



# More Space, Less Waste: Laying the Sustainable Foundation of the Orbital Economy

FS Club Webinar

**Astroscale Holdings Inc.**

**Nobu Okada, Founder & CEO**

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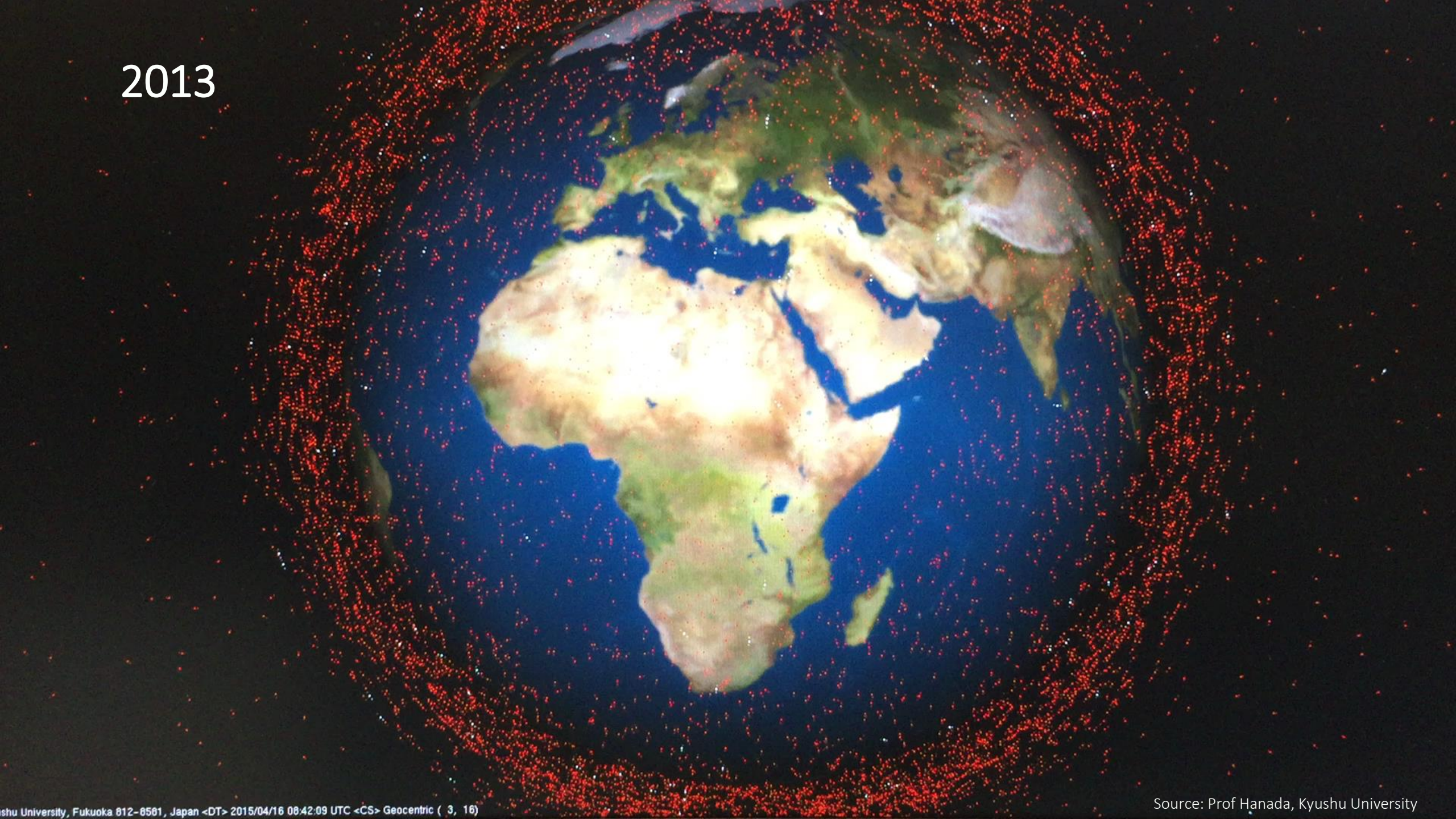


# Space Environment and On-Orbit Servicing





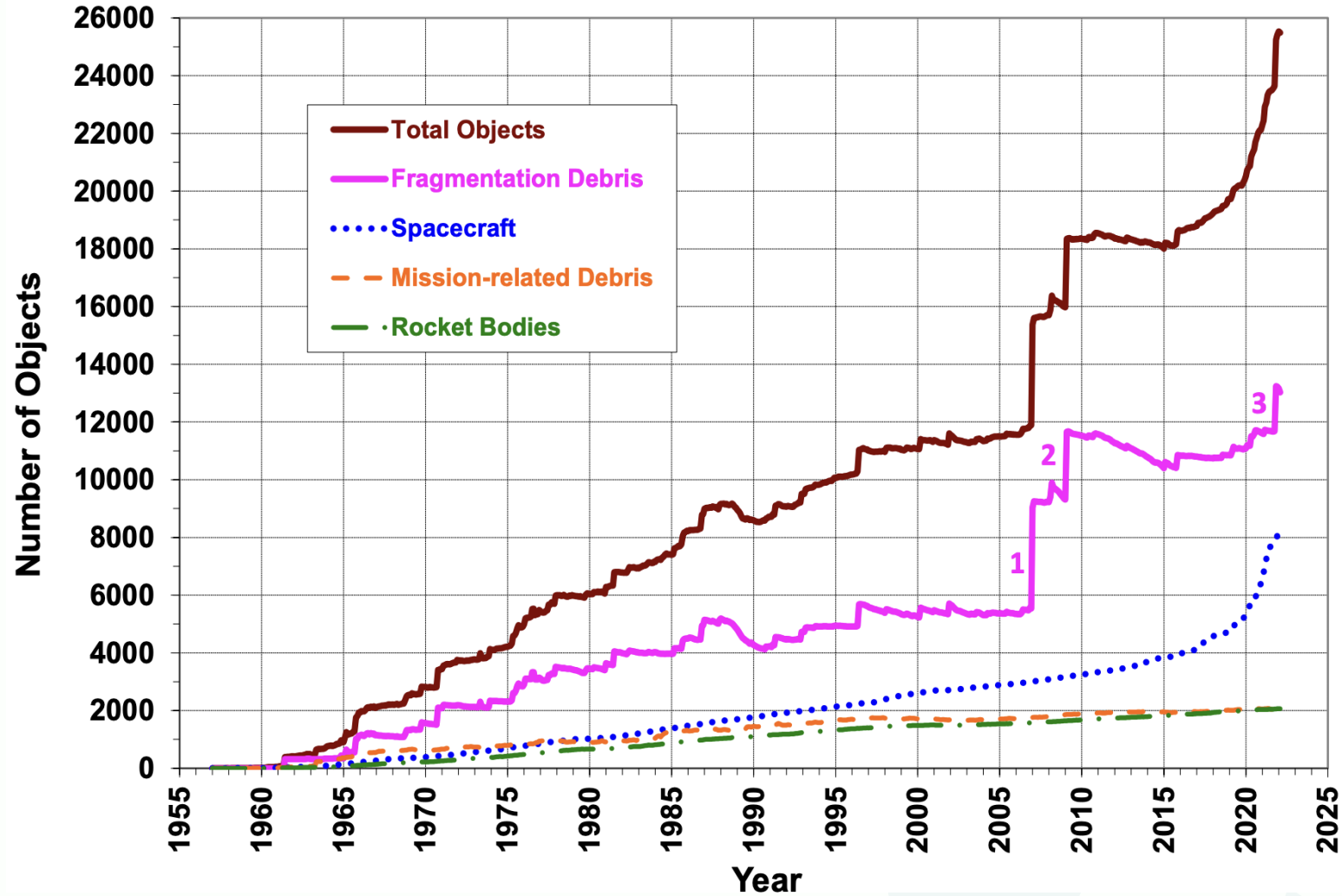
2013







# The Number of Objects around the Earth is Exponentially Growing

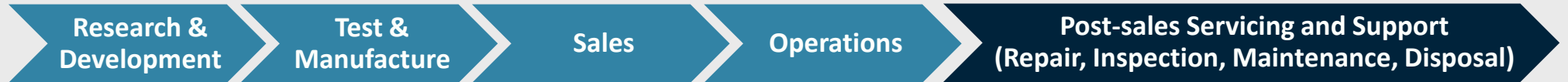


Source : NASA <https://orbitaldebris.jsc.nasa.gov/modeling/legend.html>

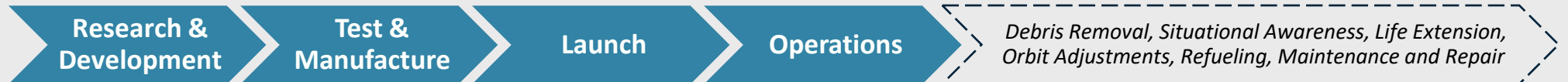
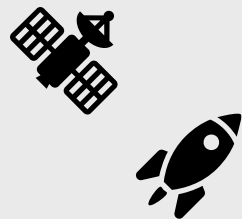


# No Commercial Industry on Earth is Built on Single Use and Disposal

## Logistics / Energy / Communications / Infrastructure Value Chain



## Spacecraft Value Chain



**On-orbit servicing**



# Astroscale's Solution

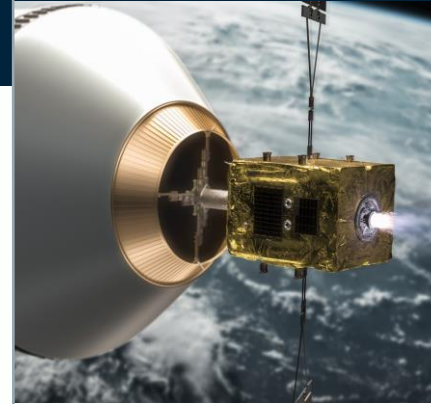
# Our Missions Cover Multiple Orbits and Serve Numerous Types of Customers



## EOL

### End-of-Life Services

Mission: Prevent Future Debris  
Objects: Satellite Constellations  
Client: Commercial and Government



## ADR

### Active Debris Removal

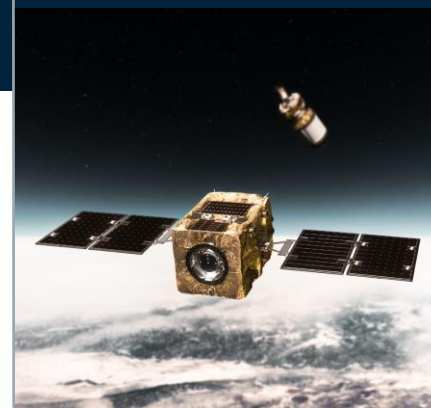
Mission: Remove Current Debris  
Objects: Defunct Satellites and Rockets  
Client: Government



## LEX

### Life Extension Services

Mission: Extend Satellite Life  
Objects: Satellites Needing a Boost  
Client: Commercial and Government



## ISSA

### In-Situ Space Situational Awareness

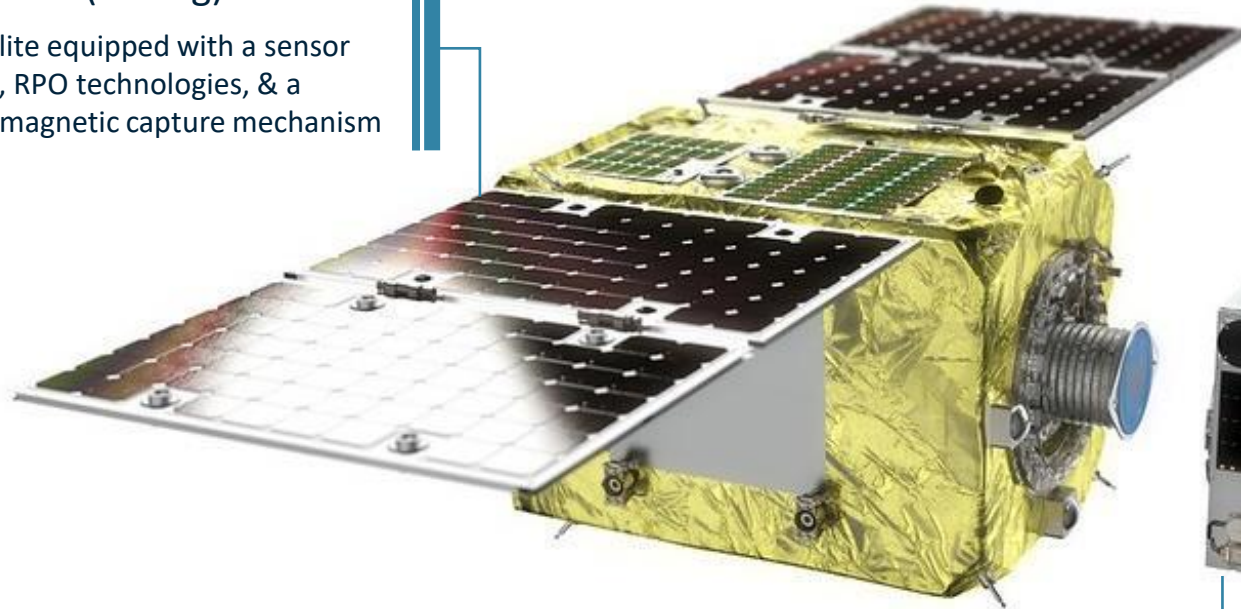
Mission: Observe Orbital Environment  
Objects: Orbital Highways and Potential Risks  
Client: Government

# World First Space Debris Removal Demonstration (ELSA-d)



## Servicer (175 kg)

Satellite equipped with a sensor suite, RPO technologies, & a ferromagnetic capture mechanism



## Capture System

Magnetic capture system  
Extends towards client

## Client (17 kg)

Replica debris/defunct satellite equipped with ferromagnetic docking plate & unique fiducial pattern



## Docking Plate (DP)

Magnetic capture point

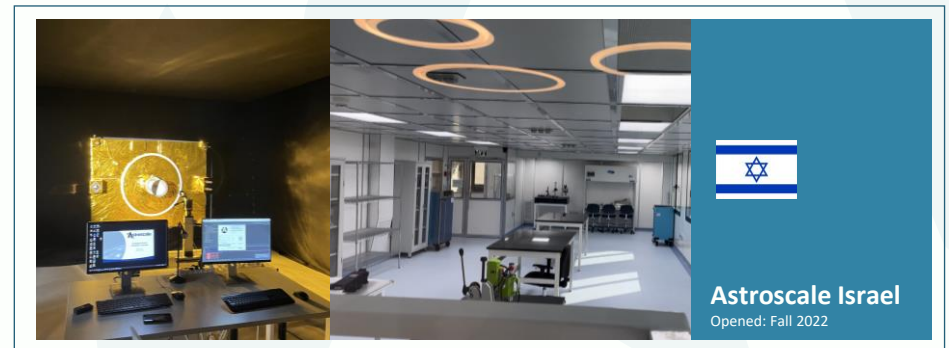




**ADRAS-J**

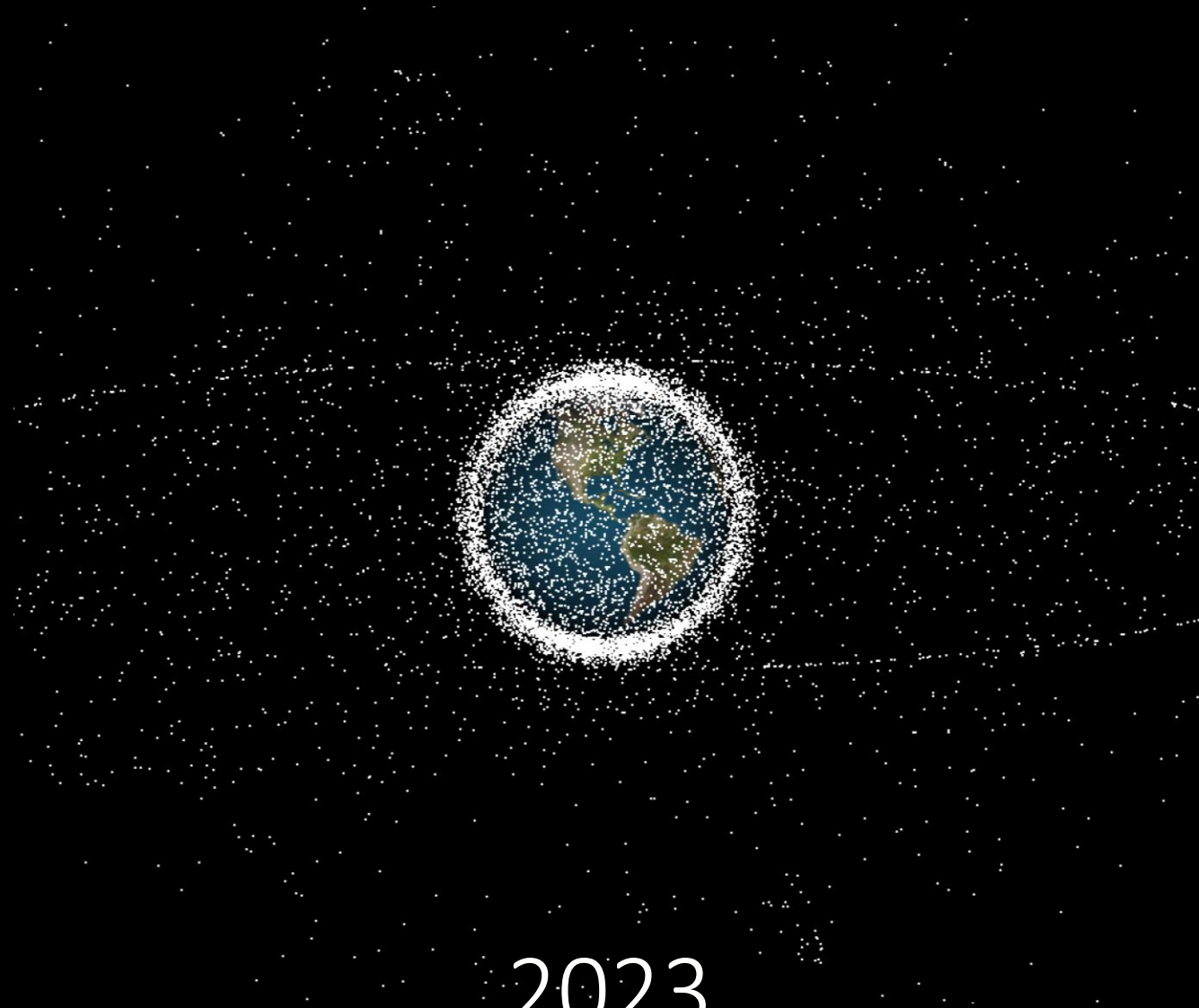


# Capacity Expansion





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2023





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