



UNOOSA 31<sup>st</sup> Workshop

# Introduction to Astroscale

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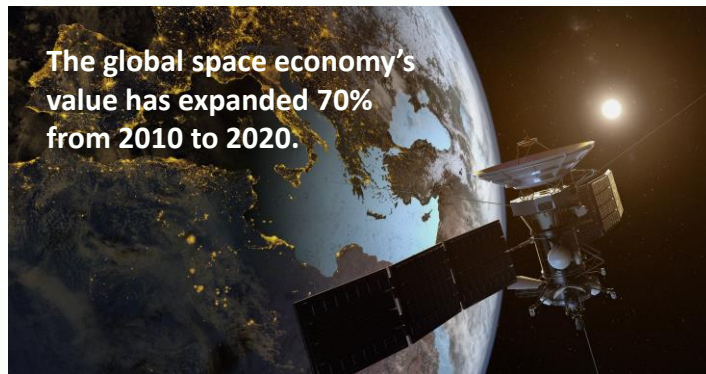




# Astroscale

## VISION

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



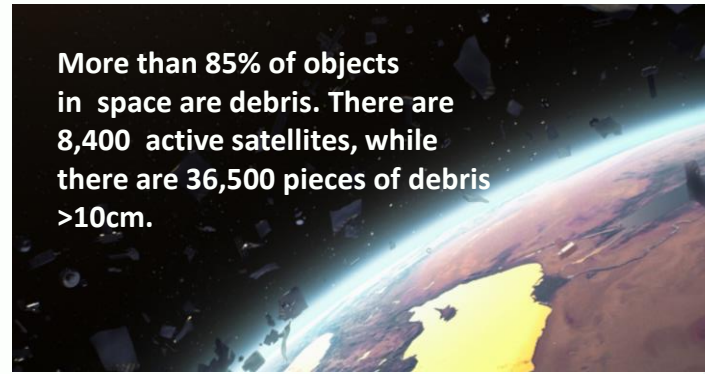
### Situation

The global economy is more dependent on satellites than ever before for transportation, logistics, finance, agriculture, communications, and more.

Source: CNBC, "The space industry is on its way to reach \$1 trillion in revenue by 2040, Citi says" | May 21, 2022

## MISSION

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



### Problem

These satellites are not being refueled, recycled, repaired or removed, and are becoming orbital debris, putting the orbital environment and the global economy at risk.

Source: European Space Agency, "Space debris by the numbers" | August 11, 2023



### Opportunity

Governments are already funding contracts to demonstrate debris removal/servicing and commercial industry players are looking for solutions that help keep the space environment safe.

Source: NSR IOSM 3-5, Morgan Stanley |  
\* \$14bn represents cumulative revenue up to 2032.



**Space Sustainability made easy.**

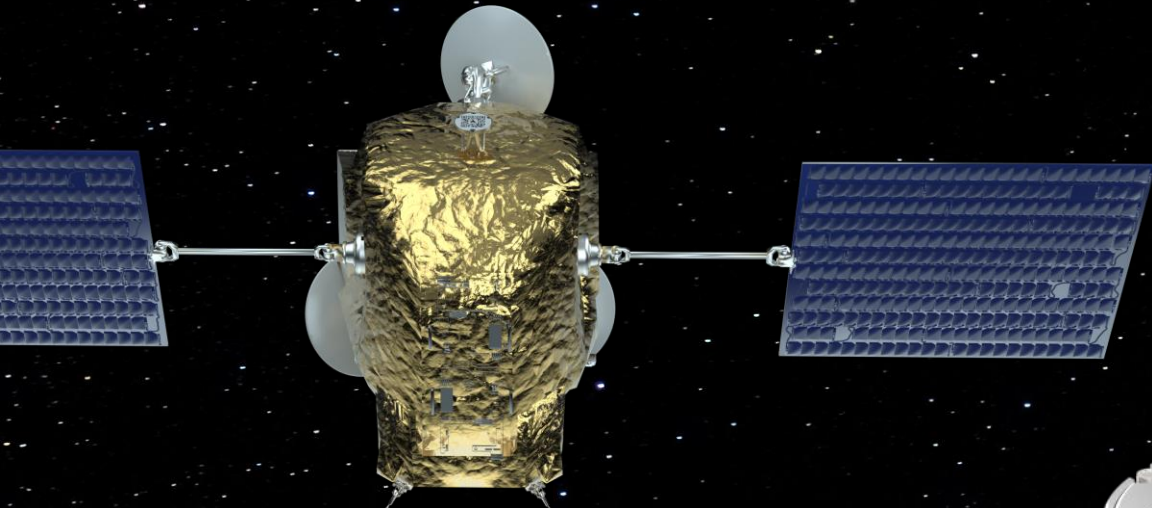


Customisable | Simple Integration | Tested & Proven

**#GoDockingPlate**

# Astroscale Docking Plate

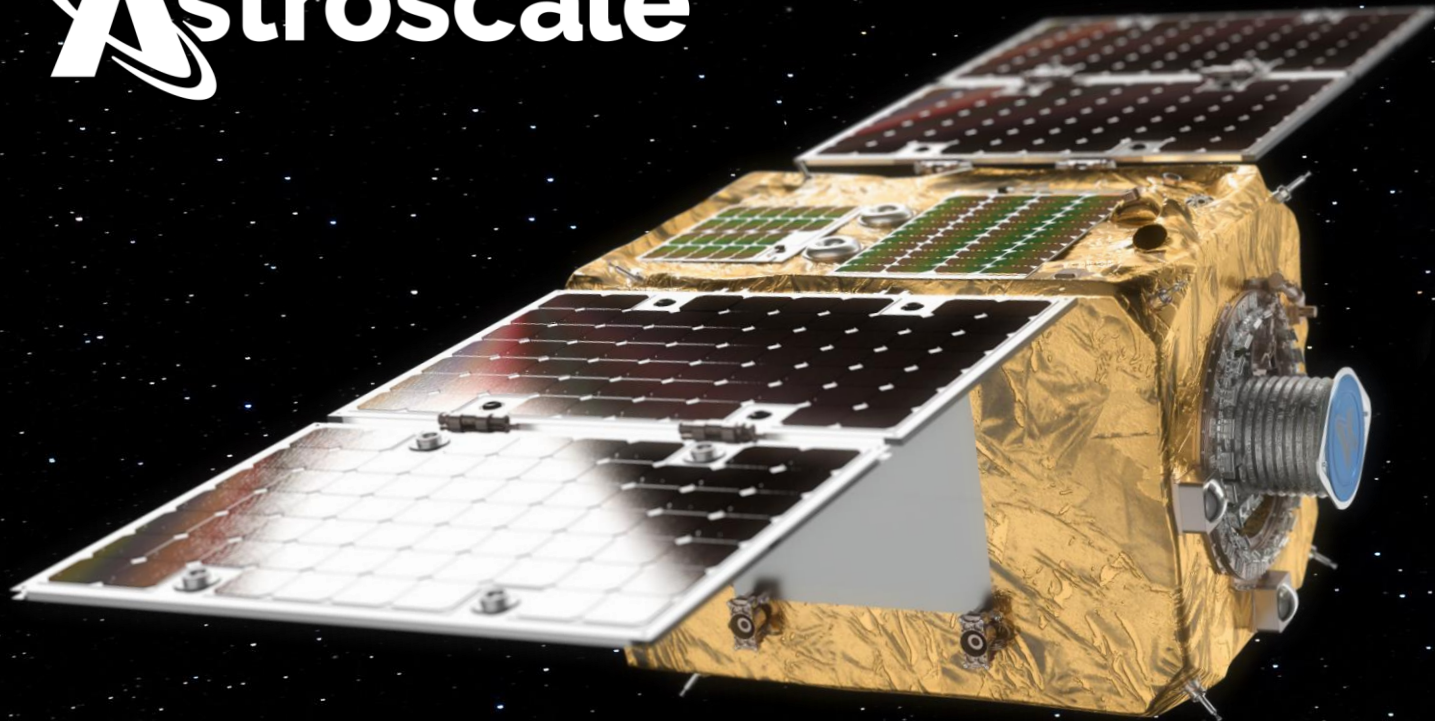
*Space Sustainability made easy.*



- Preparing satellites for in-orbit Servicing.
- Sustainable practice for space.

Customisable | Simple Integration | Tested & Proven





ELSA-d  
Proof of concept

End of Life Services by Astroscale - demonstration

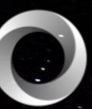


*The world's first  
multi-removal servicer*

# ELSA-M

ELSA-M will show the commercial  
viability of  
in-orbit rendezvous and magnetic  
capture with  
in-orbit client satellites.

Servicer aims to sustain a  
responsible space economy with a  
fleet of servicers  
in-orbit.

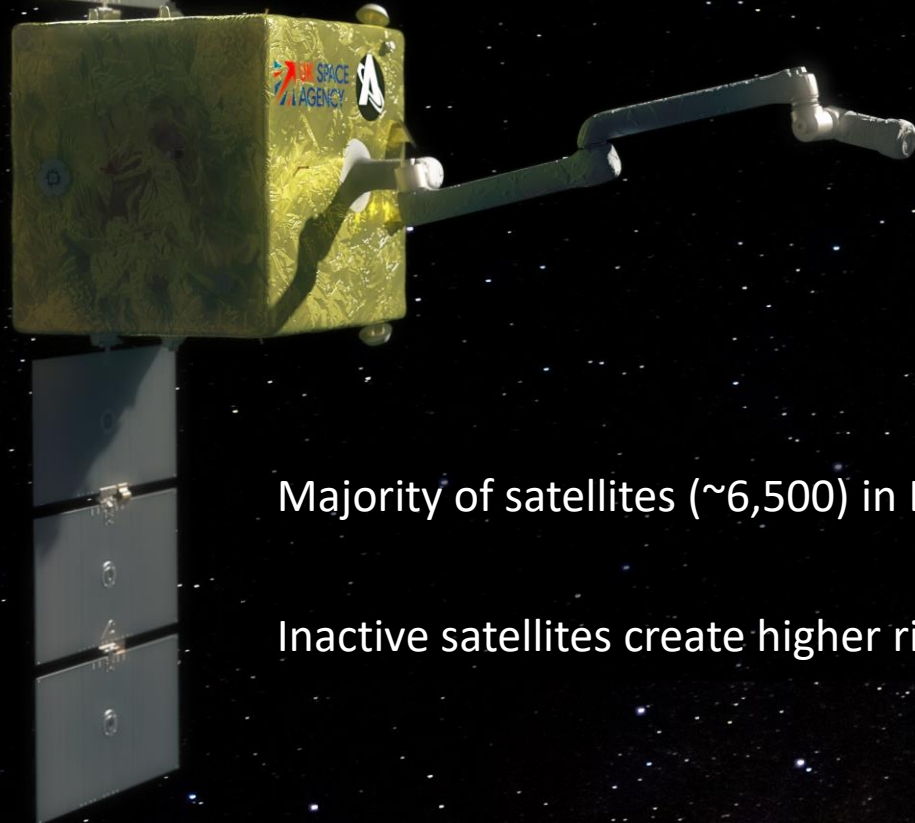






Remove two inactive UK satellites in 2026.

Demonstrate capture technology for unprepared satellites.



# COSMIC

*Cleaning Outer Space Mission through Innovative Capture*

Majority of satellites (~6,500) in LEO are not prepared.

Inactive satellites create higher risk of collisions.



# ADRAS-J

The world's first close-proximity  
inspection of an existing large  
piece of debris – an upper stage  
rocket body

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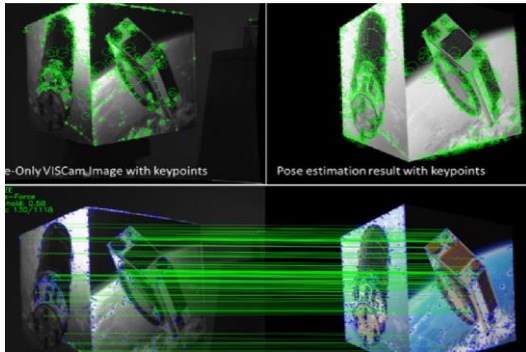






# Astroscale Technology

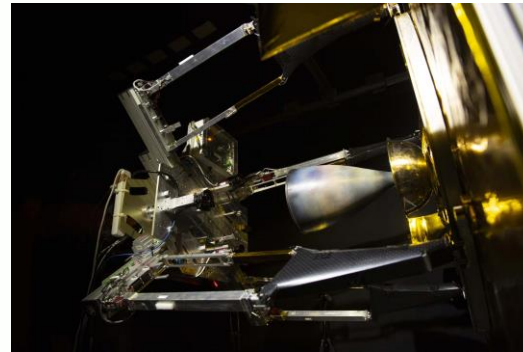
*Astroscale missions are underpinned by world-leading in-orbit servicing technology*



## RPO and GNC

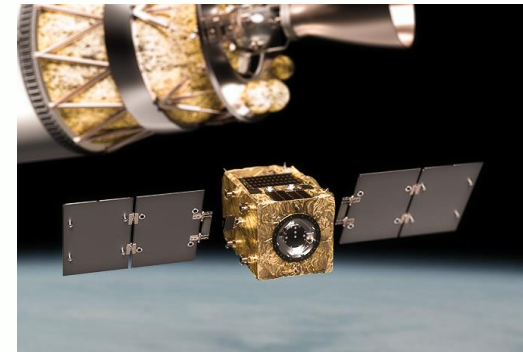
*(Rendezvous & Proximity Operations  
& Guidance, Navigation & Control)*

Develop the software for computer vision and other on-board components that guide our servicing satellite to a client space object and perform far and near range approach to prepare for rendezvous and servicing



## Docking, Interfaces, and Robotics

Design and manufacture the software and hardware elements of robotic arm capture technology that allow for grappling to both prepared and unprepared client space objects



## Autonomy

Design missions that will operate autonomously, allowing for the most precise, safe and effective satellite servicing



## Ground Segment

*(Ground stations network,  
Control Center and Operations)*

Build a team with the experience and know-how to operate a servicing mission and develop a ground network that allows for nearly continuous connectivity to a servicer



# Global Presence



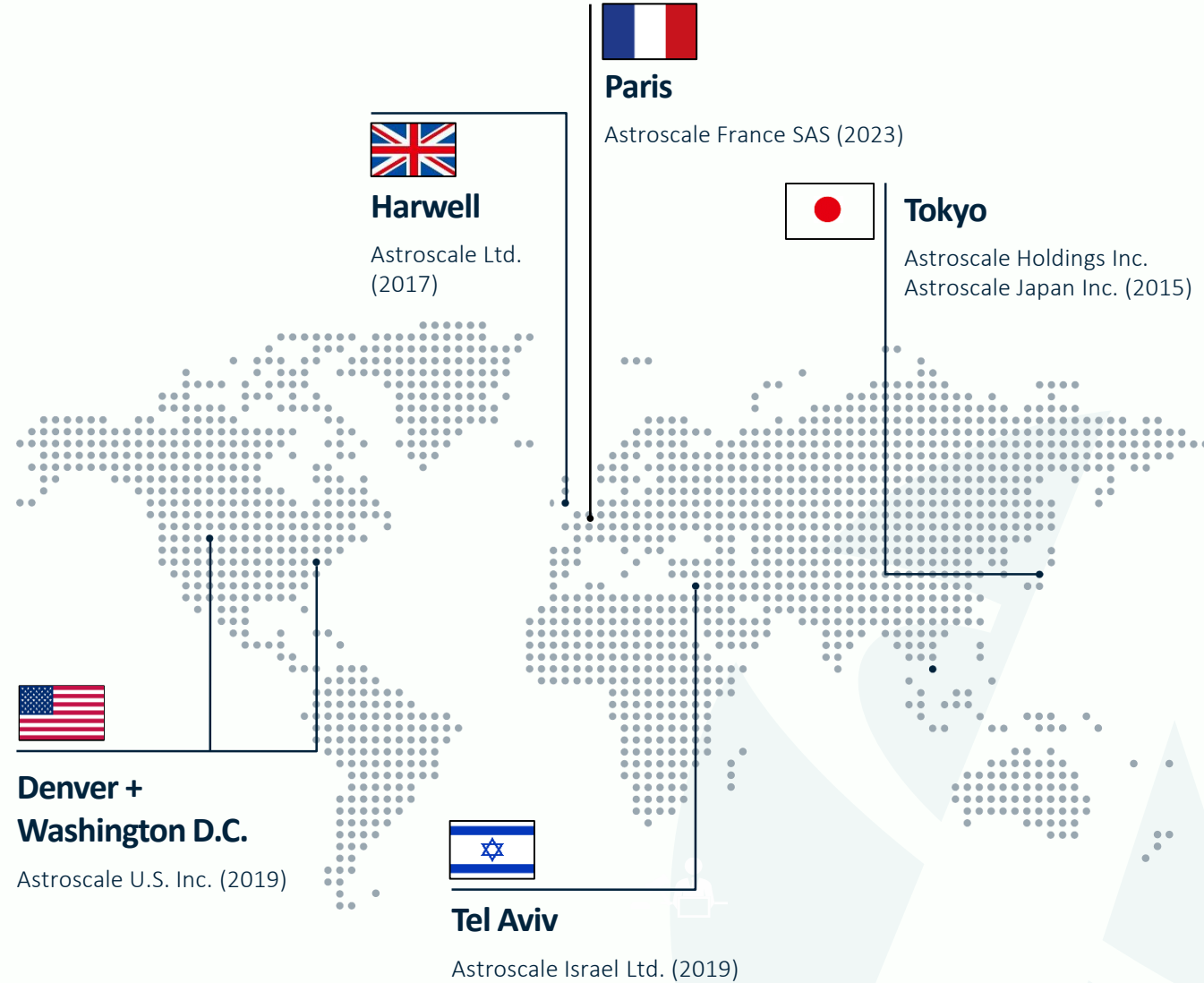
6 Active Global  
Offices



550+ Diverse  
Team Members



30+ Awards







**Mekhi Dhesi**

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