Number of satellites at the end of 2015 and in May 2023.

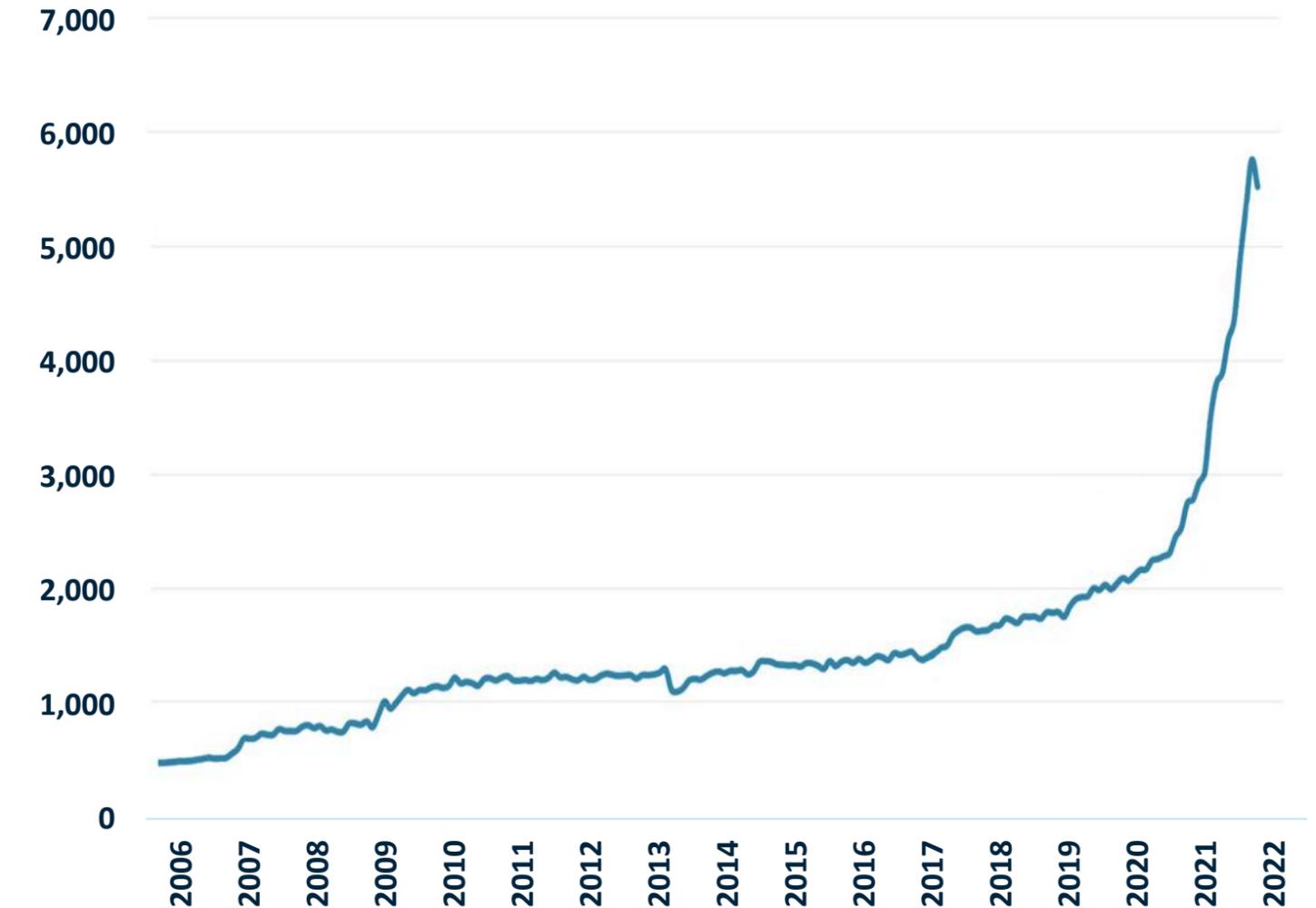
## Amount of Debris in Space (>10cm)



Source: European Space Agency, ESA Space Environment Report.  
\* Dot box for 2030 is for illustration purposes only.

## Conjunction Trend for Low Earth Orbit (LEO)

Number of monthly near-misses between satellites and debris within 1km (2006-2022)



Source: The Center for Space Standards & Innovation at COMSPOC, with the Space Data Association, "Evaluation of LEO Conjunction Rates Using Historical Flight Safety Systems and Analytical Algorithms" (October 2021)

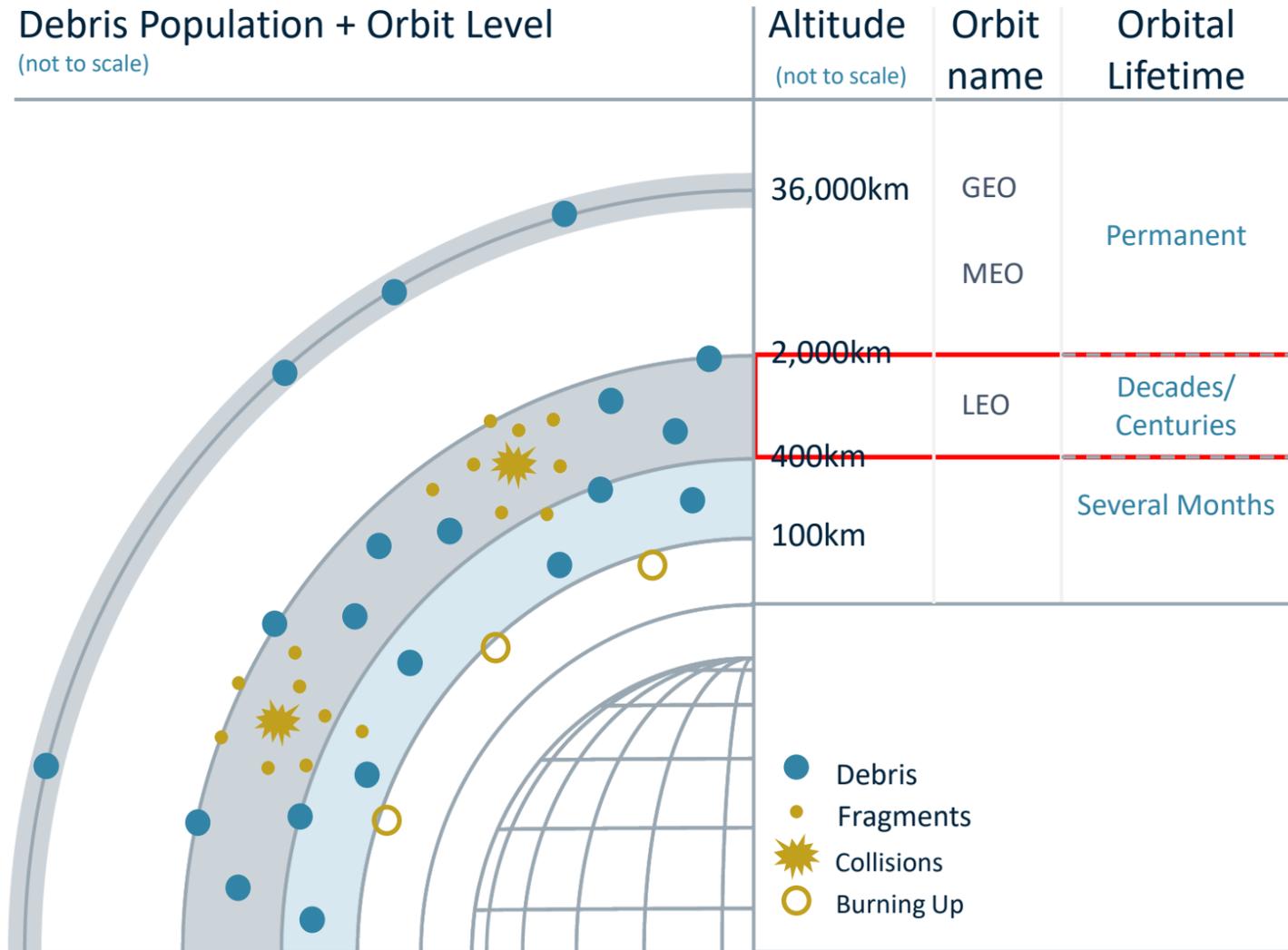


# Activities in space face increasing risks of collisions with debris

Spacecraft fragmentation incidents are occurring at an increasing rate. Each incident adds more new debris to crowded orbits and forces satellite companies to use valuable resources – fuel on the spacecraft and time of its operators –to avoid collision. By making space more sustainable costs of debris avoidance can be reduced.

## DEBRIS LIFETIME AT ORBITAL LEVELS

Debris Population + Orbit Level  
(not to scale)



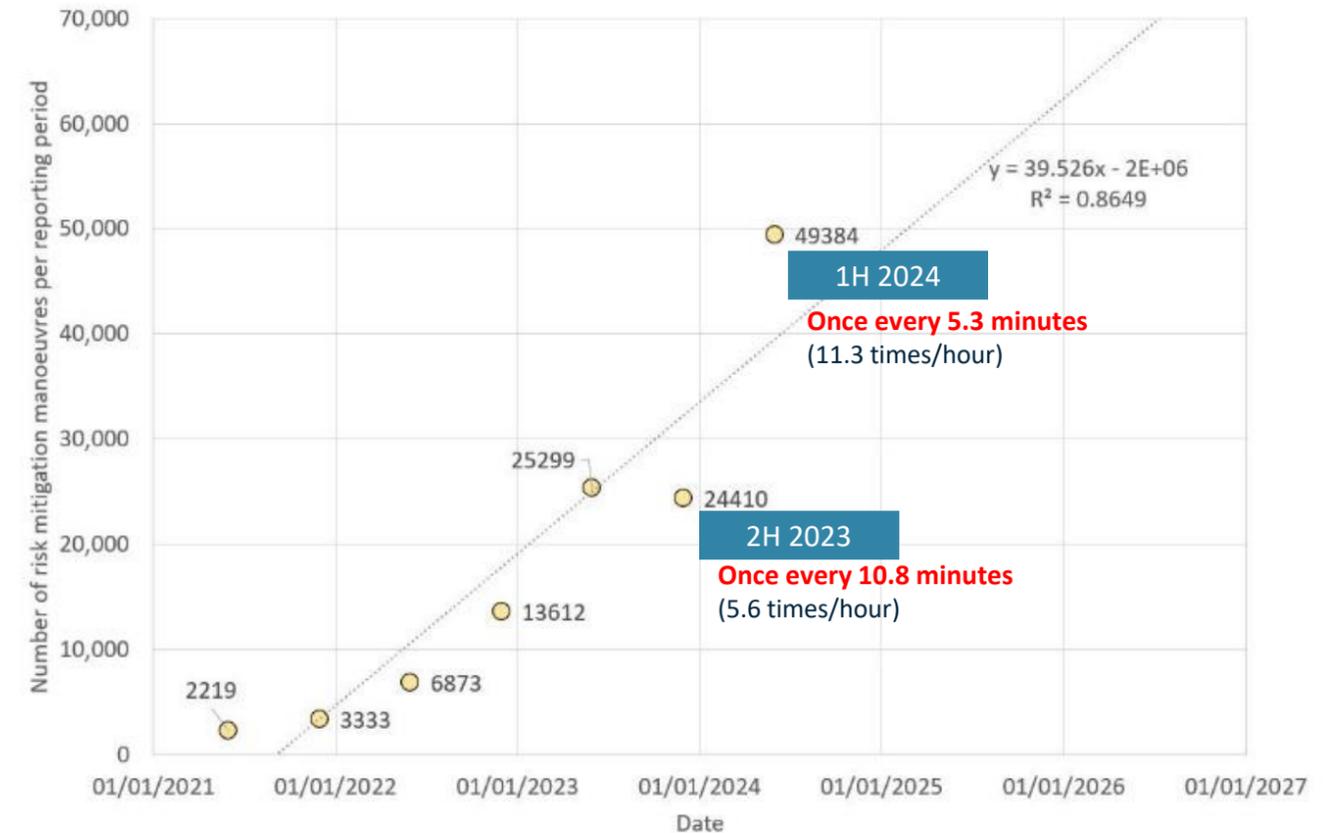
\* Graphic is for illustrative purposes and not to scale  
Source: Australian Space Academy, "SATELLITE ORBITAL LIFETIMES" | 2022

## Instances of fragmentation at congested altitudes

(August 6, 2024)

After the successful launch of China's Long March 6A rocket, the rocket's upper stage broke apart due to unknown factors in the highly congested orbit at an altitude of approximately 810 km, generating **over 700 pieces of debris**.

## Increasing number of collision avoidance maneuvers by Starlink



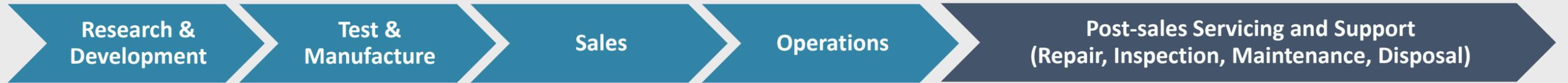
Source: Analysis by Professor Hugh Lewis from the University of Southampton



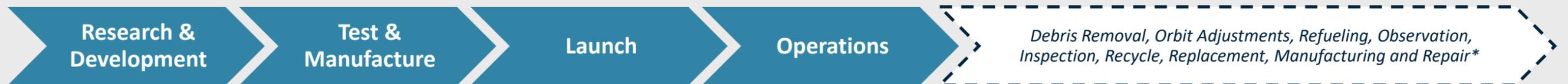
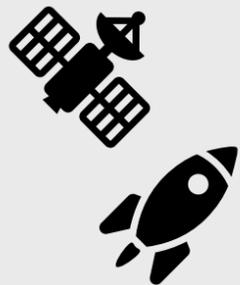
# On-orbit servicing (OOS) is the key to sustainable use of space

For decades, satellites and rocket bodies have been launched with no intent to be serviced on orbit. This has led to more space debris, inefficient missions and a risky orbital environment. On-orbit services support a robust value chain and a more sustainable and profitable space ecosystem.

## Logistics / Energy / Communications / Infrastructure Value Chain

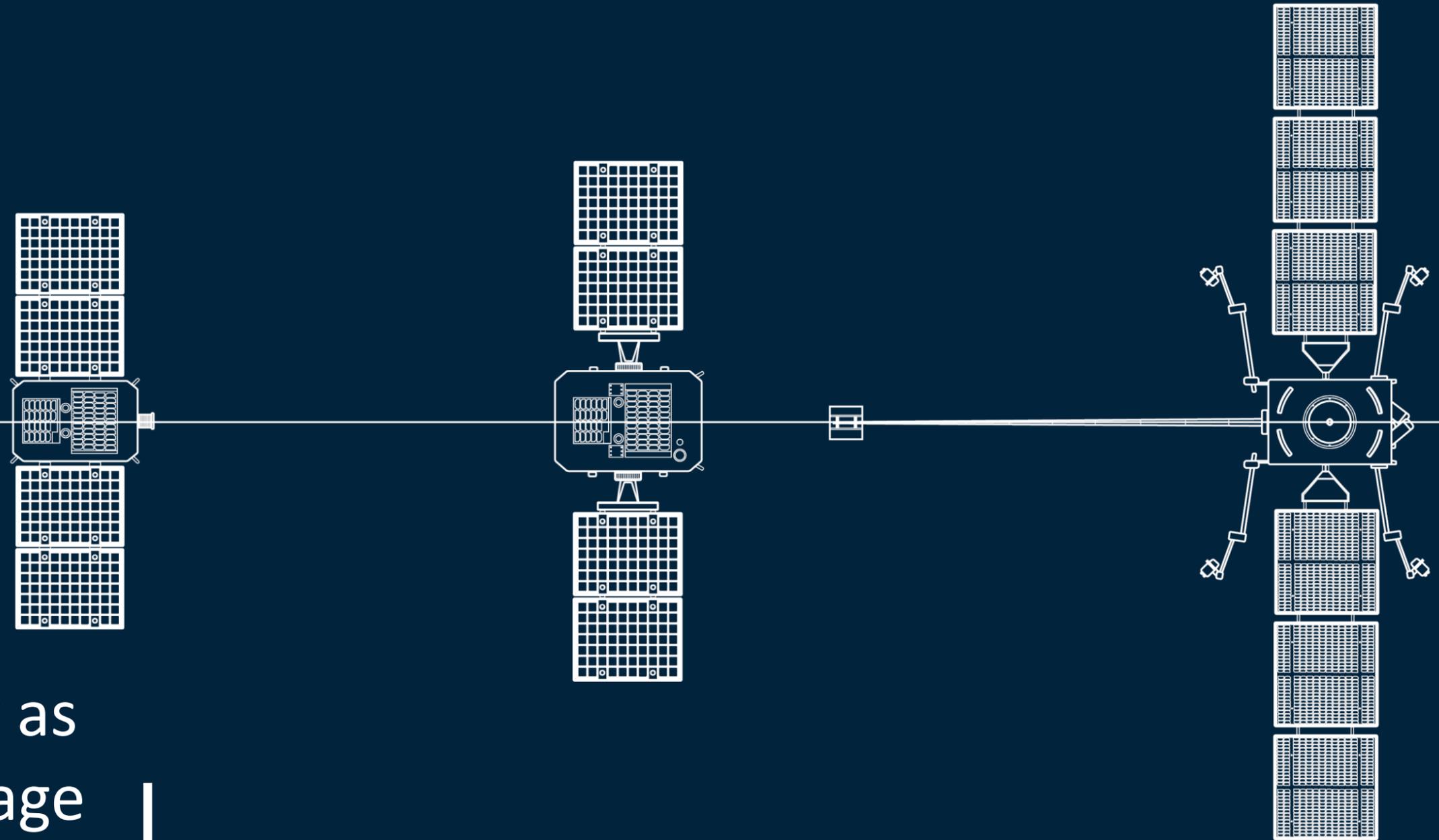


## Spacecraft Value Chain



**On-orbit servicing**

*\* Some of these are in the conceptual stage and include services that have not yet begun development.*



## SECTION 2

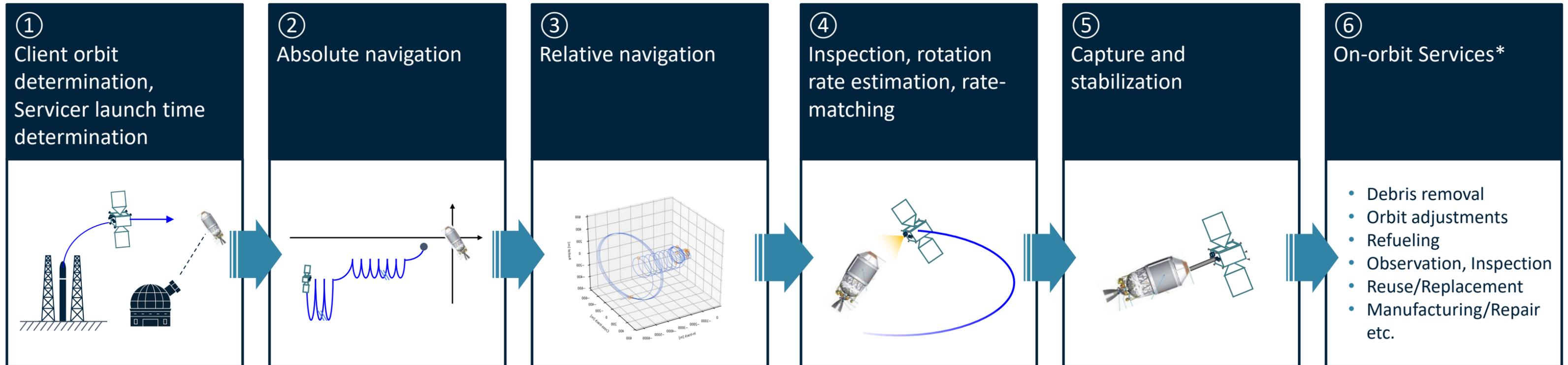
# Astroscale Technology as a Competitive Advantage



# RPO technologies for non-cooperative objects are key for OOS

Servicing on orbit starts with RPO. From launch to rendezvous to capture, Astroscale has refined and improved the steps needed for safe approach and docking with client objects. These steps are common to all missions and will support an OOS market that includes debris removal, orbit adjustment, refueling and inspection. We expect to expand services in the future to include satellite reuse, replacement, manufacturing and repair.

## Rendezvous and Proximity Operations Technologies



*\* Some of these are in the conceptual stage and include services that have not yet begun development.*



# Our two satellites in orbit proved the technology needed for OOS

ELSA-d (March 2021) – The world’s first debris removal demonstration satellite proved magnetic capture of an object on-orbit.

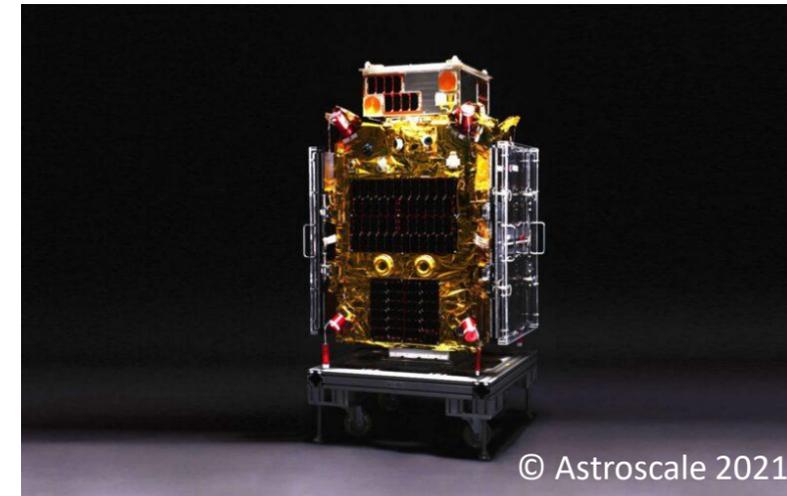
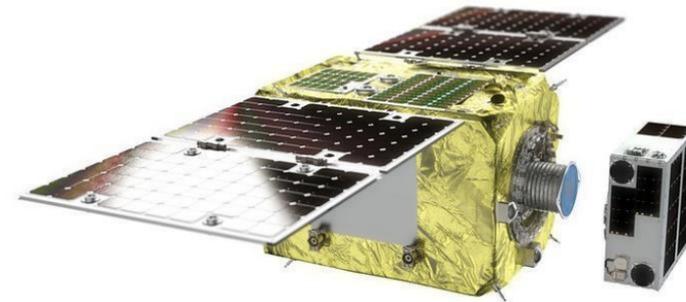
ADRAS-J (February 2024) – The world’s first customer-funded satellite for inspecting actual debris made an unprecedented approach to a client object.

## ELSA-d (Launched on March 23, 2021)

### Mission:

Demonstration of core RPO technologies in orbit (navigation, sensors, magnetic capture, software) and operations on the ground (fault detection, isolation & recovery, ground segment).

**Mission completed.**

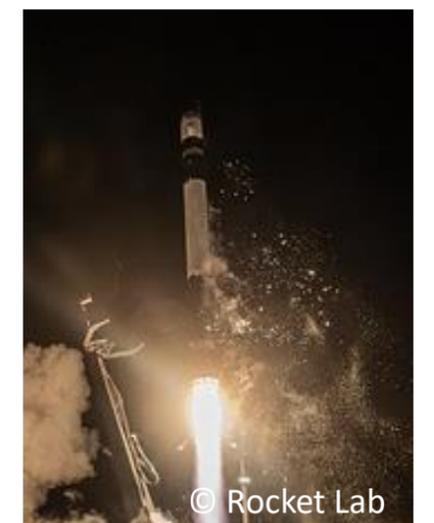
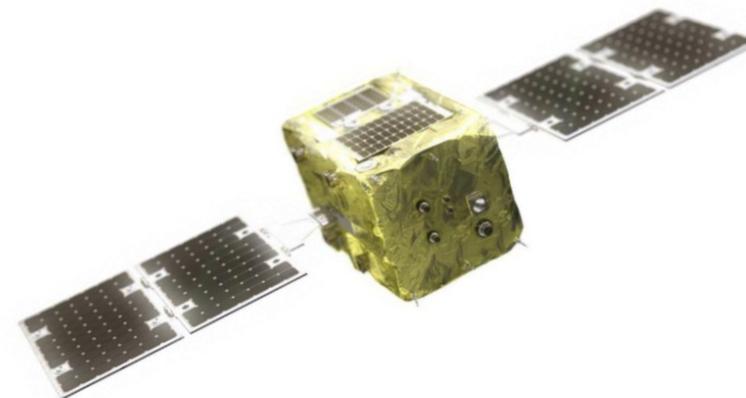


## ADRAS-J (Launched on February 18, 2024)

### Mission:

The first ever mission by a commercial company to rendezvous, approach and characterize an upper stage rocket body in orbit. Groundbreaking demonstration under CRD2 program initiated by JAXA.

**Mission in progress.**



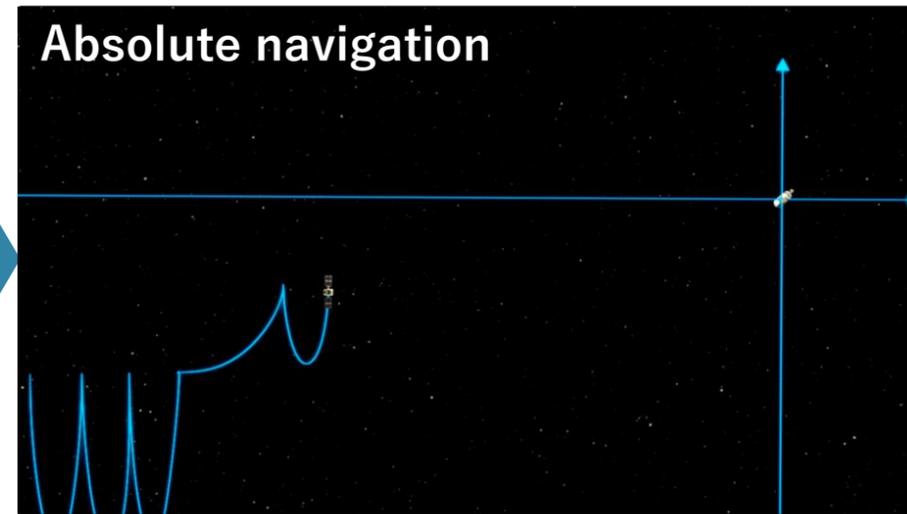


# The groundbreaking concept of operations for ADRAS-J



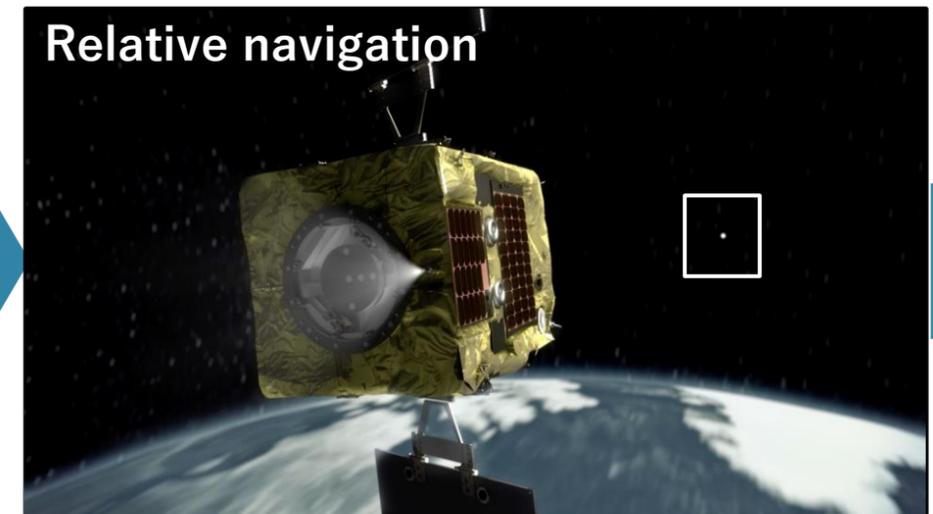
**Launch**

**Launch to the same orbital plane of the rocket body.**



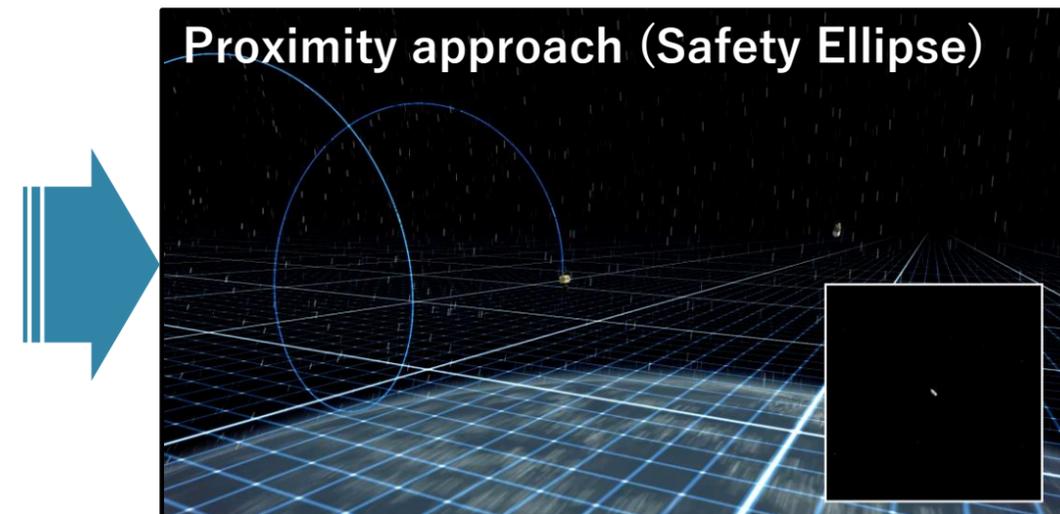
**Absolute navigation**

**Use on-board GPS and ground-based navigation to approach from a distance.**



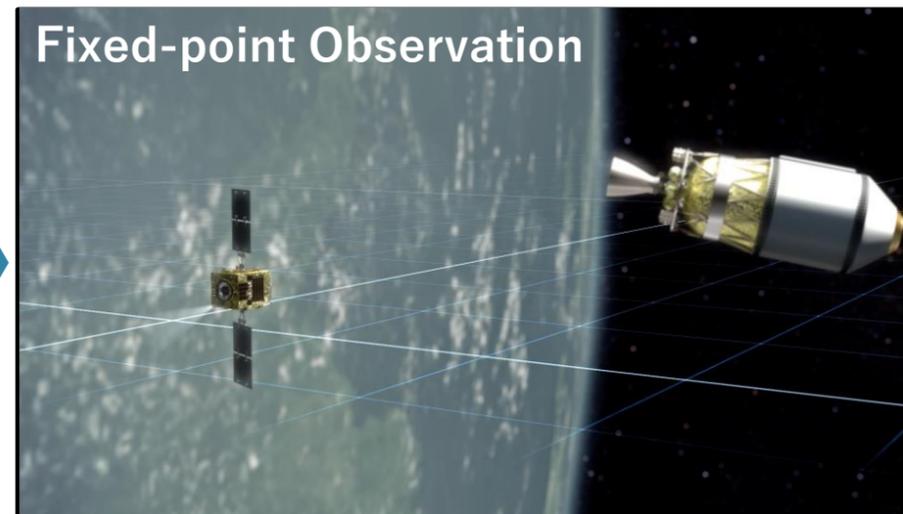
**Relative navigation**

**Transition to the ADRAS-J on-board sensors to accurately navigate closer to the rocket body.**



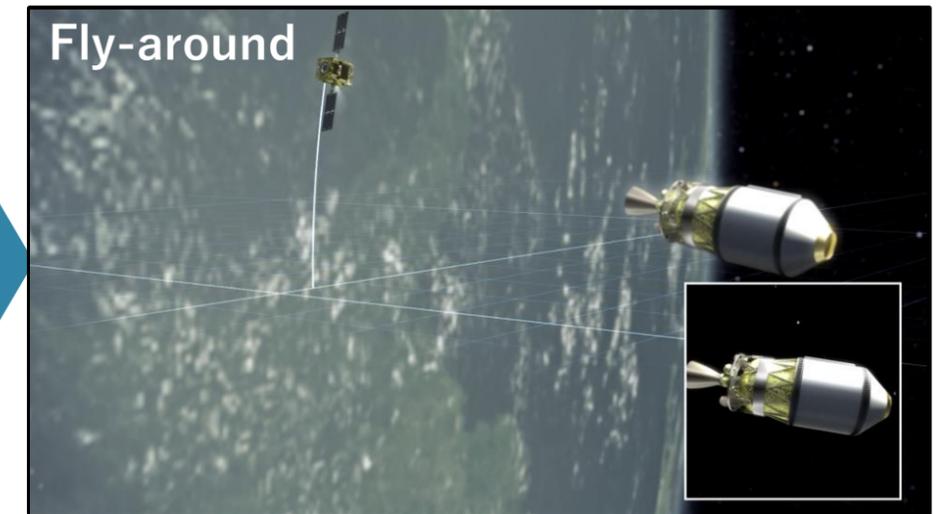
**Proximity approach (Safety Ellipse)**

**Begin close approach using a procedure that reduces risk of accidental collision.**



**Fixed-point Observation**

**Hold at fixed point of 50 meters to assess the composition and rotation rate of the rocket body.**



**Fly-around**

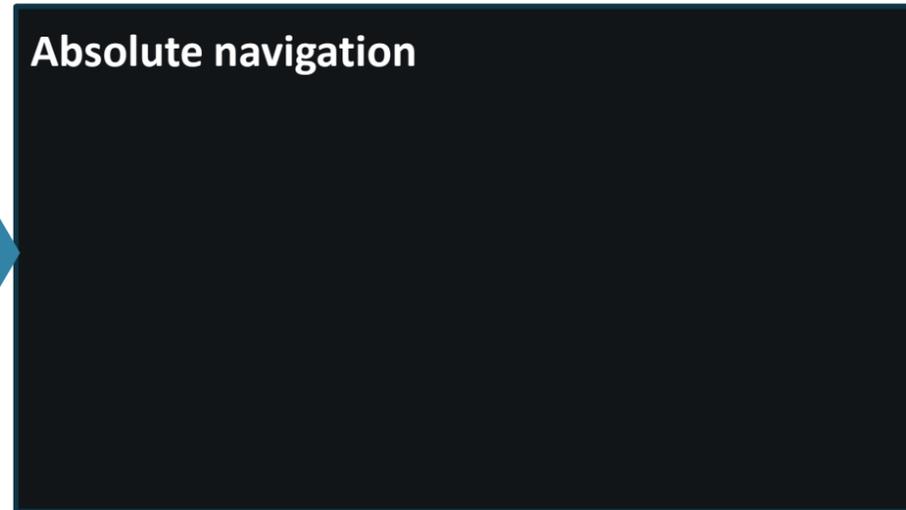
**Complete 360-degree fly around maneuvers 3 times to complete holistic characterization.**



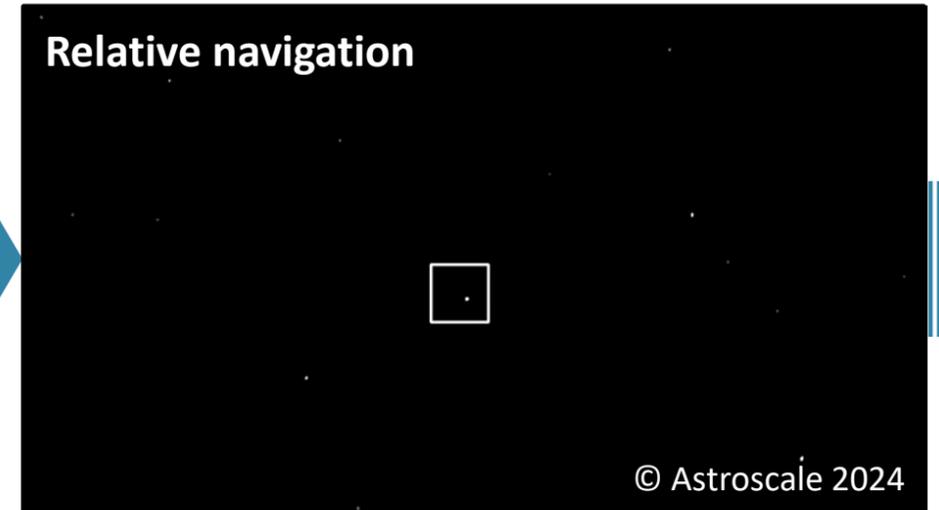
# The ADRAS-J results have been an unprecedented success



February 2024 – Dedicated launch on Rocket Lab placed ADRAS-J in the proper plane.



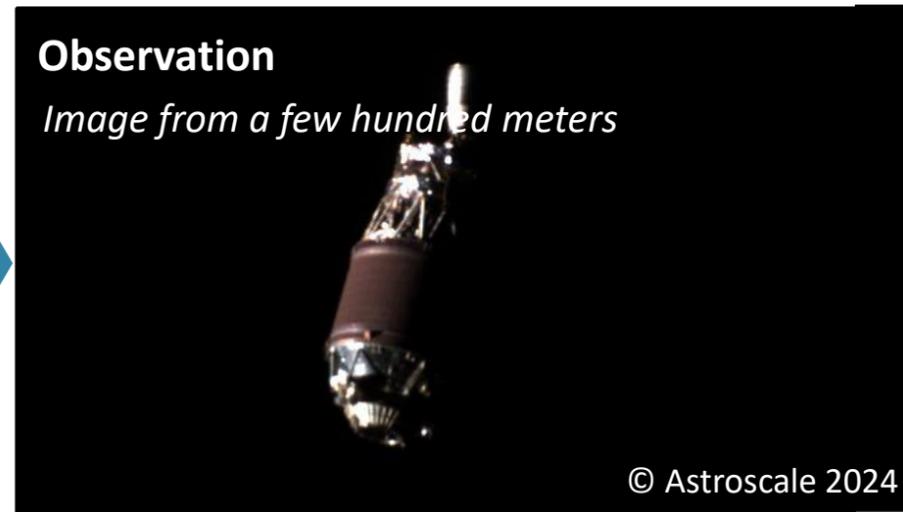
February 2024 – Successful ADRAS-J check out and began approach to the rocket body.



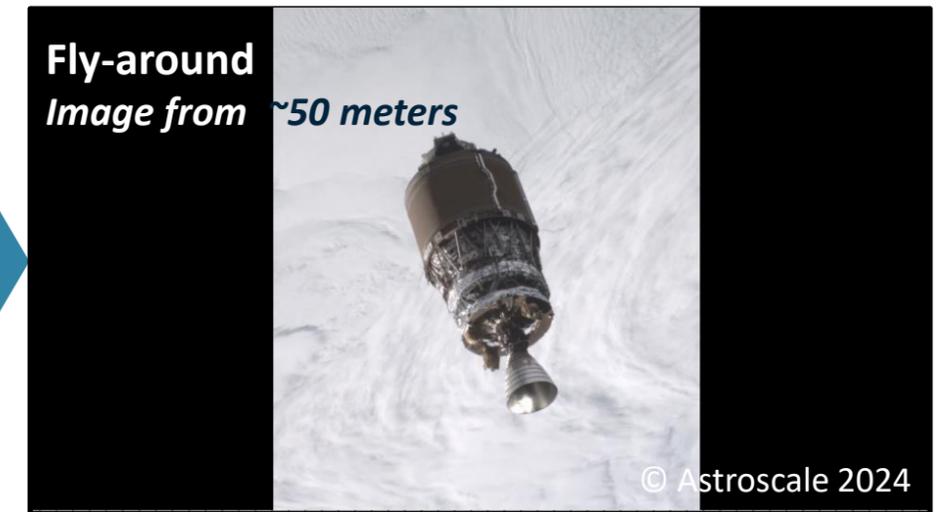
April 2024 – Switch to on-board sensors for accurate navigation; first view of rocket body.



April 2024 – Safely approach rocket body and get clearer view using on-board visual camera.



May 2024 – Switching between several on-board sensors, move in closer to rocket body.



July 2024 – Complete historic 360-degree fly around of rocket body.



# RPO technology is the foundation for the satellite servicing economy

Client Object: Japanese rocket body upper stage launched in 2009; 11 meters in length; weighing about 3 tons

Fixed-point observation

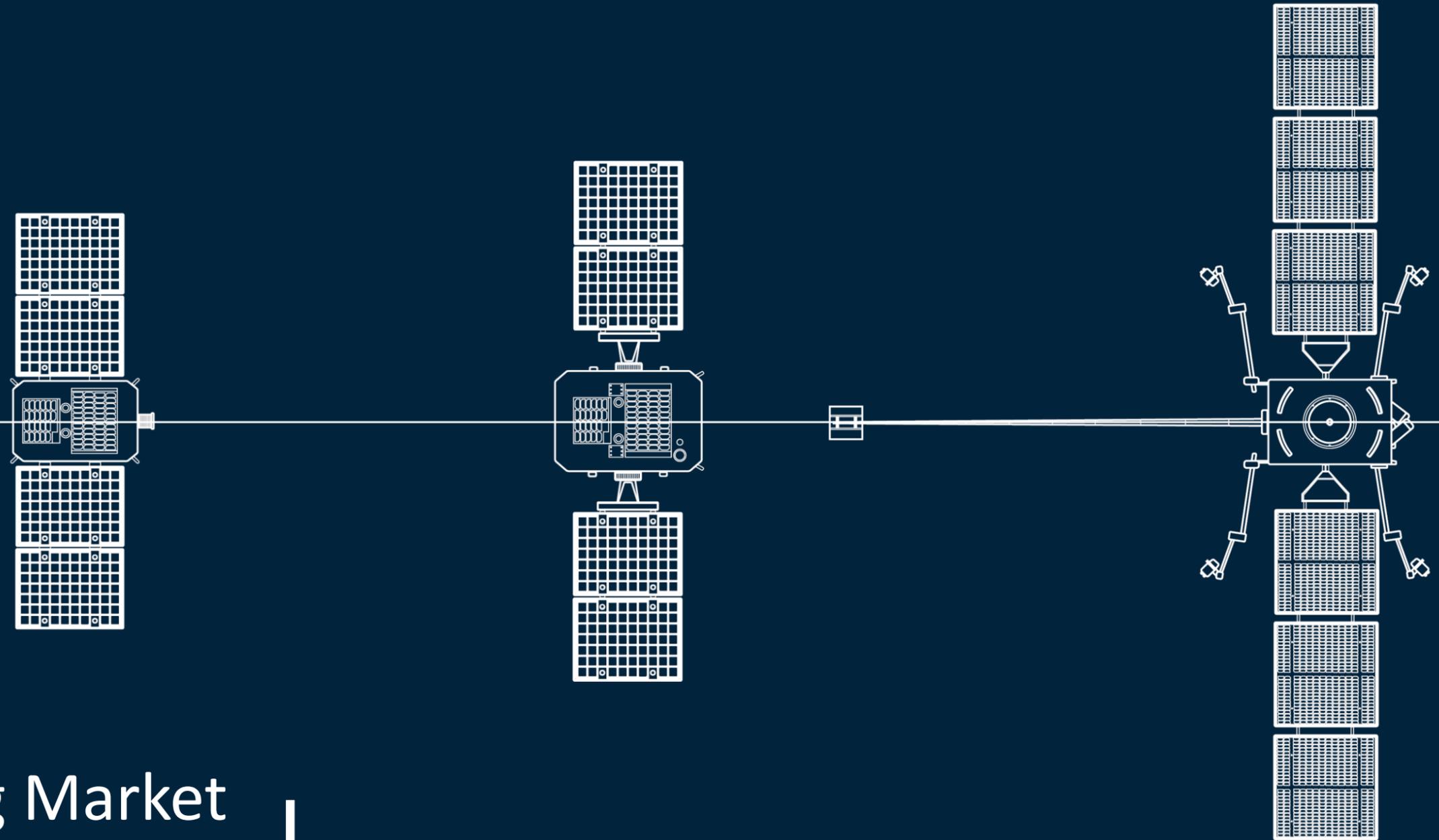


©Astroscale 2024

Fly-around



©Astroscale 2024



### SECTION 3

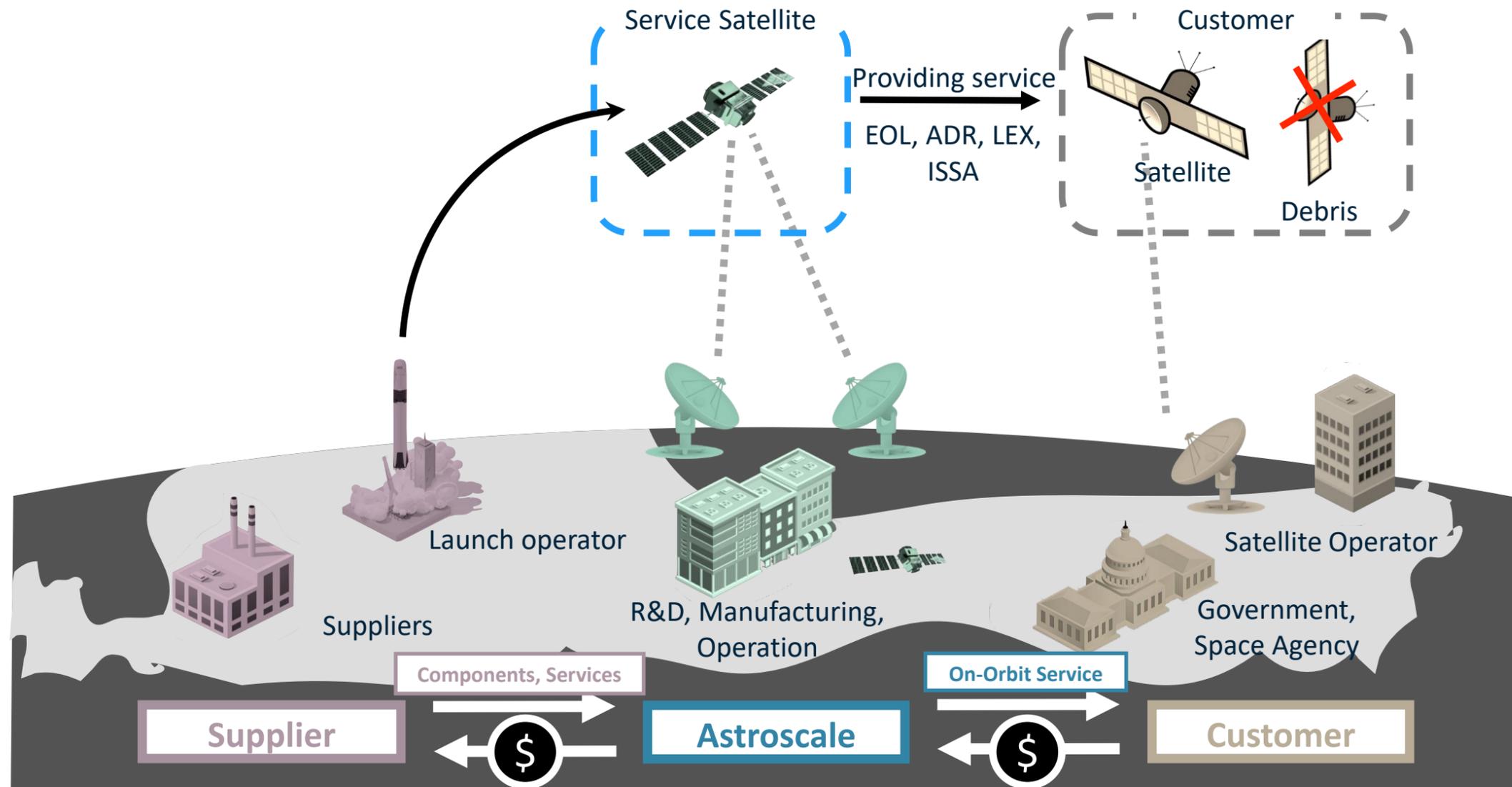
# Emergence of the On-Orbit Servicing Market



# Our business model is a driver for the economics of on-orbit servicing

The space economy is projected to be valued at \$1.8 trillion by 2035.  
 On-orbit servicing is key to assuring this ecosystem can thrive, helping to drive economic growth in orbit and on Earth.

- Astroscale is involved in the design, development, manufacturing, and service provision of orbital servicing systems, managing the entire process in-house.
- Clients are now primarily governments; but we will provide services to commercial sector also, including satellite constellations and commercial space stations.



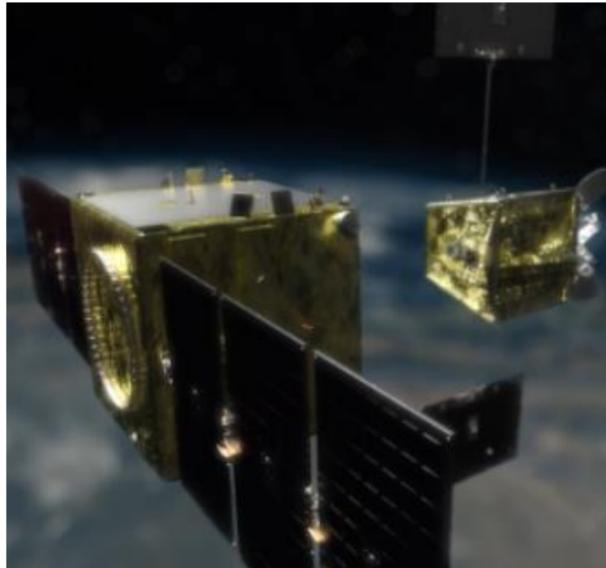


# We provide essential services for multiple customer needs

We are the only company globally to have secured contracts for four types of orbital services using proven RPO technology. The need for sustainable space and the desire for improved revenue models is driving customer demand.

## EOL

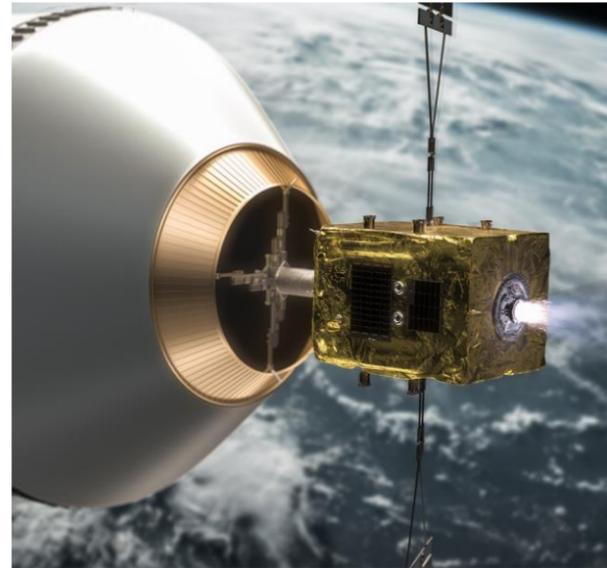
End-of-Life Service



Remove defunct satellites that have been prepared for servicing.

## ADR

Active Debris Removal



Remove large, unprepared debris currently in orbit.

## LEX

Life Extension Service



Extend satellite life and customer revenue stream.

## ISSA

In-situ Space Situational Awareness



Observe orbital environment to mitigate threats to customers.



# Stronger government regulations and innovative policies expand market

Since 2022, there has been an acceleration in efforts by countries and organizations to strengthen regulations concerning the sustainability of space.

Government Regulations and Funding Support Sustainability	Defense Agencies are Prioritizing OOS Capabilities	Global Groups are Implementing Shared Initiatives
 <p><b>FCC</b> –Mandatory de-orbit within 5 years of the end of operations; applies to satellites to be launched after Sep 30, 2024. (2022)</p>	 <p><b>US Space Force</b> – Held Parallax Rising, a military planning exercise focused on developing capabilities for OOS refueling. (2023)</p>	 <p><b>CONFERS</b> – Global industry group for on-orbit services with more than 80 companies, promoting the development of technical standards for on-orbit satellite services, etc. (2023)</p>
 <p><b>Japan Government</b> – Space Development Strategy HQ issued Basic Plan on Space Policy, including on-orbit services (2023). Space Policy Committee formed Space Technology Strategy, including on-orbit services. (2024)</p>	 <p><b>Space Development Strategy Headquarters</b> – Adopted Space Security Initiative which includes satellite lifecycle management using on-orbit services. (2023)</p>	 <p><b>ITU</b> – Resolved to provide guidance on safe and efficient deorbit and/or disposal strategies and methodologies for non-geosynchronous orbits. (2023)</p>
 <p><b>European Space Agency (ESA)</b> – Developed Zero Debris Charter (2023) which aims to achieve net-zero debris generation by 2030.</p>	 <p><b>France MoD</b> – Enacted Defense Space Strategy (DSS), extending SSA capabilities to monitor activity on all orbits and be able to detect and attribute hostile acts. (2023)</p>	 <p><b>G7</b> – For second year in a row, G7 Leaders Communiqué supported space sustainability, noting the need for “national efforts to develop further solutions for space debris mitigation and remediation”. (2024)</p>
 <p><b>UK Government</b> – Proposed safety-sustainability approach with the UK Space Agency, reflecting an orbital sustainability focus. (2023)</p>	 <p><b>UK MoD</b> – Defense Space Strategy (2022) and Space Industrial Plan (2024) prioritizing Space Domain Awareness (SDA) and ISSA. Established the National Space Operations Centre. (2024)</p>	 <p><b>Paris Peace Forum</b> – Launched the Net Zero Space Initiative, with the goal of achieving sustainability in space with the target year of 2030. (2023)</p>

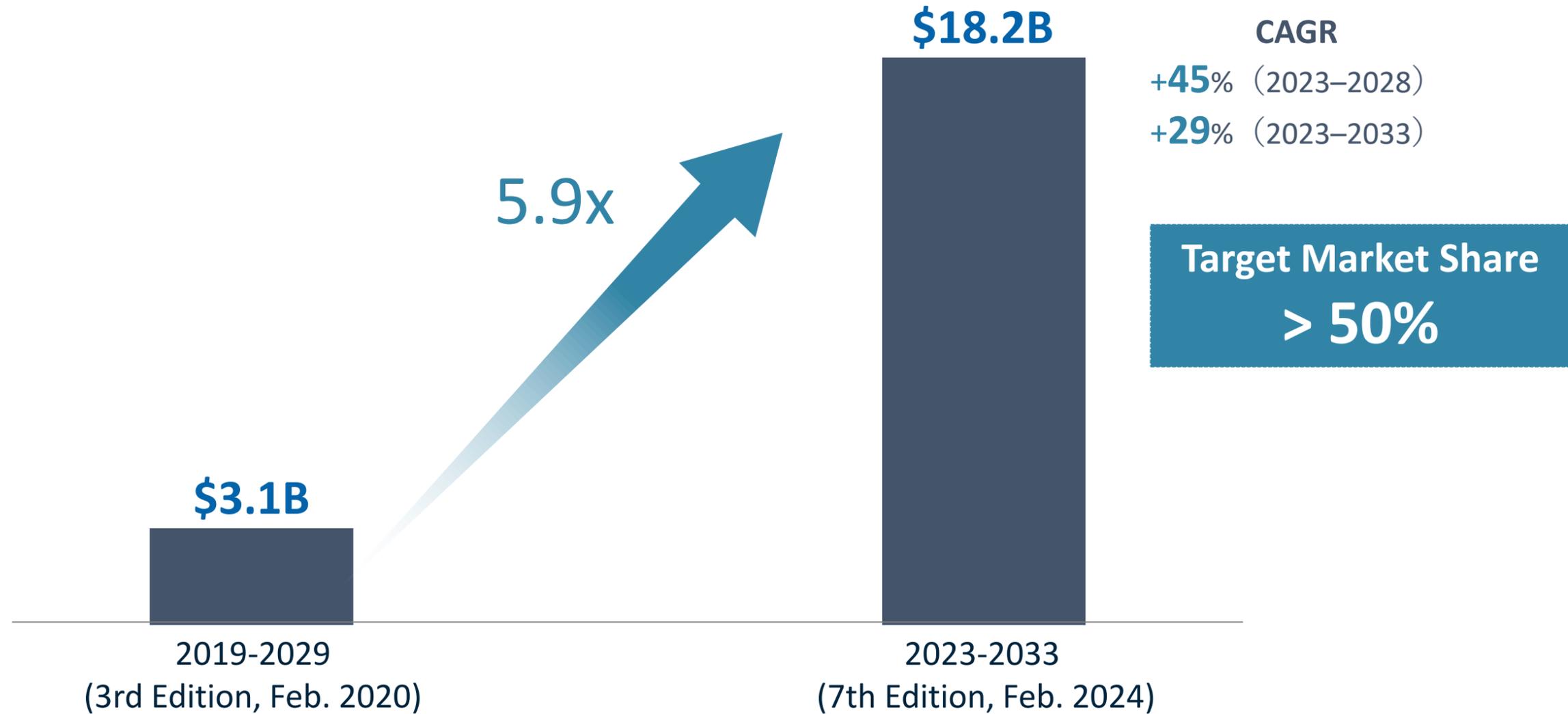


# Expectations for OOS market growth are significant

Private research firms project a cumulative OOS market size of \$18.2 billion over the next 11 years. This estimate has been revised upward 5.9 times compared to forecasts made in 2020, driven by regulatory tightening and technological advancements. We are in a leading position to capture a significant share of this nascent but rapidly growing market.

## On-Orbit Service Market Size

11-Year Cumulative Revenue Projection

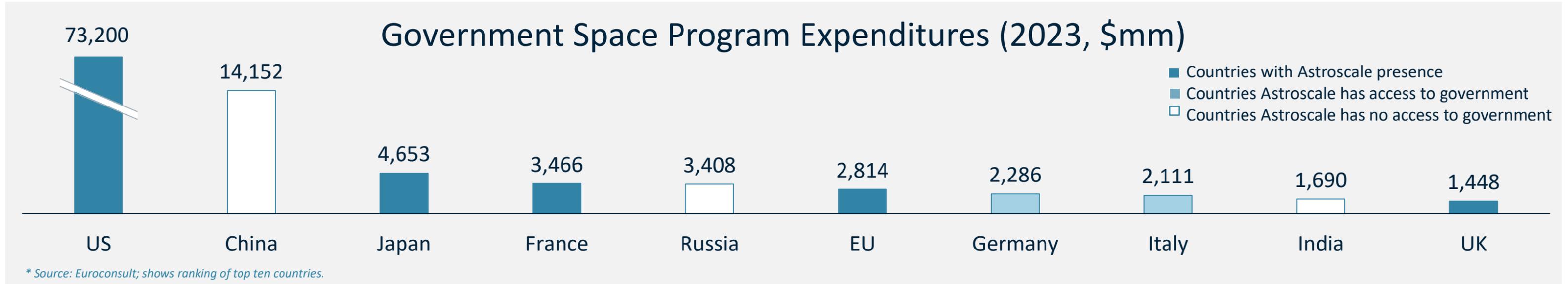


出所：Northern Sky Research In-Orbit Services Report (NSR IOSM) 3rd, 7th edition



# We are positioned to drive institutional business in strategic geographies

We are an established presence in allied countries with significant spending on space-related activities. Our headquarters is in Japan but we are recognized as a local company in each country where we have a presence. This is essential in a nascent market reliant on government support.



## Entity Leadership Teams

US	Japan	France	UK	Israel
  BOEING   U.S. Air Force Ron Lopez US, Managing Director	  Lockheed Martin   Thales Alenia Space Eddie Kato Japan, Managing Director	  Thales Alenia Space Philippe Blatt France, Managing Director	  Inmarsat   CGI Nick Shave UK, Managing Director	  Israel Aerospace Industries   Israeli Air Force Ofir Azriel Israel, Managing Director
 Clare Martin US, Executive VP	 Miki Ito Japan, Executive VP	 Morgane Lecas France, Senior Manager, Strategy and PA	 Sharon Parker-Lines UK, Deputy Managing Director	 Amir Gaver Israel, Deputy Managing Director

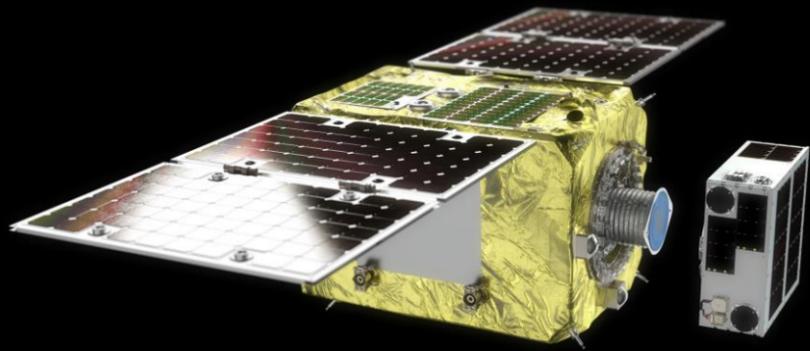
Source: Company logos represent previous careers



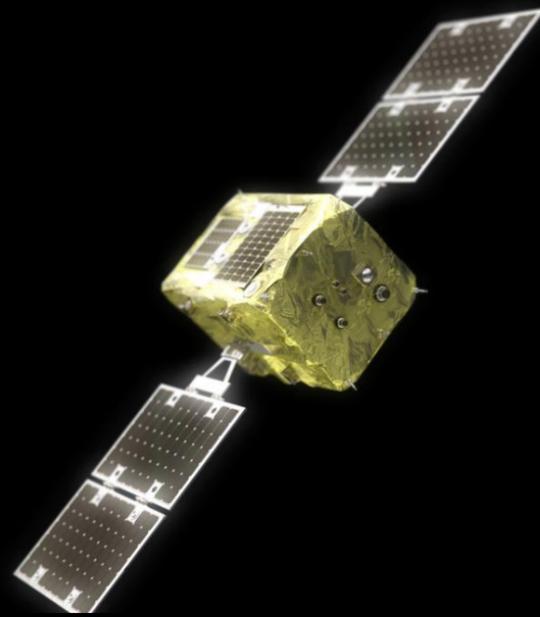
# Expanding office capacities for regional and global service delivery

We have a global organization with offices and facilities producing satellites in multiple countries. We have integrated design, R&D, business development, sales, manufacturing, and operations internally. Governments recognize our combination of global leadership and local capability, leading to increased orders.

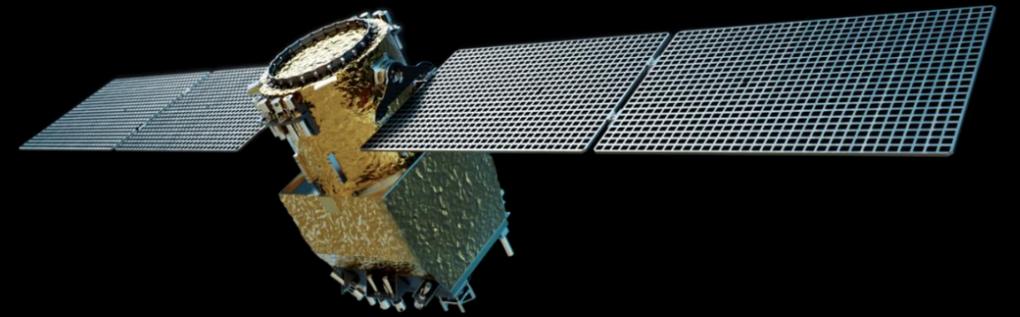




ELSA-d



ADRAS-J

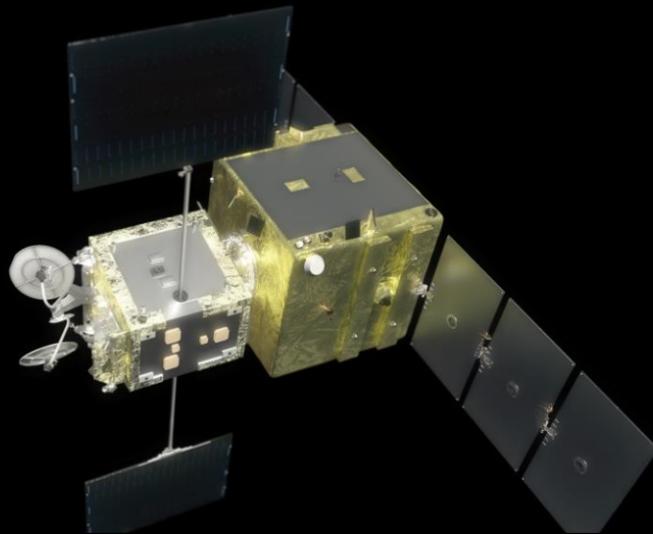


APS-R

# Astroscale



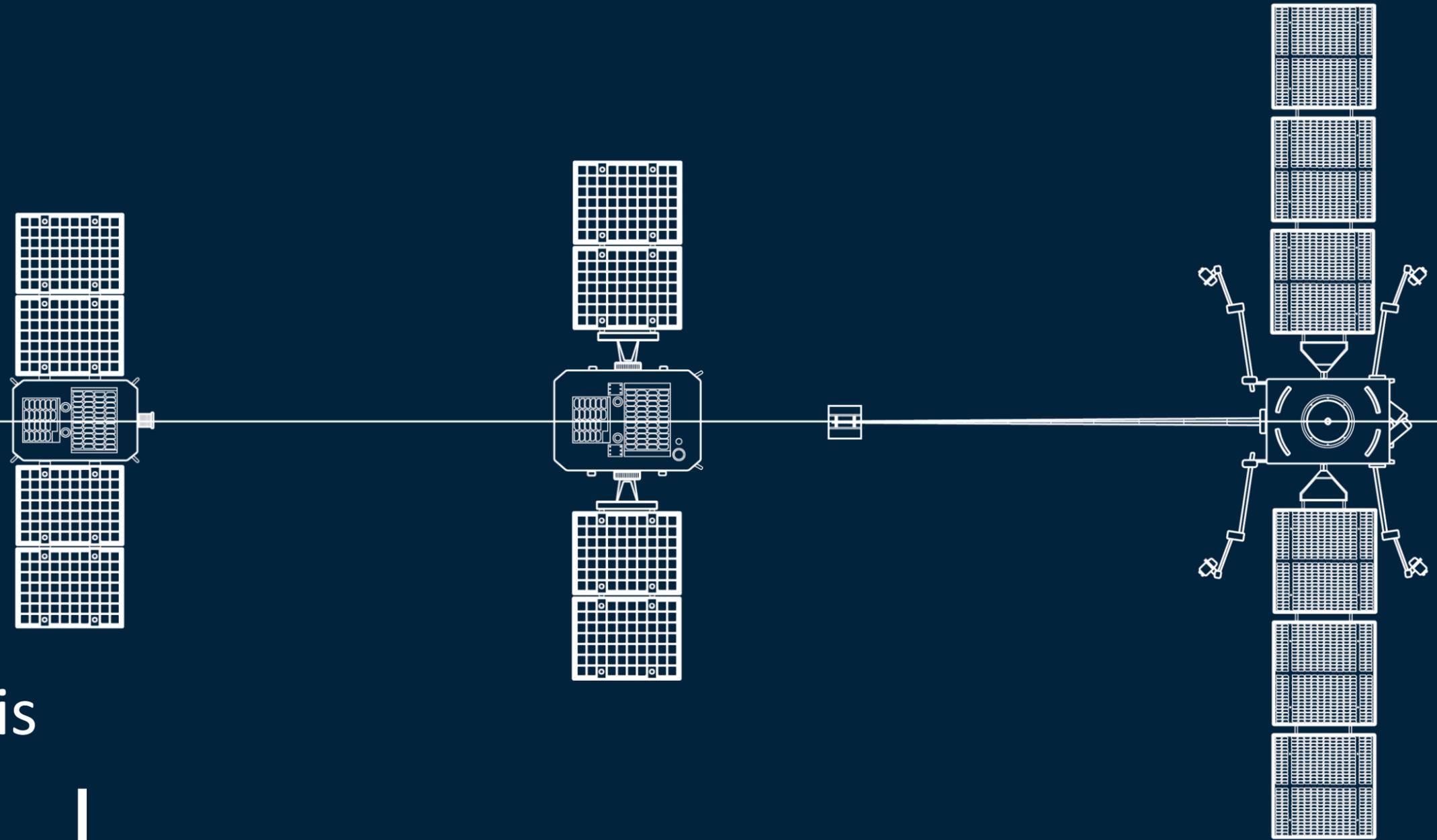
LEXI-P



ELSA-M



COSMIC



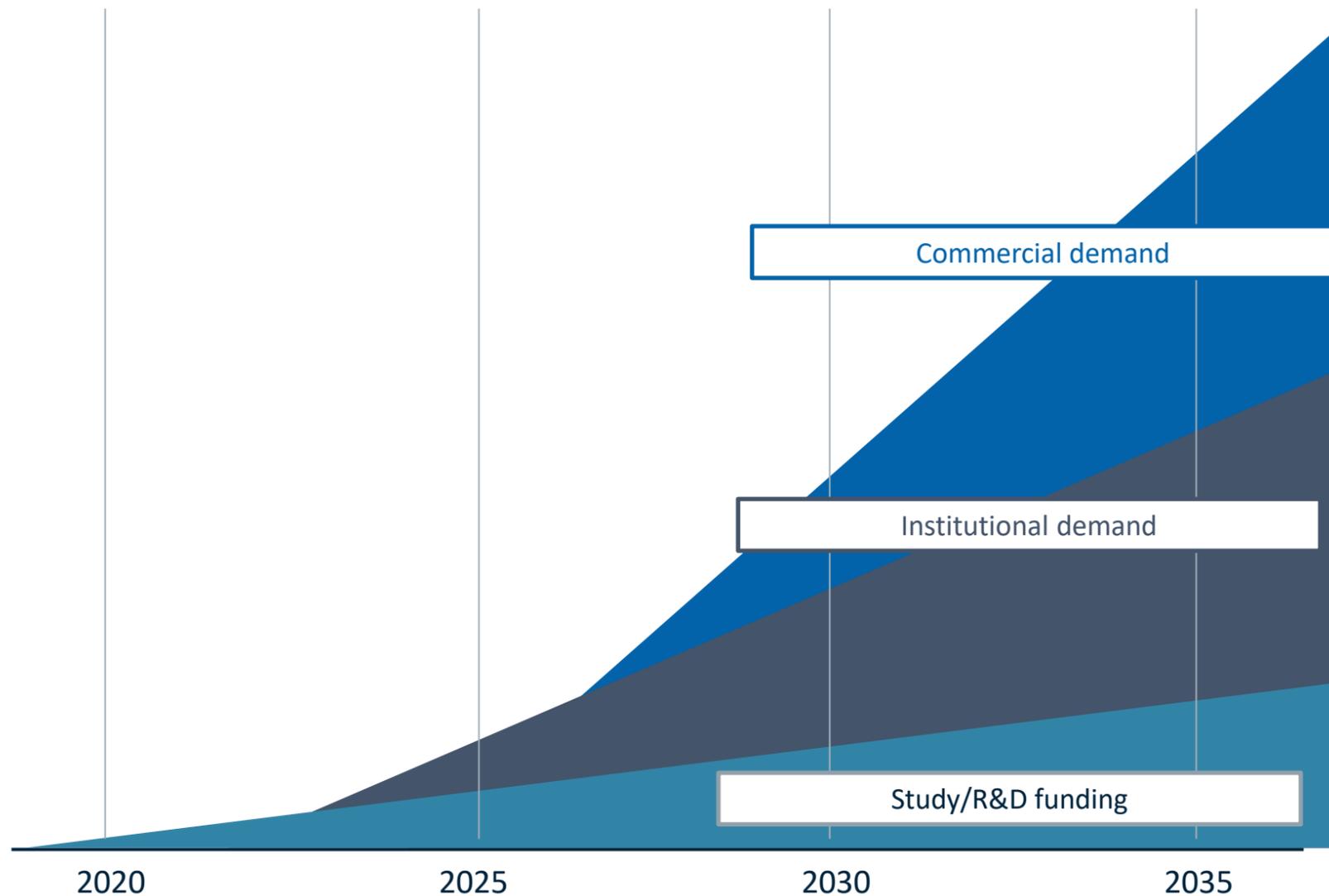
## SECTION 4

Our Business Pipeline is Robust and Growing



# Growth Drivers of Revenue

Early investment in OOS is stimulated by governments through funding of research and technology and procurement of orbital services. Proof of technical capability through government R&D and orbital missions is expected to attract commercial customers and lead to the growth of a viable market. As we prove our technical capabilities, we anticipate increased government demand across all of our mission lines. This will then lead to growing interest and accelerated revenue growth for EOL and LEX services from the private sector. We continue to lead at every step.

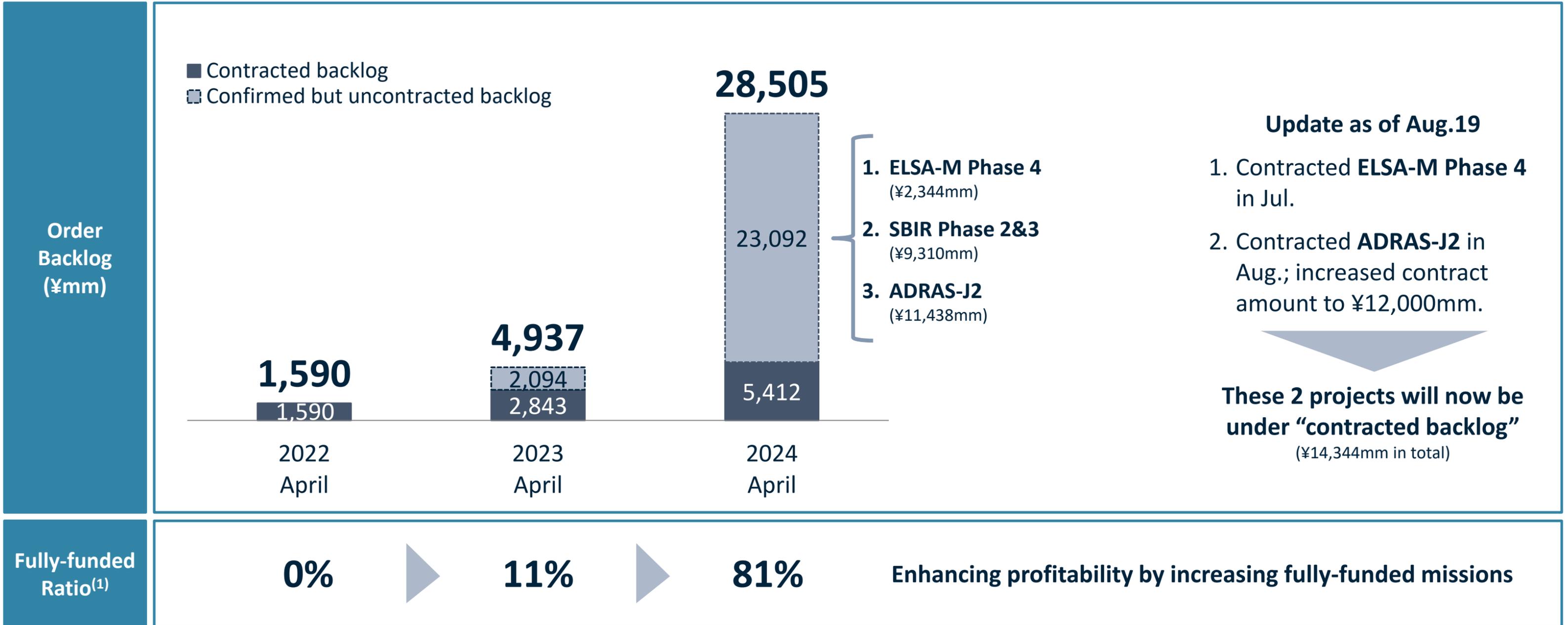


*Note: Vertical axis does not indicate the amount of market size nor our sales target.*

- Growth Driver**
  - Strengthening regulations for satellite operators
  - Optimizing cost-effectiveness for satellite operators
- Growth Driver**
  - Space demonstration of orbital services by government agencies
  - Procurement and utilization of orbital services by government agencies
- Growth Driver**
  - International awareness of space debris issues
  - R&D support for technologies required for orbital services



# Order Backlog (including expected order)



(1) A "fully funded" project is defined as a project that we expect the contract amount will cover the full amount of the then-anticipated mission expenses which has been proposed by us. Ratio is calculated based on contract amount.

(2) Order backlog includes amounts for confirmed but uncontracted projects that do not have any competitors in the process such as ELSA-M Phase 4, SBIR Phase 2 and 3 as well as amounts for ADRAS-J2 which was awarded in April 2024 but not contracted as of April 2024 end.

(3) Assumes foreign exchange rates as of the end of each fiscal year (FY2022: ¥129.79 = \$1, FY2023: ¥136.30 = \$1, FY2024: ¥157.19 = \$1).



# Our institutional pipeline is robust

## Key future pipeline missions

**Expected Project Timeline**



★ Current FY strategic pursuits

● / ■ Planned Launch

FX assumption:

US\$1 = ¥140

€1 = ¥150

£1 = ¥175

#	Project	Service	Customer	Entity	Funding	Payment	Accounting	CY2020	CY2021	CY2022	CY2023	CY2024	CY2025	CY2026	CY2027	CY2028				
								FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028					
<b>Projects contracted, awarded and under proposal</b>																				
1	ELSA-d	-	-	-	Self-funded	-	-	[Timeline bar with yellow dot in FY2021]												
2	ADRAS-J	ISSA	Institutional	Japan	Partial	Milestone	Revenue	¥1.9bn	[Timeline bar with yellow dot in FY2024]											
3	ELSA-M	EOL	Institutional	UK	Partial	Milestone	Revenue	Phase 2: €2.9mm (¥435mm)		Phase 3: €14.8mm (¥2.2bn)		Phase 4: ~€13.95mm (¥2.0bn)								
4	COSMIC	ADR	Institutional	UK	Full	Milestone	Revenue	Ph 0/A: £0.3mm (¥53mm)		Ph B: £2.0mm (¥350mm)		★ Phase C: £40~60mm (¥7.0bn~10.5bn)								
5	SBIR	ISSA	Institutional	Japan	Full	Milestone	Other income				Phase 1: ¥2.6bn		Phase 2/3: ¥9.3bn							
6	APS-R	LEX	Institutional	US	Partial	Milestone	Other income				Increased amount! (Jul. 2024) → \$26.9mm (¥3.7bn)									
7	ADRAS-J2	ADR	Institutional	Japan	Full	Milestone	Revenue	Concept Study: ¥9mm		Front-loading Study: ¥71mm		★ ¥12.0bn								
8	LEXI-P	LEX	Comm./Insti.	US	Full	Milestone	Revenue				★ New contract with amount increased vs expectation! (Aug. 2024) → \$121mm (¥16.9bn)									
9	K-Program	LEX	Institutional	Japan	Full	Milestone	Revenue				★ ~¥10.9bn									
<b>Potential future missions under discussion</b>																				
i	MELCO (Bus)	Others	Comm./Insti.	Japan				[Timeline bar]												
ii	Space Agency	ISSA	Institutional	-				[Timeline bar]												
iii	Defense	ISSA	Institutional	-				[Timeline bar]									Expecting multiple projects			

Note: Project timelines and details of non-contracted projects such as amount are based on current expectations of the Company and is subject to change in the future. A "fully funded" mission or project is one for which, at the outset of the mission or project, we expect that the customer contract amount or project-specific government grant amount will cover the full amount of the then-anticipated mission or project expenses which has been proposed by us. A "partially funded" mission or project is one for which, at the outset of the mission or project, we expect that the customer contract amount or project-specific government grant amount will cover less than the full amount of the then-anticipated mission or project expenses. The actual amount of the contract or the costs incurred for these projects may differ materially from our current expectations. In particular, if we experience unexpected cost increases after the contracts are concluded, we may be required to absorb such cost increases depending on the project, resulting in our costs exceeding the funding amount to a greater extent than initially expected.



# Commercial demand seeded by institutional missions

### Expected Project Timeline



★ Current FY strategic pursuits

● / ■ Planned Launch

FX assumption:

US\$1 = ¥140

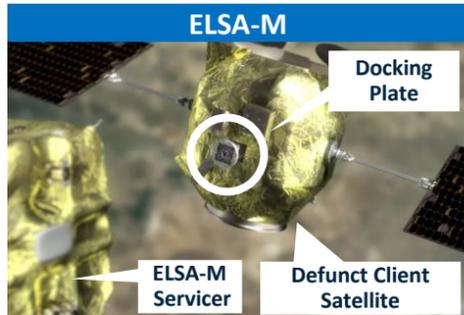
€1 = ¥150

£1 = ¥175

#	Project	Service	Customer	Entity	Funding	Payment	Accounting	CY2020	CY2021	CY2022	CY2023	CY2024	CY2025	CY2026	CY2027
								FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028

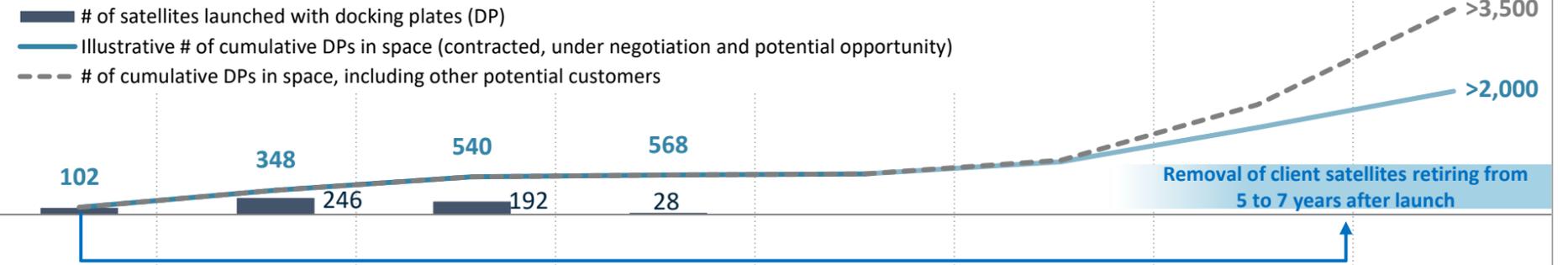
### EOL Missions (ELSA-M Series)

3	ELSA-M	EOL	Institutional	UK	Partial	Milestone	Revenue	Phase 2: €2.9mm (¥435mm) → Phase 3: €14.8mm (¥2.2bn) → Phase 4: ~€13.95mm (¥2.0bn)							
-	EOL	EOL	Commercial	UK	Full	TBD	Revenue	New contract (Jul. 2024)! → Leads to EOL service → Expect multiple mission contracts per year							



#### ELSA-M Service Assumptions

ELSA-M Servicer	
• Removals per mission	: 3 debris
• Revenue per removal (plan)	: \$8-13 mm
Client Satellite	
• Lifetime	: 5-7 years
• Failure rate	: 7-8 %



### LEX Missions (LEXI Series)

8	LEXI-P	LEX	Comm./Insti.	US	Full	Milestone	Revenue	★ \$121mm (¥16.9bn)							
-	LEXI-G	LEX	Institutional	US	Full	Milestone	Revenue	Leads to LEX service → Target total of 1 to 2 contracts per year between institutional and commercial							
-	LEXI-C	LEX	Commercial	US	Full	TBD	Revenue								



#### LEXI Service Assumptions

LEXI Servicer	
• Total life extension capability	: 15 years
• Revenue per servicer (In case of servicer sale)	: \$121 - 215 mm
Client Satellite (GEO Satellites)	
• Lifetime	: 15 years
• Cost	: Several hundred mm\$



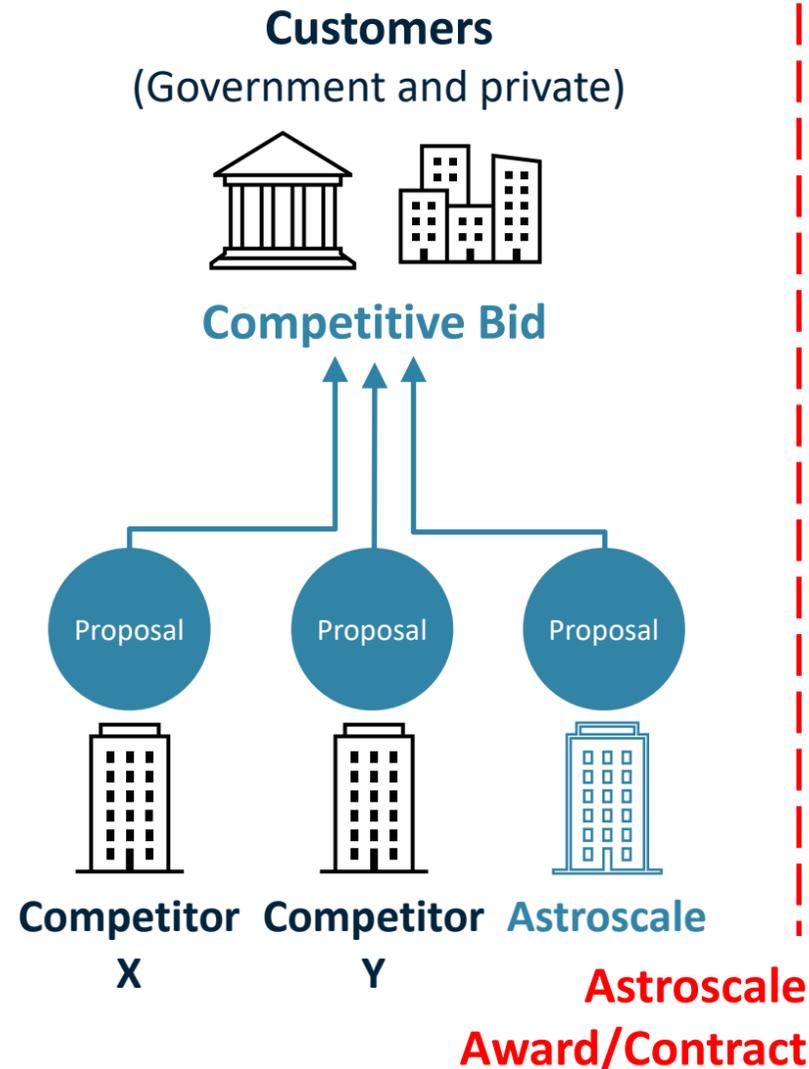
Source: Astroscale estimates. The ELSA-M/LEXI service assumptions, number of docking plates on orbit, retirements of GEO satellites, etc. shown above are based on our estimates and may differ from actual results. Project timelines and details of non-contracted projects such as amount are based on current expectations of the Company and is subject to change in the future.



# Astroscale has an established income generation cycle

Our projects are awarded/contracted through competitive bidding processes and managed closely from design to service delivery. Milestone payment revenue from customers is subject to a cap generally equal to a pro rata portion of the payment over the relevant period. Project income is the key indicator of income derived from project-related activities, regardless of accounting recognition.

## Bidding Phase



## Project Phase

**Project Delivery:** Mission/Satellite Design, R&D, Manufacture, Launch, Operation, Service Provision

### Cash Flow (Example)



### Income Recognition (Example)



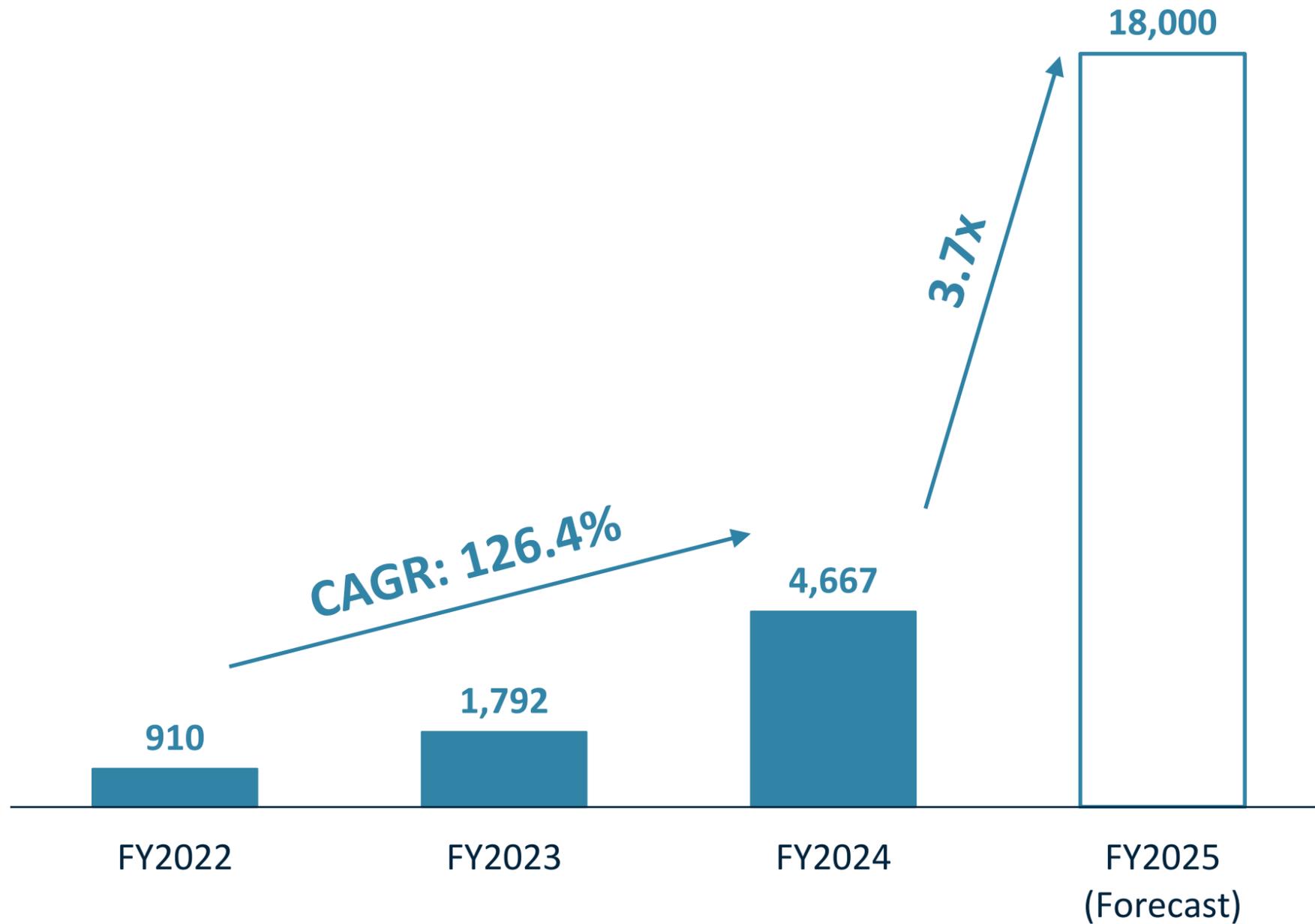
Ordinary projects: Income accounted as revenue.  
 Grant projects: Income accounted as other income (government grant income). } **Project Income** includes income from both project types.

*Note: We currently recognize revenue on a cost recovery basis for certain of our main projects, and accordingly we recognize revenue equivalent to the portion of cost of sales incurred that we deem to have a high probability of recovery, subject to a cap equal to the relevant milestone payment. In case such a relevant milestone payment covers a period longer than a quarterly reporting period, where the relevant milestone payment is highly probable of recovery and where costs are expected to be incurred on a consistent basis, we consider the cap on a pro rata basis over time in each quarter.*



# Project Income (Revenue + Government Grant Income)

FY2022 to FY2024 Actuals and FY2025 Forecast  
(Consolidated, ¥ millions)



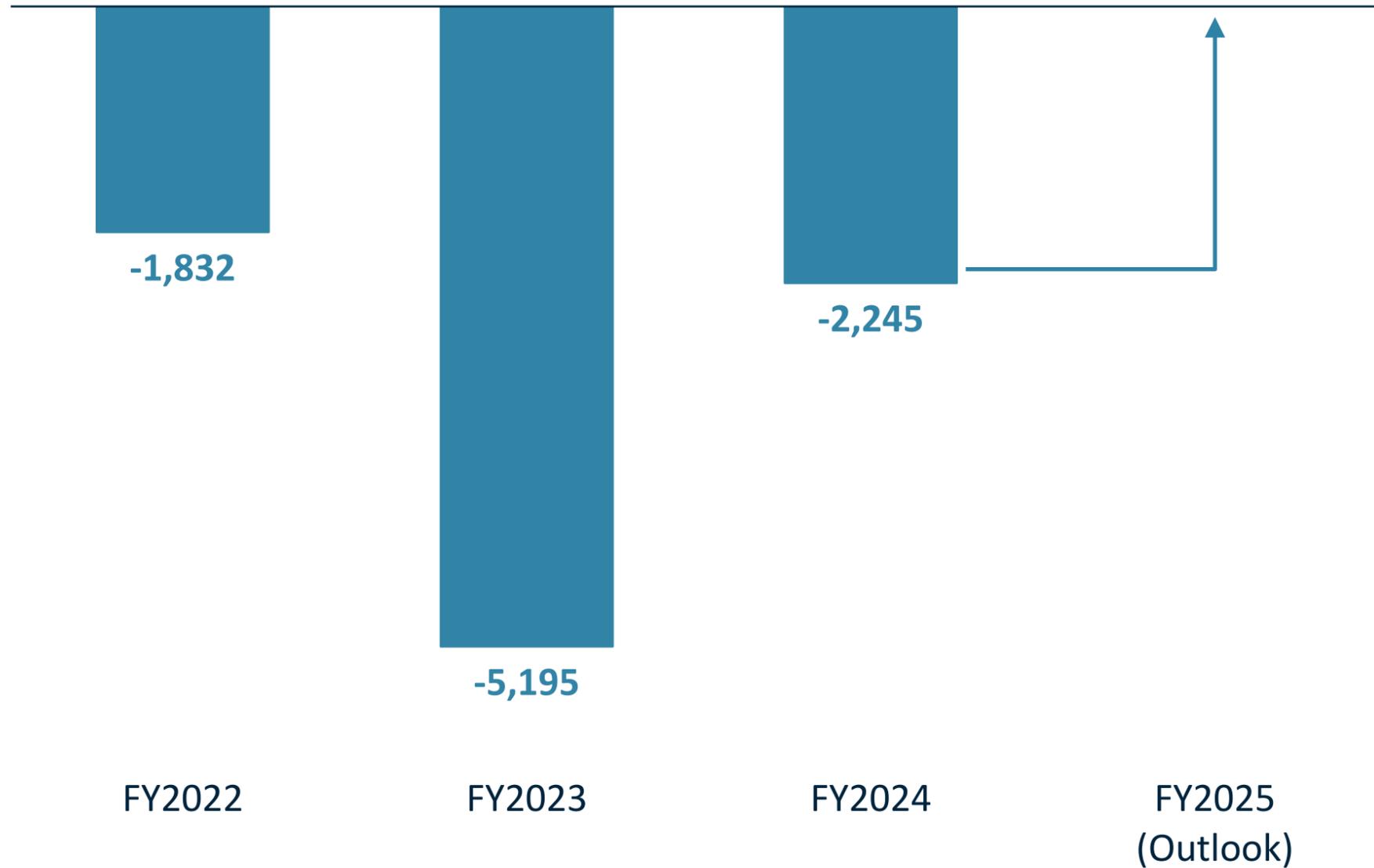
FY2022 to FY2024  
**CAGR of 126.4%**

FY2025  
**Expect 3.7x YoY growth**



# Gross Profit

FY2022 to FY2024 Actuals and FY2025 Outlook  
(Consolidated, ¥ millions)



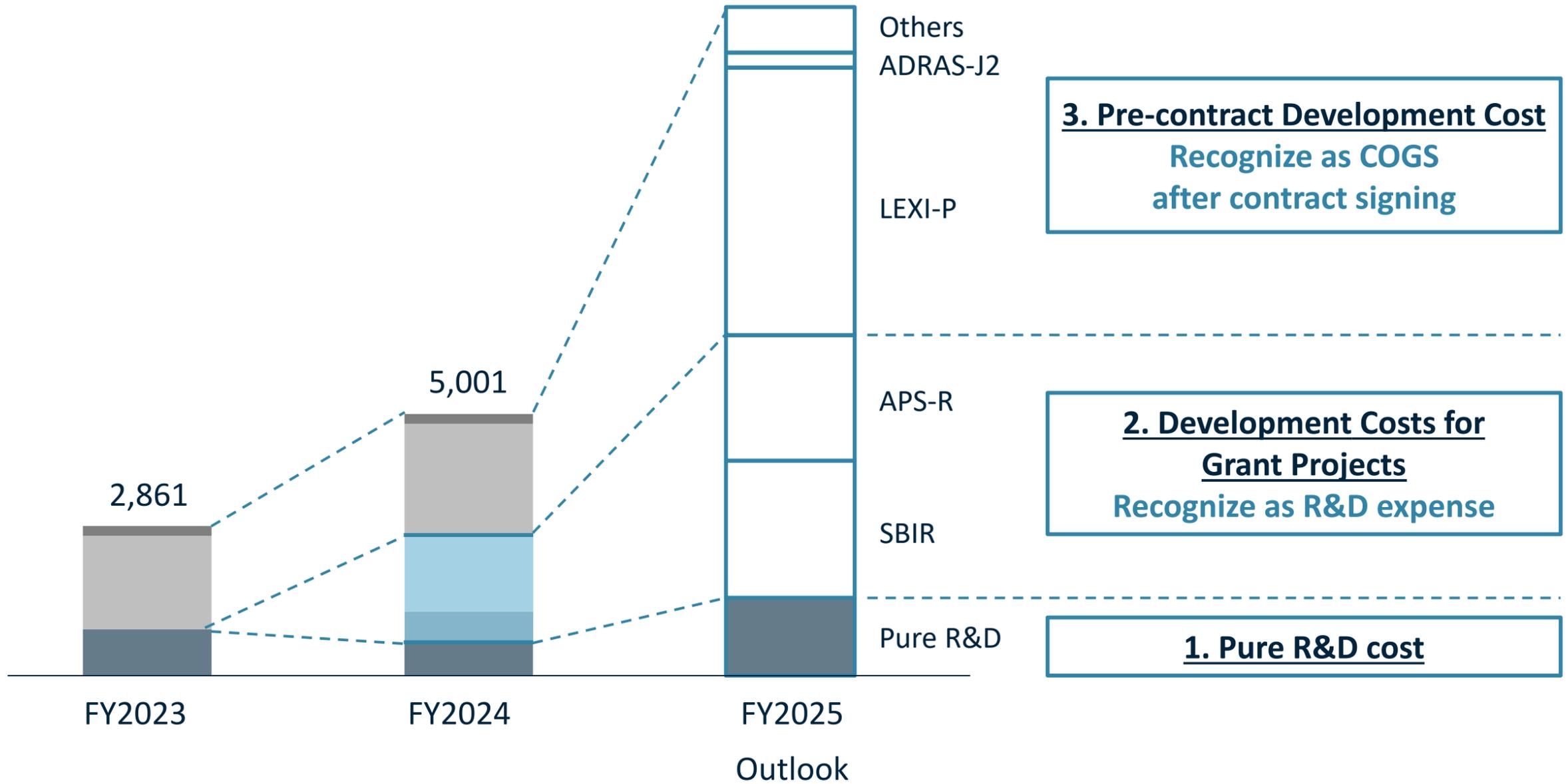
FY2025  
**Aim close to breakeven**

Note: FY2025 outlook is illustrative and is not intended to indicate precise amounts.



# R&D Expenses

FY2023 to FY2024 Actuals and FY2025 Outlook  
(Consolidated, ¥ millions)



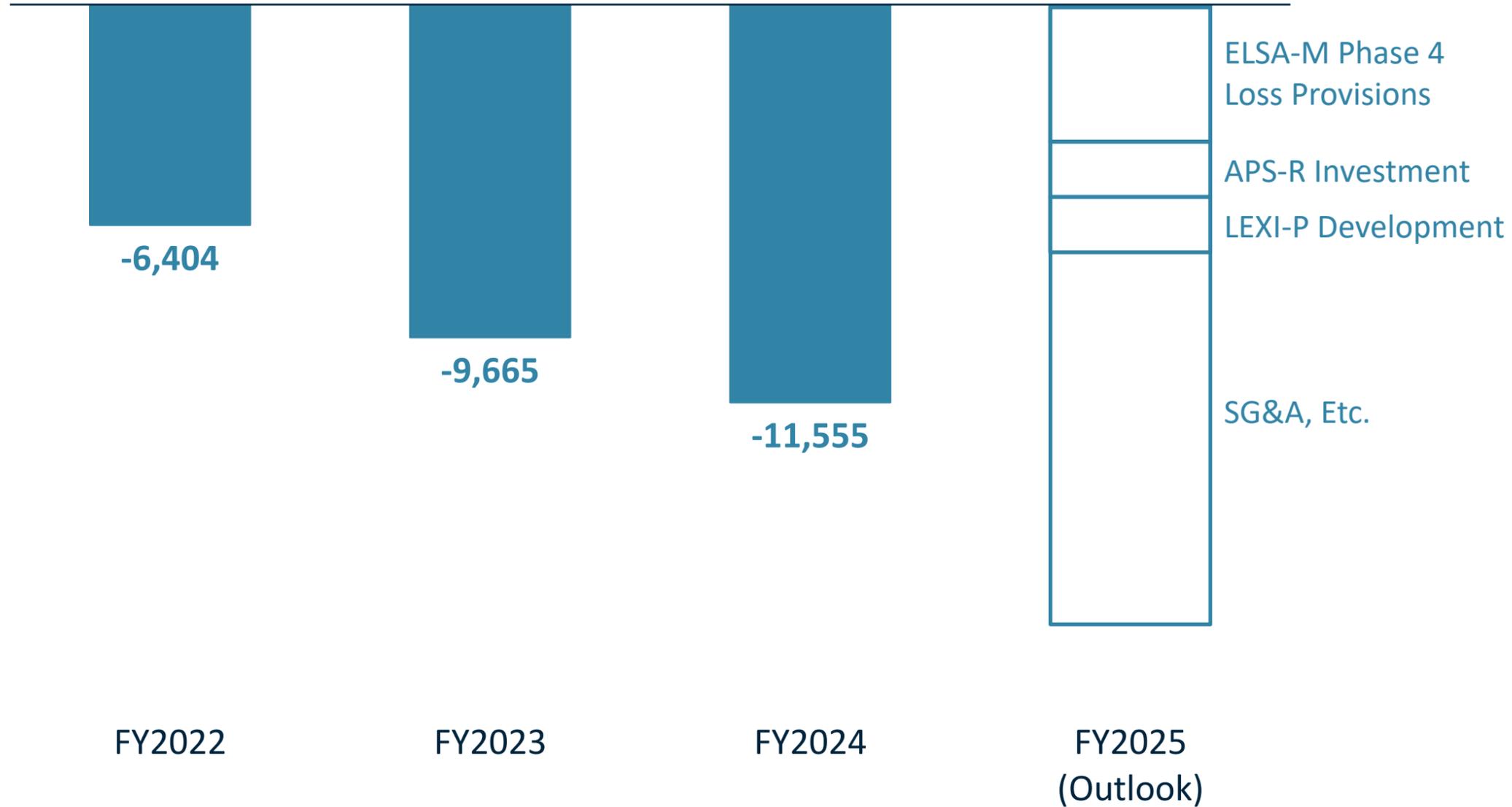
**FY2025**  
**Expect**  
**Decrease from**  
**FY2026**

Note: FY2025 outlook is illustrative and is not intended to indicate precise amounts including breakdowns



# Operating Loss / Profit

FY2022 to FY2024 Actuals and FY2025 Outlook  
(Consolidated, ¥ millions)



FY2025  
**Expect bottoming out**

Note: FY2025 outlook is illustrative and is not intended to indicate precise amounts including breakdowns.



## Illustrative Roadmap to Breakeven: Summary

	FY2025	FY2026
<b>Project Income (Revenue + Government Grant Income)</b>	<ul style="list-style-type: none"> <li>• <u>Forecast: ¥18.0bn</u></li> <li>• Aim to achieve through winning COSMIC Phase C, LEXI-P, and K-program.</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Aim to double YoY.</u></li> <li>• Aim to achieve through winning EOL, LEX and government missions.</li> </ul>
<b>Gross Profit</b>	<ul style="list-style-type: none"> <li>• <u>Target close to breakeven.</u></li> <li>• Aim to reduce contribution of partially-funded projects.</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Aim for significant profit.</u></li> <li>• Aim to further reduce contribution of partially-funded projects and end provision for order losses.</li> </ul>
<b>Operating Profit</b>	<ul style="list-style-type: none"> <li>• <u>Expect increase in losses.</u></li> <li>• Anticipating an increase in R&amp;D expenses through temporary pre-contract development and increased SG&amp;A.</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Target close to breakeven.</u></li> <li>• Aim to end R&amp;D expenses for temporary pre-contract development and reduce rate of increase in SG&amp;A.</li> </ul>

Note: Actual results may differ from the forecasts and targets presented above which are based on current assumptions. The FY2025 forecasts and FY2026 targets entail significant uncertainty with achievement requiring, among other things, the successful contracting of various projects including those listed above with amounts, timing and contract details consistent with assumptions and project costs, R&D expenses and other SG&A expenses in line with assumed levels.



# Long-term Margin Targets

We are focusing on achieving breakeven in gross profit, operating profit, and free cash flow as soon as possible. In the future, we aim to reach industry-leading margins in the space sector with a gross profit margin in the mid-30% range and an operating profit margin in the mid-20% range, driven by the expansion of commercial services.

## Gross Margin Target Mid-30%

Assumptions and drivers for margin expansion



### Revenue Growth Assumptions

- Win new government contracts by leveraging our credentials
- Future growth of commercial services for private enterprises

### COGS Reduction & Drivers

- Reduction of new R&D cost through progress in development of new technology required for business
- Decrease in partially-funded projects as business matures
- Reduction in material costs, labor costs, outsourcing costs including launch cost and insurance premiums through economies of scale

## Operating Margin Target Mid-20%

Assumptions and drivers for margin expansion



### R&D Reduction

- Reduction of self-funded R&D by promoting technology development through customer projects

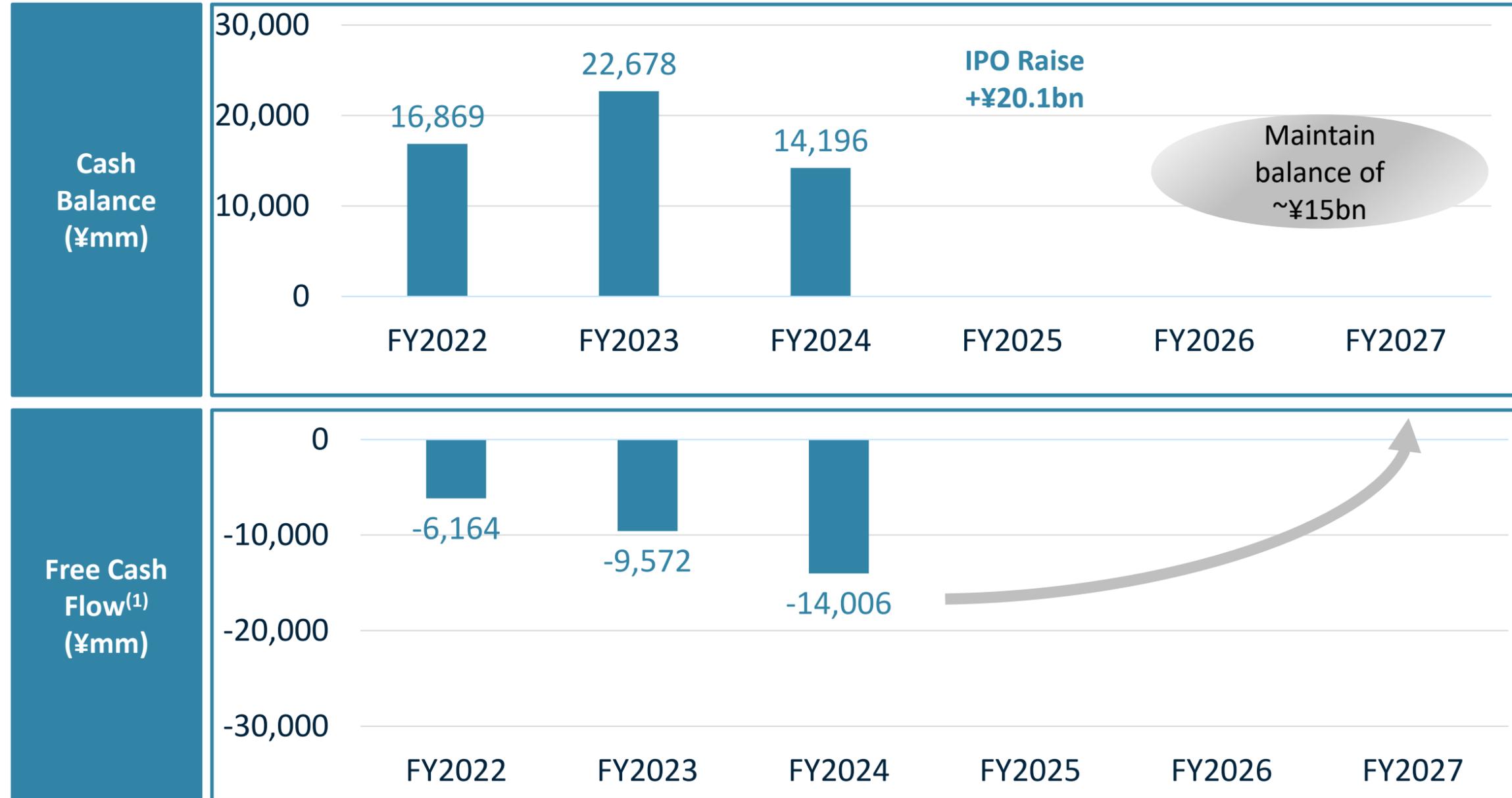
### SG&A Reduction

- Foster a cost-conscious culture and pursue efficiency to achieve cost reduction even during periods of growth



# Cash Flow

Through our IPO in Jun/Jul 2024, we raised required equity capital to achieve breakeven. Our strategy is to target close to free cash flow (FCF) breakeven in FY2027 through various measures to enhance cash flow.

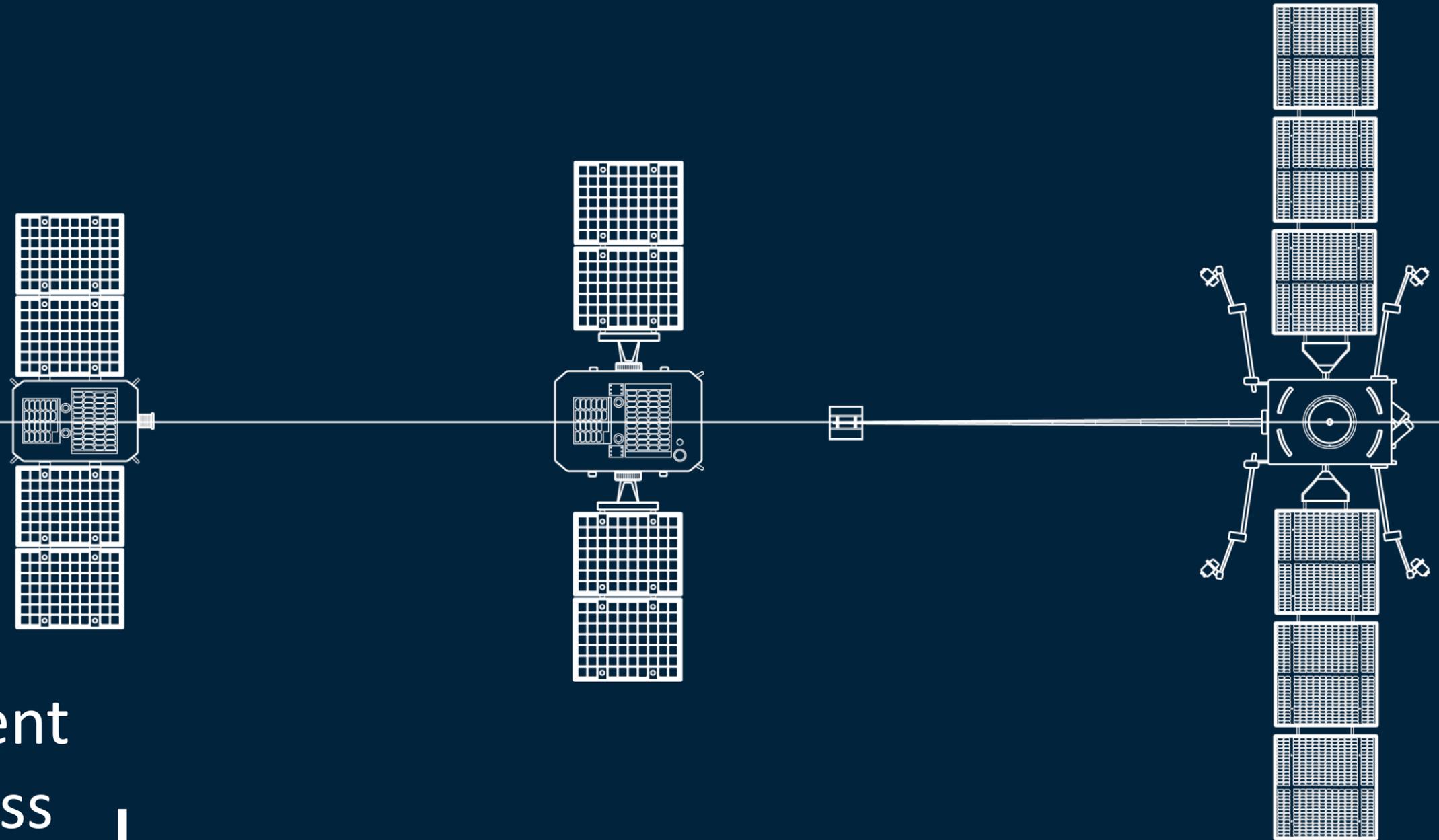


### Strategy

**Target close to FCF breakeven in FY2027**

1. Raised required equity capital through IPO in Jun/Jul 2024.
2. May consider debt raise in the future within appropriate leverage levels.
3. Pursue enhanced cash flow through negotiation of pre-payment from customers, etc.
4. Will consider additional capital raise if attractive investment opportunities arise.

Note: Actual results may differ from the forecasts and targets presented above which are based on current assumptions.  
 (1) Free cash flow is defined as the sum of operating cash flow and investing cash flow.



SECTION 5

Our Global Management Team is Built for Success



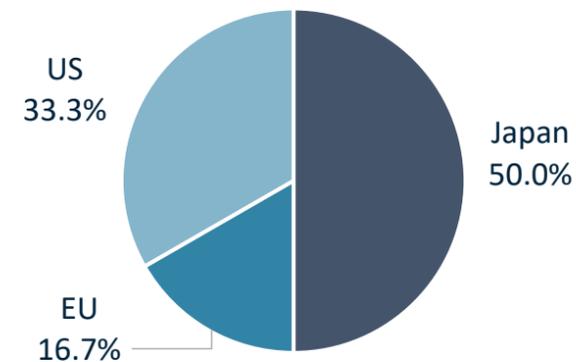
# Our diverse leadership team is experienced and well-connected

## Astroscale Holdings Board of Directors

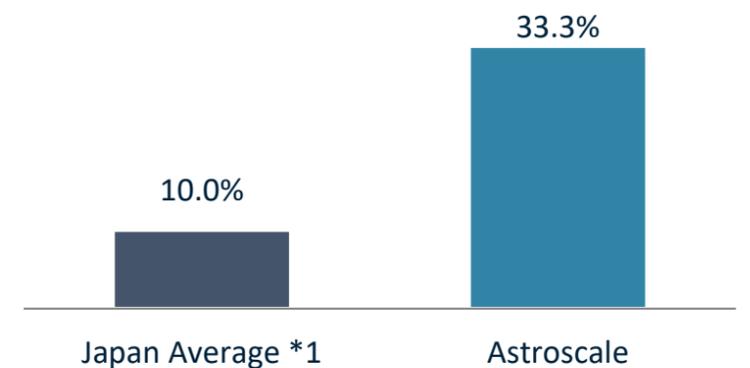
 <p><b>Nobu Okada</b> Founder &amp; CEO   Rep. Director</p> <ul style="list-style-type: none"> <li>Management</li> <li>Business</li> <li>Policy</li> <li>Finance</li> </ul> <p>McKinsey &amp; Company Ministry of Finance, JAPAN</p>	 <p><b>Yuko Noguchi</b> Outside Director</p> <ul style="list-style-type: none"> <li>Legal</li> </ul> <p>Google</p>
 <p><b>Chris Blackerby</b> Chief Operating Officer   Director</p> <ul style="list-style-type: none"> <li>Management</li> <li>Space Industry</li> <li>Policy</li> </ul> <p>NASA Embassy of the United States of America</p>	 <p><b>Johann-Dietrich Wörner</b> Outside Director</p> <ul style="list-style-type: none"> <li>Space Industry</li> <li>Policy</li> </ul> <p>European Space Agency</p>
 <p><b>Nobu Matsuyama</b> Chief Financial Officer   Director</p> <ul style="list-style-type: none"> <li>Management</li> <li>Finance</li> </ul> <p>Goldman Sachs Merrill Lynch</p>	 <p><b>Gayle Sheppard</b> Outside Director</p> <ul style="list-style-type: none"> <li>Management</li> <li>Technology</li> </ul> <p>Microsoft</p>
 <p><b>Gene Fujii</b> Chief Engineer</p> <ul style="list-style-type: none"> <li>Engineering</li> <li>Technology</li> <li>Space Industry</li> </ul> <p>ORBCOMM Orbital</p>	
 <p><b>Mike Lindsay</b> Chief Technology Officer</p> <ul style="list-style-type: none"> <li>Engineering</li> <li>Technology</li> <li>Policy</li> <li>Space Industry</li> </ul> <p>NASA OneWeb</p>	
 <p><b>Kaoru Kodama</b> General Counsel</p> <ul style="list-style-type: none"> <li>Legal</li> </ul> <p>Ministry of Foreign Affairs, JAPAN Linklaters</p>	

## Board of Directors Demography

**Nationality of Directors**  
(3 out of 6 are non-Japanese)



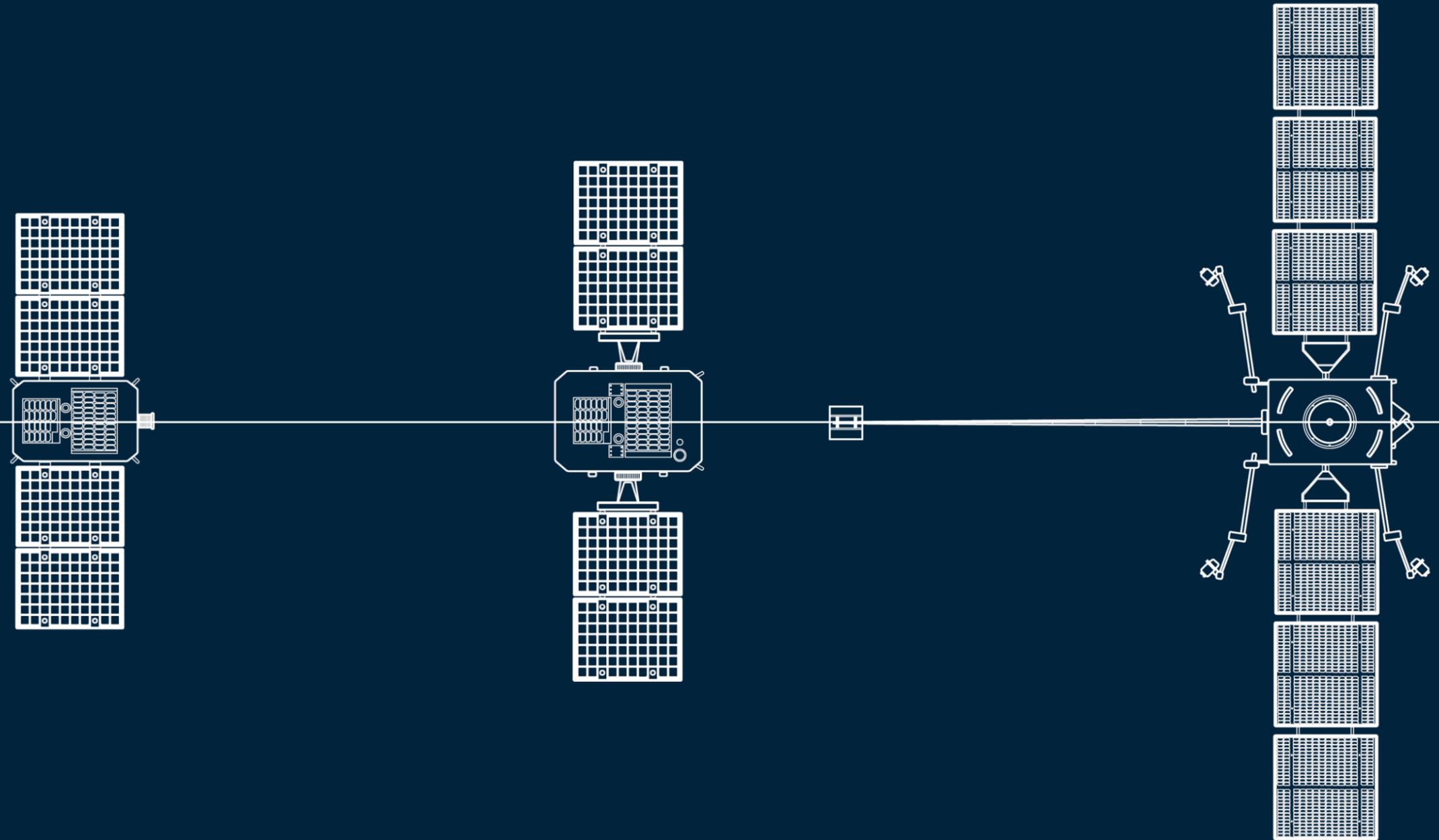
**% of Women Directors**  
(2 out of 6 are women)



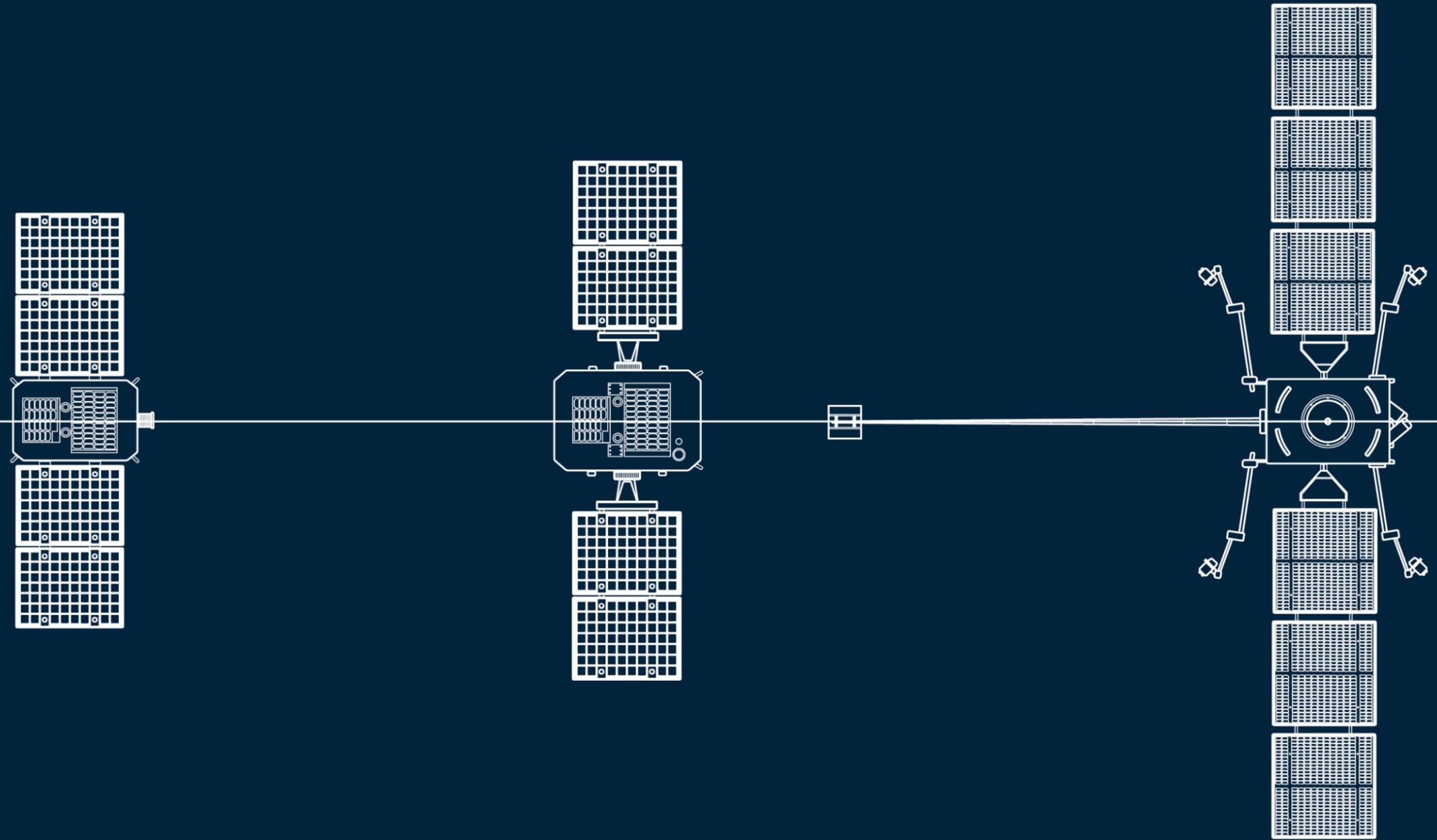
## Astroscale Holdings Management Team

\* Logos represent previous career. Bullet points indicate key expertise of each individual.

\*1 NRI Gender balance, May 2023.



「 Q & A 」



# Appendix



# FY2024 Highlight



## TECHNOLOGY

- ✓ The debris removal technology demonstration satellite "ELSA-d" completed its mission by finalizing de-orbit operations.
- ✓ The commercial debris removal demonstration satellite "ADRAS-J", launched in February 2024 and successfully approached within a few hundred meters behind the target debris.
- ✓ The UK Space Agency completed the Preliminary Design Review (PDR) phase (Phase B) of the debris removal (ADR) research program "COSMIC".



## BUSINESS

- ✓ Secured several large awards (¥12bn MEXT SBIR mission, \$25.5mm US Space Force refueling mission) and selected for large project (¥11.4bn JAXA commercial debris removal demonstration phase 2 "ADRAS-J2"), received technical study orders (ADR research for CNES, feasibility study for refueling from the UK Space Agency).
- ✓ Total order booking: ¥6.7bn, anticipated order backlog as of the end of April 2024: ¥28.5bn (including anticipated orders for subsequent phases with no competition).
- ✓ Signed term sheet for LEX service (\$121mm).
- ✓ Signed DP sales contracts with multiple companies.



## GLOBAL

- ✓ Established Astroscale France SAS in June 2023.
- ✓ Astroscale U.S. Inc. obtained facility security clearance in July 2023.
- ✓ Progress in the establishment of frameworks for space debris at global institutions (G7 Summit "Communique," ESA "ESA Space Debris Mitigation Requirements," UK's King Charles "Astra Carta," ITU "Guidance on Safe and Efficient Deorbiting and/or Disposal Strategies and Methodologies," Japan's Cabinet Office "Guidelines on Space Debris Mitigation").



# Multiple missions have been awarded with many other missions under discussion

Phase 4 Awarded in FY2025

ELSA-M - €32.6M<sup>\*1</sup>



**Mission:**

Approach, capture and remove a prepared OneWeb satellite in orbit.

**Status:**

Mission awarded for Phase 1-3. Phase 4 is contracted in July 2024. Planned launch in FY2026.

Phase 1 Awarded in FY2024

SBIR - ¥12.0B<sup>\*1</sup>



**Mission:**

Approach and characterize two JAXA debris objects in orbit.

**Status:**

Mission awarded. Currently it is in Phase 1 and is scheduled for launch in FY2027.

Awarded in FY2024, Increasing amount in FY2025

APS-R - \$26.9M



**Mission:**

US Space Force funded mission to demonstrate refueling capabilities.

**Status:**

Mission awarded. Development of first mission phase on schedule following review with customer in early 2024. Contract amount is increased in July 2024.

Awarded in FY2025

ADRAS-J2 - ¥12.0B<sup>\*2</sup>



**Mission:**

Approach, capture and remove the same object being characterized in ADRAS-J.

**Status:**

Selected. Selected in April and contracted in August 2024. Planned launch in FY2028.

Term Sheet signed in FY2024

COSMIC -£40-60M<sup>\*1</sup>



**Mission:**

UK Space Agency ADR mission to remove two small (~150kg) debris objects.

**Status:**

**Downselected.** One of two finalists designing a mission plan. Decision expected in mid-2024. Planned launch in FY2027.

LEXI-P - \$121M<sup>\*1</sup>



**Mission:**

Dock with and extend life of a GEO satellite.

**Status:**

Non-binding term sheet signed. Development on track for expected launch in FY2026. Currently in contract negotiations.

K-Program - ~ ¥10.9B<sup>\*1</sup>



**Mission:**

Demonstrate capability to refuel a prepared satellite in LEO.

**Status:**

Bid under review by government with selection expected in mid-2024.

Awarded or selected for full mission or a part of mission

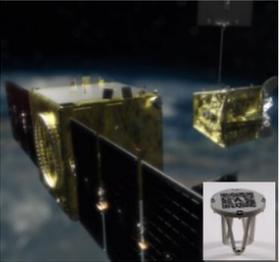
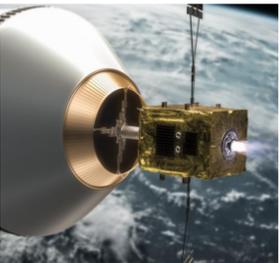
Downselected and/or under negotiation

<sup>\*1</sup>: Regarding the potential revenue opportunity of each entire mission, please refer to more detailed descriptions included on page 35. The above revenue opportunities are estimated contract amounts for missions for which we have not yet received orders for all or part of the phases and there is a possibility that we will not receive orders for subsequent phases or that the actual contract amounts will differ from the above estimated contract amounts. There is no guarantee that we will be able to actually carry out launches, etc. at the above timing or realize the contents of the projects as planned.



# Our missions cover multiple orbits and serve numerous types of customers

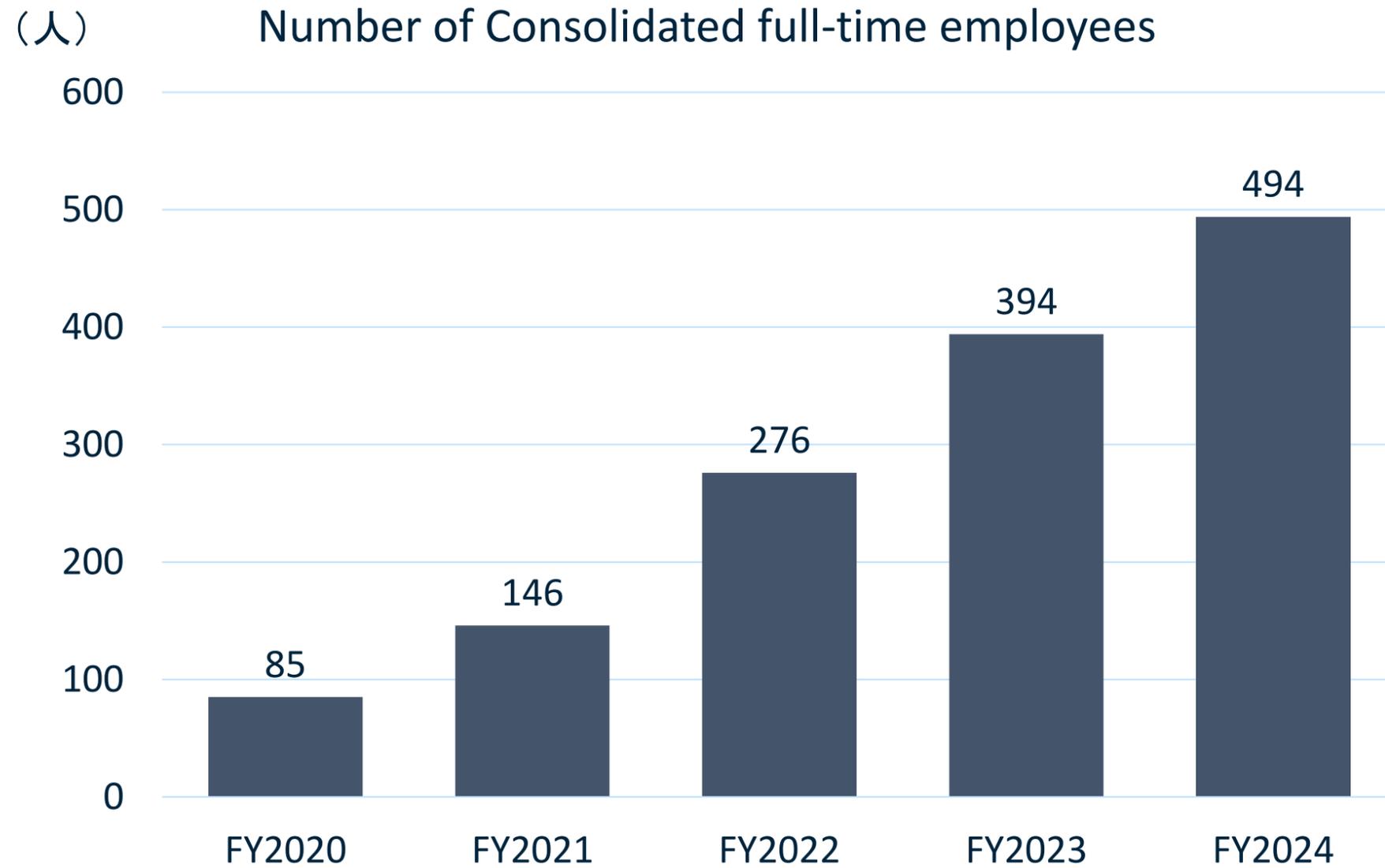
Our group has already received orders for four on-track services utilizing proven RPO technology. We are the only company in the world with a track record of receiving orders for multiple such services

Business Segments	Mission	Customer	Objects	Value Propositions	Revenue Opportunity* <sup>1</sup>
<b>EOL</b> End-of-Life 	<b>Prevent</b> Future Debris	Commercial	Prepared Defunct Satellites (with Docking Plate)	<ul style="list-style-type: none"> <li>Business sustainability – Reduce risks to company assets</li> <li>Regulatory compliance – Get ahead of new laws</li> <li>TCO (Total Cost of Ownership) optimization – Utilize asset to the full extent of life</li> </ul>	\$8 - 13mm per removal* <sup>2</sup> (company plan)
<b>ADR</b> Active Debris Removal 	<b>Remove</b> Existing Debris	Government	Unprepared Defunct Satellites & Rocket Bodies (no Docking Plate)	<ul style="list-style-type: none"> <li>Space Sustainability – Protect orbits for future</li> <li>Asset preservation – Reduce risk to high value satellites</li> </ul>	¥12.0bn(ADRAS-J2) £40~60mm (COSMIC)
<b>LEX</b> Life Extension 	<b>Extend</b> Satellite Life	Commercial/ Government	High Value Satellites in Operation	<ul style="list-style-type: none"> <li>ROI maximization – Maintain active satellite revenue</li> <li>Reduce costs – Avoid capex of new satellite launch</li> <li>National security – Preserve essential security sats</li> </ul>	Orbit adjustment: \$121mm(LEXI-P) ~ 215mm(LEXI-G)* <sup>3</sup> Refuel: \$26.9mm (APS-R) ~¥10.9bn (K-program)
<b>ISSA</b> In-Situ Space Situational Awareness 	<b>Observe</b> Orbital Environment	Government	Orbital Highways and Potential Risks	<ul style="list-style-type: none"> <li>Cost reduction – Inspection of client before servicing</li> <li>National security – Avoid threats in orbit</li> <li>Forensics – Understand technical issues of assets</li> </ul>	¥12.0bn (SBIR)

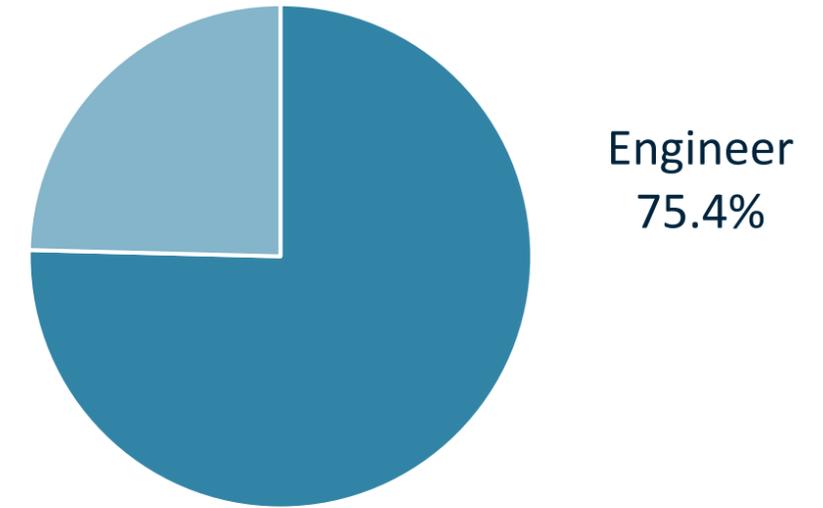
\* Pictures are for illustrative purposes.



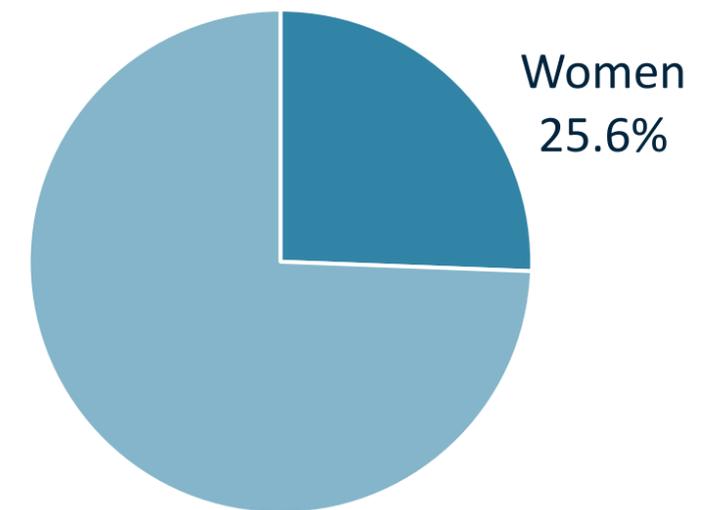
# Employee, Engineer/Women Ratio (As of April 2024)



Ratio of Engineer



Ratio of Women

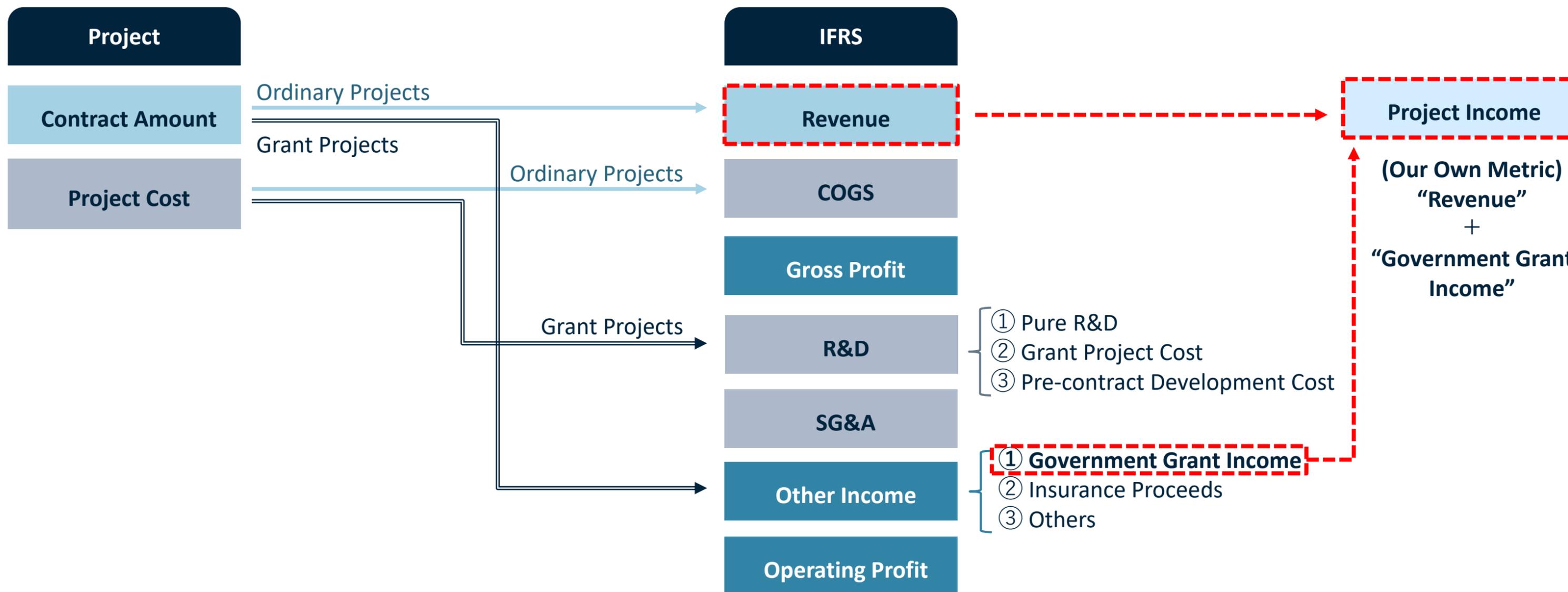


Note: Number of consolidated employees does not include consultants and part-time staffs.



# Project Income

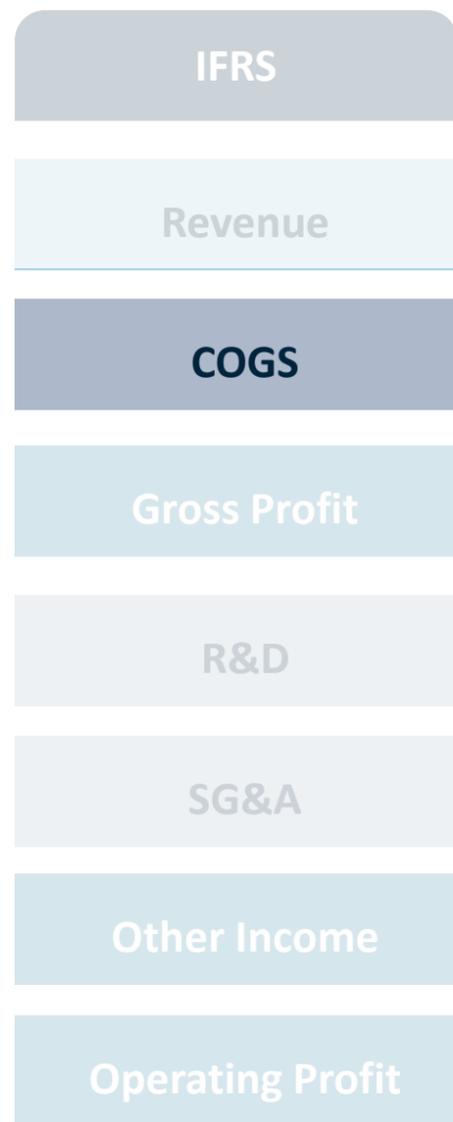
Our group adopts IFRS accounting standards. As a result, government subsidy income is recorded as "other income" rather than revenue. However, since there is no operational difference between standard projects and government subsidy projects for us, we manage both types of income under our own metric, "project revenue." We believe that this project revenue is the most effective measure for representing the actual state of our business.



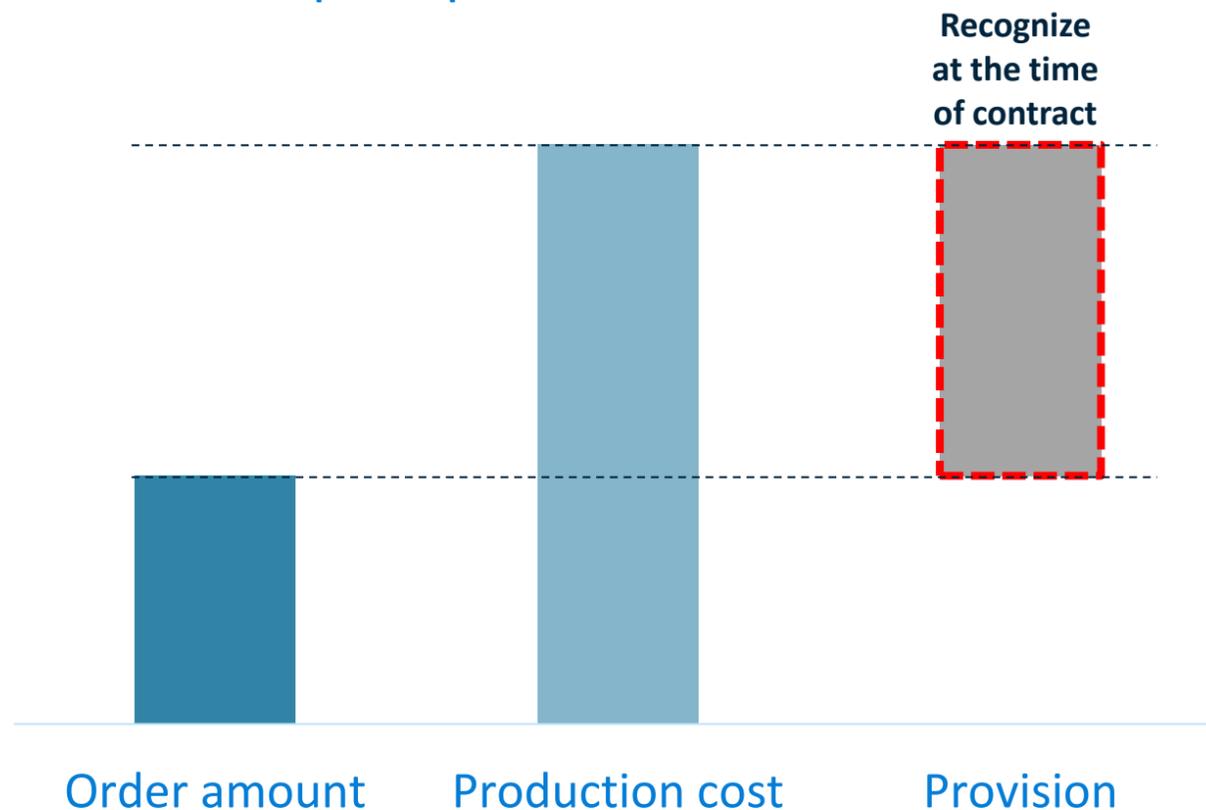


# Provision for loss on orders

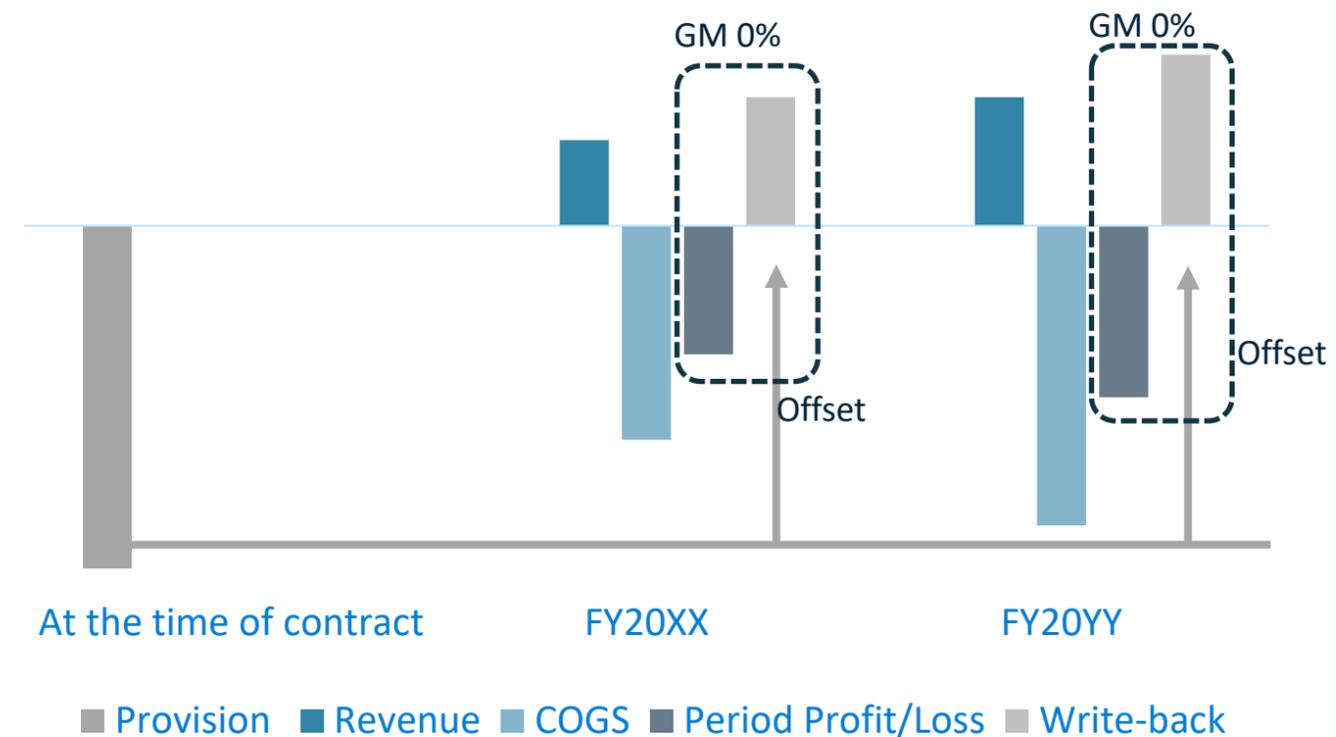
The reserve for loss on orders is recognized and recorded when a loss is confirmed at the time of the project contract. It primarily applies to projects where costs are contributed by certain customers (government-related). The ADRAS-J and ELSA-M projects are key examples where such reserves have already been recorded or are planned to be recorded. However, for government-funded projects where losses are confirmed at the time of the contract (such as APS-R), recording a reserve for loss on orders is not required. Instead, we record these expenses as research and development costs and the revenue as other income, with the difference appearing as a loss on the profit and loss statement



## Concept of provision for loss on orders



## For projects with provision for loss on orders, the period profit and loss is at GM 0%





# P/L (FY2022-FY2024)

(¥ million)	FY2022	FY2023	FY2024
Project Income (Non-GAAP)	910	1,792	4,667
Revenue (IFRS)	910	1,792	2,852
Cost of Sales	(2,742)	(6,988)	(5,097)
Gross Profit (Loss)	(1,832)	(5,195)	(2,245)
Gross Margin	(201.3)%	(289.8)%	(78.7)%
R&D	(2,170)	(2,861)	(5,001)
SG&A (excl. R&D)	(2,591)	(4,547)	(6,694)
Other Income	190	2,938	2,386
Operating Profit (Loss)	(6,404)	(9,665)	(11,555)
Operating Margin	(703.5)%	(539.1)%	(405.1)%
Finance Income	853	507	2,824
Finance Costs	(12)	(155)	(488)
Profit (Loss) Before Tax	(5,563)	(9,314)	(9,219)
Income Tax	79	49	38
Profit (Loss)	(5,484)	(9,264)	(9,181)
Earnings Per Share (¥)	(73.66)	(111.16)	(101.45)



# Balance Sheet (FY2022-FY2024)

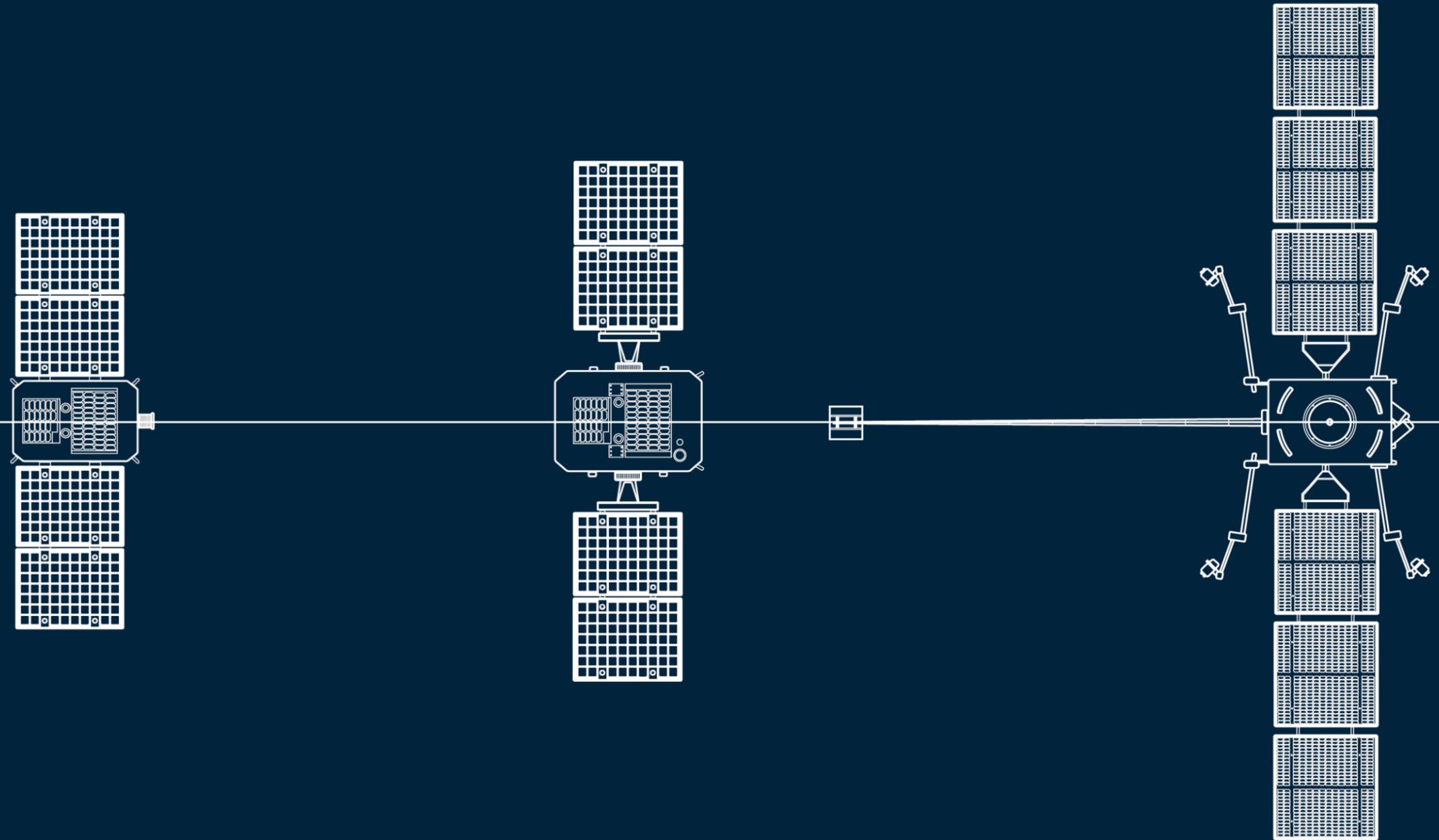
(¥ million)	FY2022	FY2023	FY2024
<b>Assets</b>			
<b>Current assets</b>			
Cash and cash equivalents	16,869	22,678	14,196
Trade and other receivables	401	472	1,044
Contract Assets	84	496	794
Other current assets	235	769	1,710
<b>Total current assets</b>	<b>17,590</b>	<b>24,417</b>	<b>17,746</b>
<b>Non-current assets</b>			
Property, plant and equipment	1,778	5,151	6,214
Intangible assets	143	138	220
Other non-current assets	613	730	809
<b>Total non-current assets</b>	<b>2,535</b>	<b>6,020</b>	<b>7,244</b>
<b>Total assets</b>	<b>20,125</b>	<b>30,437</b>	<b>24,990</b>

(¥ million)	FY2022	FY2023	FY2024
<b>Liabilities</b>			
<b>Current liabilities</b>			
Trade and other payables	774	1,674	2,945
Contract Liabilities	109	253	0
Borrowings (Current)	943	988	2,487
Provision (Current)	1,899	3,726	2,071
Lease obligations (Current)	146	226	239
Other current liabilities	73	116	1,119
<b>Total current liabilities</b>	<b>3,946</b>	<b>6,987</b>	<b>8,864</b>
<b>Non-current liabilities</b>			
Borrowings (Non-current)	500	5,475	7,375
Provision (Non-current)	672	43	271
Lease obligations (Non-current)	914	3,041	3,078
<b>Total non-current liabilities</b>	<b>2,087</b>	<b>8,559</b>	<b>10,725</b>
<b>Total liabilities</b>	<b>6,033</b>	<b>15,547</b>	<b>19,589</b>
<b>Equity</b>			
Share capital	100	100	100
Capital surplus	14,881	19,643	7,858
Retained earnings	(487)	(4,287)	(679)
Other reserves	(402)	(564)	(1,878)
<b>Equity attributable to owners of the parent</b>	<b>14,091</b>	<b>14,890</b>	<b>5,401</b>
<b>Total Equity</b>	<b>14,091</b>	<b>14,890</b>	<b>5,401</b>
<b>Equity and liabilities</b>	<b>20,125</b>	<b>30,437</b>	<b>24,990</b>



# Cashflow (FY2022-FY2024)

(¥ million)	FY2022	FY2023	FY2024
(Loss) / Profit before taxation	(5,563)	(9,314)	(9,219)
Depreciation / Amortization	192	455	739
(Increase) / Decrease in trade and other receivables	588	(894)	(1,738)
Increase / (Decrease) in trade and other payables	451	1,045	881
Increase / (Decrease) in provisions	(629)	1,067	(1,952)
Others	(712)	(2,864)	(3,988)
Subtotal	(5,673)	(10,505)	(15,277)
Others	172	2,568	2,455
Cash flow from operating activities	(5,501)	(7,937)	(12,822)
Purchase of property, plant and equipment	(480)	(1,528)	(1,082)
Purchase of intangible assets	(24)	(10)	(87)
Others	(157)	(95)	(12)
Cash flow from investing activities	(662)	(1,634)	(1,182)
Proceeds from issuance of shares	12,381	10,189	996
Net increase (decrease) in short-term borrowings	943	20	1,424
Proceeds from long-term borrowings	500	5,000	1,975
Others	(30)	18	(250)
Cash flow from financing activities	13,794	15,227	4,145
Effects of changes in foreign exchange rates	295	154	1,377
Change in cash and cash equivalents	7,925	5,809	(8,482)
Cash and cash equivalents at beginning of period	8,943	16,869	22,678
Cash and cash equivalents at end of period	16,869	22,678	14,196



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