



Making your constellation the largest
SSA network in space





*“How can we remediate
debris when we can’t
even track it”*

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NASA DEPUTY ADMINISTRATOR

AMOS conference Sept. 20. 2024

THE SPACE DEBRIS PROBLEM

The solution for space debris management has 3 steps:

1.



Limit the number
of space debris

2.



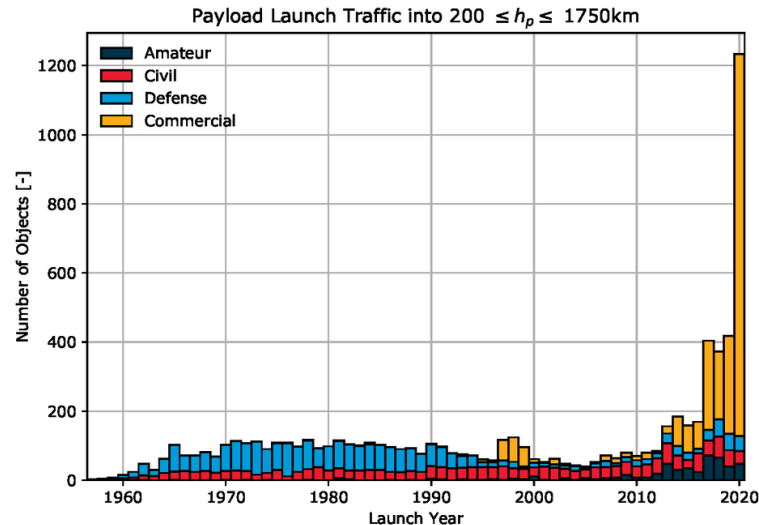
Map the existing
space debris
situation

3.



Remove space
debris

There are **severe gaps** in current space debris mappings:



Debris tracked: 32.070



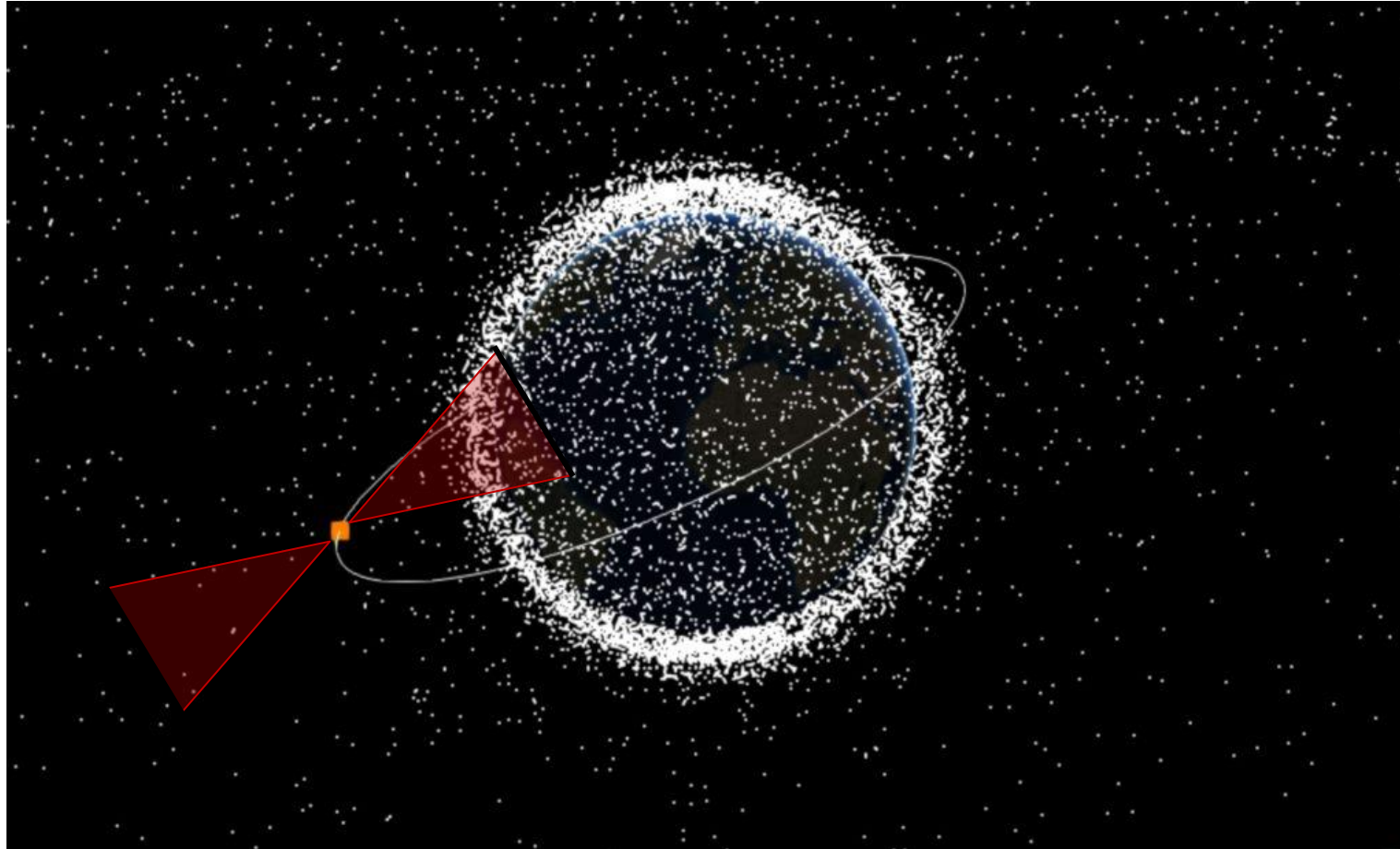
Debris > 10 cm: 36500

Debris 1 - 10 cm: 1 million

Debris 0.1 – 1 cm: 130 millions

- Ground-based sensors have limitations:
 - Availability (cloud cover, day/night)
 - Clustered in geographical locations, with large gaps over oceans

WHAT IF WE WOULD MEASURE IT FROM SPACE?

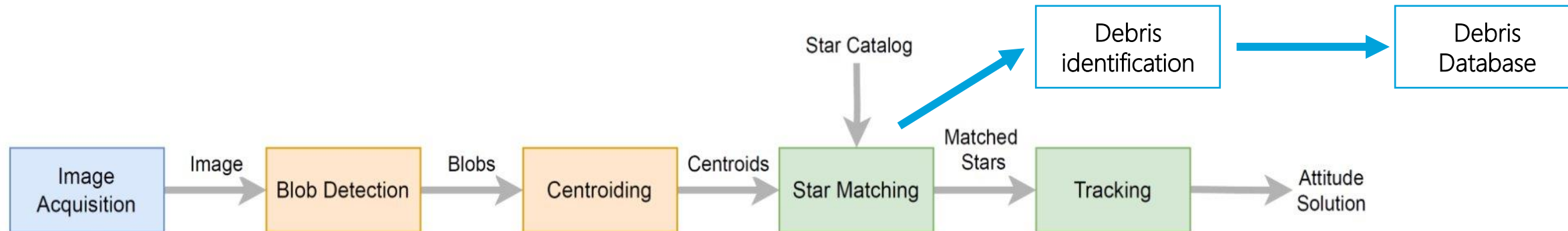


You can contribute to a solution instead of being part of the problem

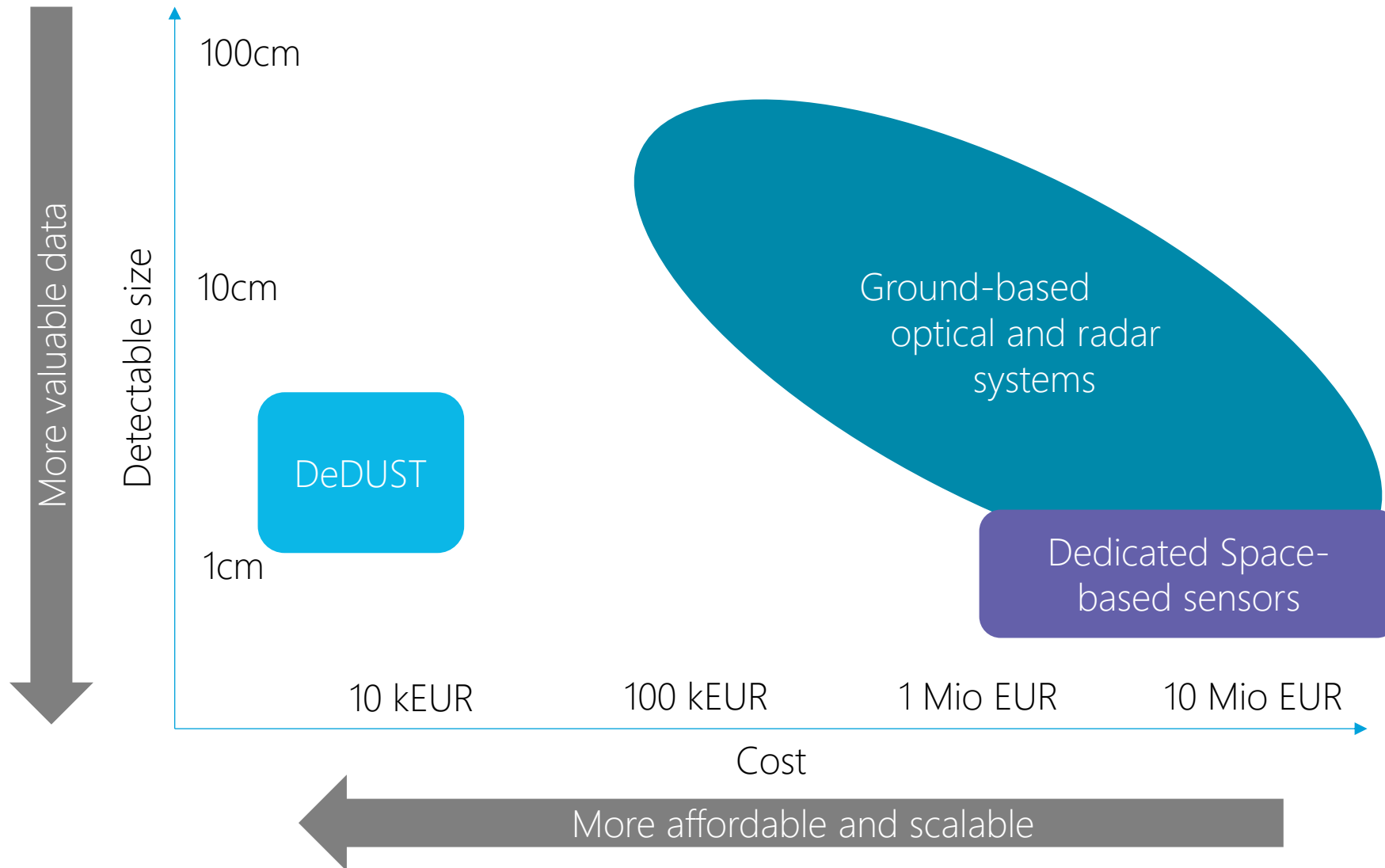
DEDUST SOLUTION

DeDUST adds SSA capabilities to existing arcsec star trackers making them able to identify space debris.

- Because of the proximity it can detect much smaller debris
- It can cover all orbits, there's no blind spots
- It can be retrofitted to existing arcsec star trackers
- Scalable solution: A whole constellation with a software upgrade

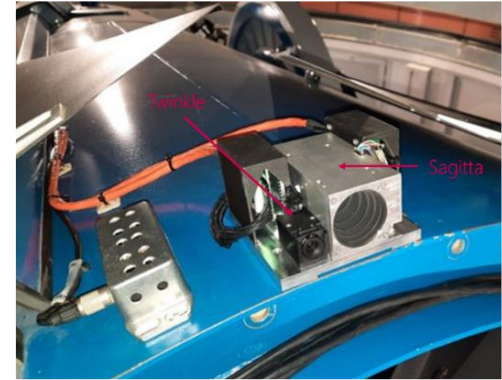
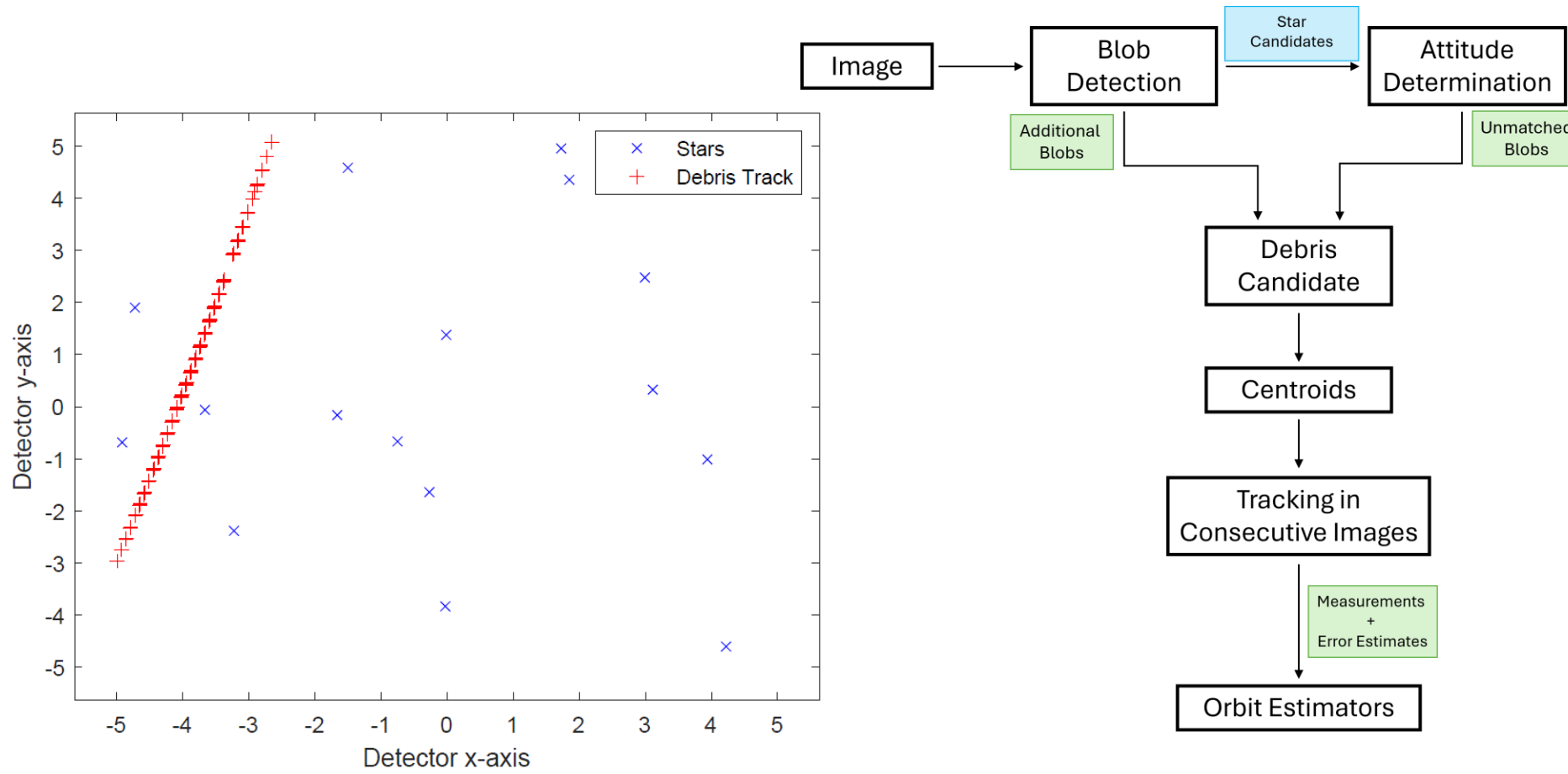


COMPETITIVE ANALYSIS



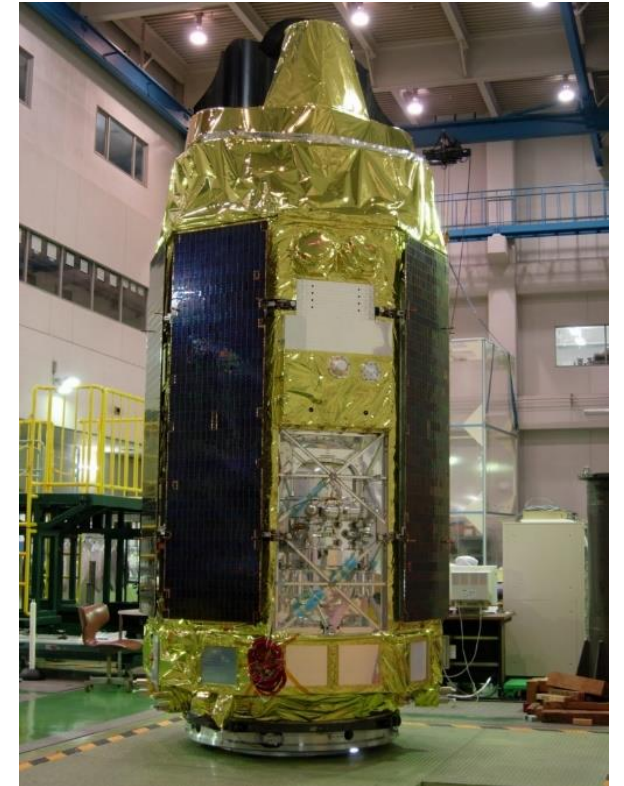
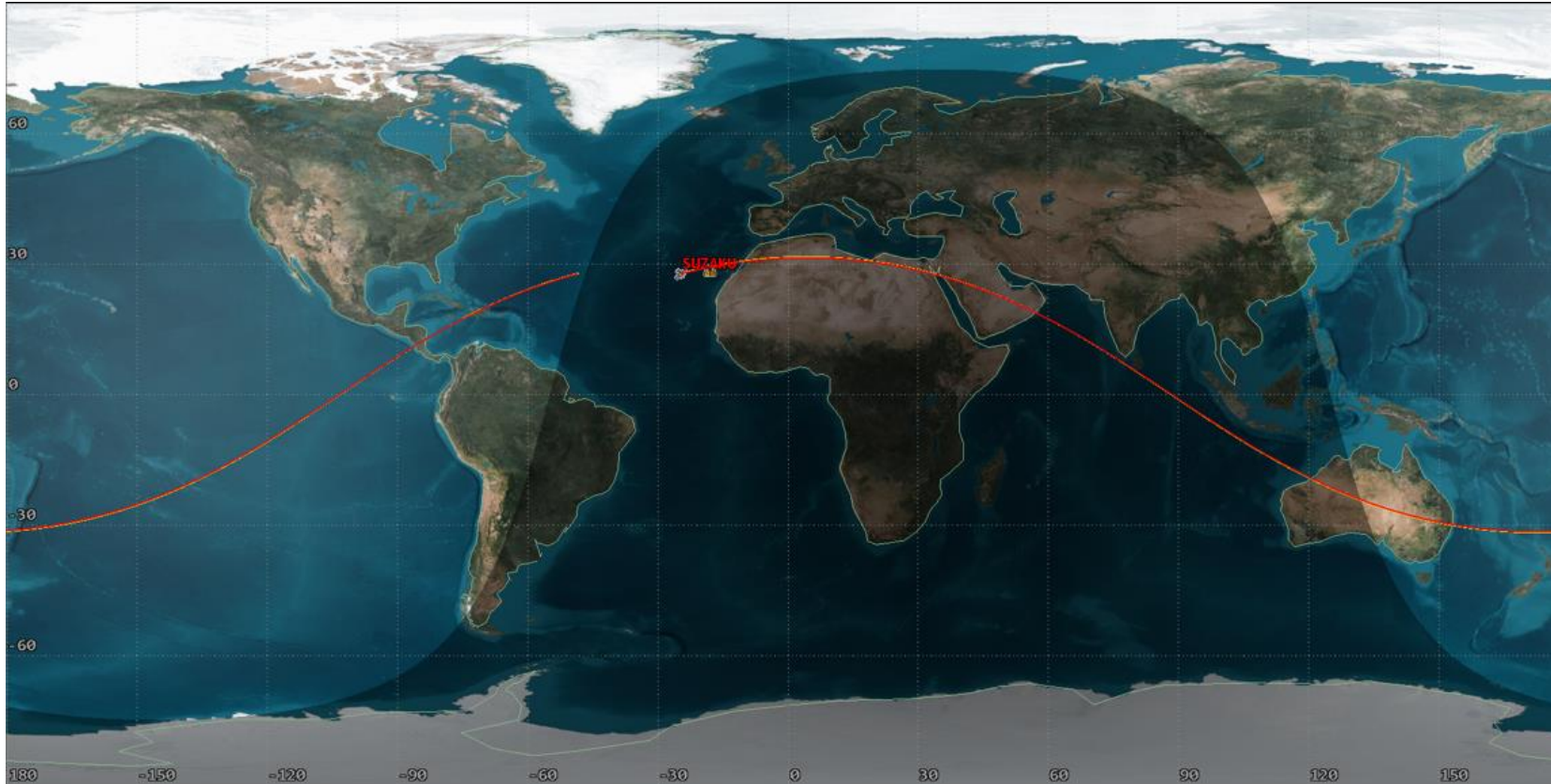
DEDUST FIRST RESULTS

First **space element was detected** using our Sagitta star tracker mounted on the Mercator Telescope at La Palma.



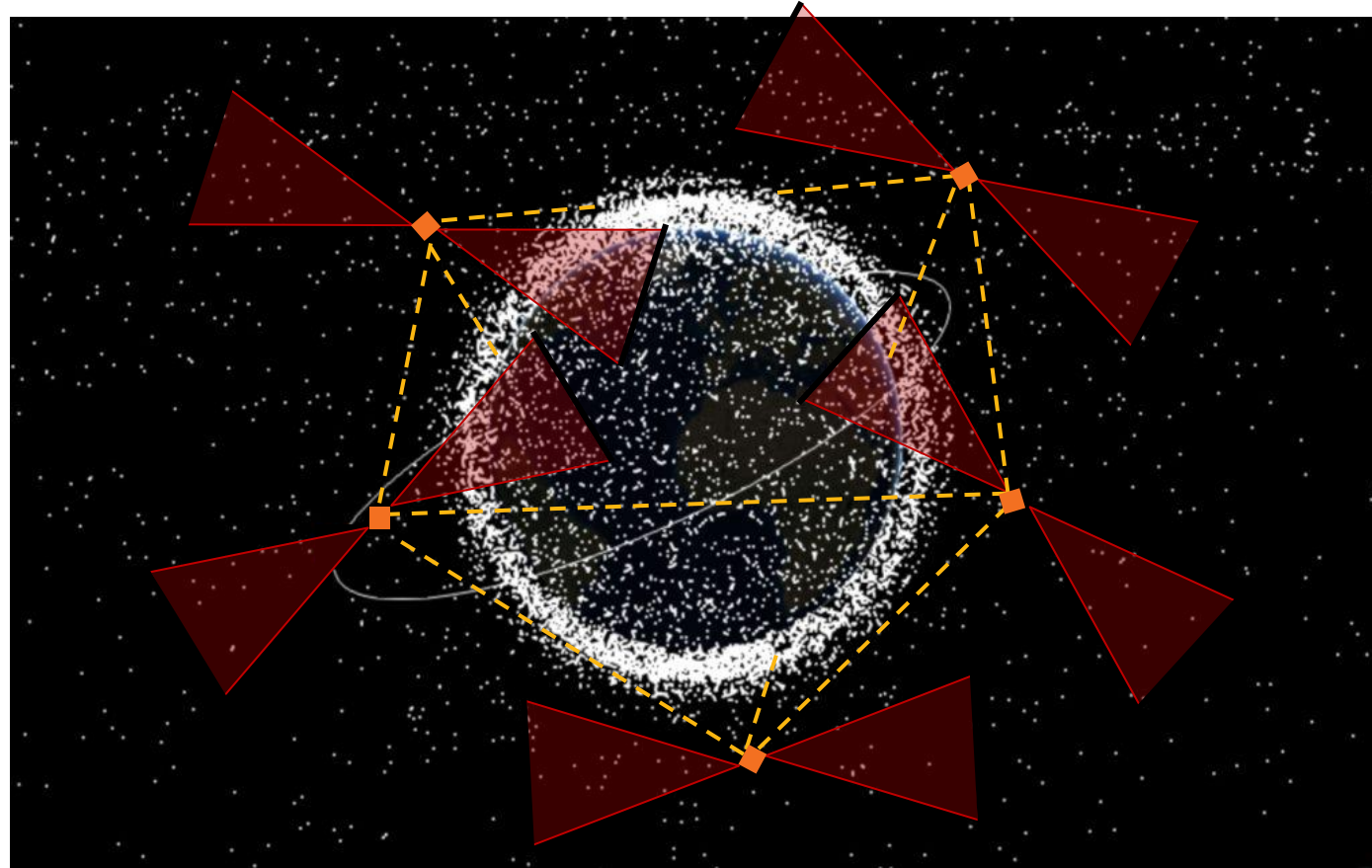
DEDUST FIRST RESULTS

The first detected object was the **Suzaku** satellite.



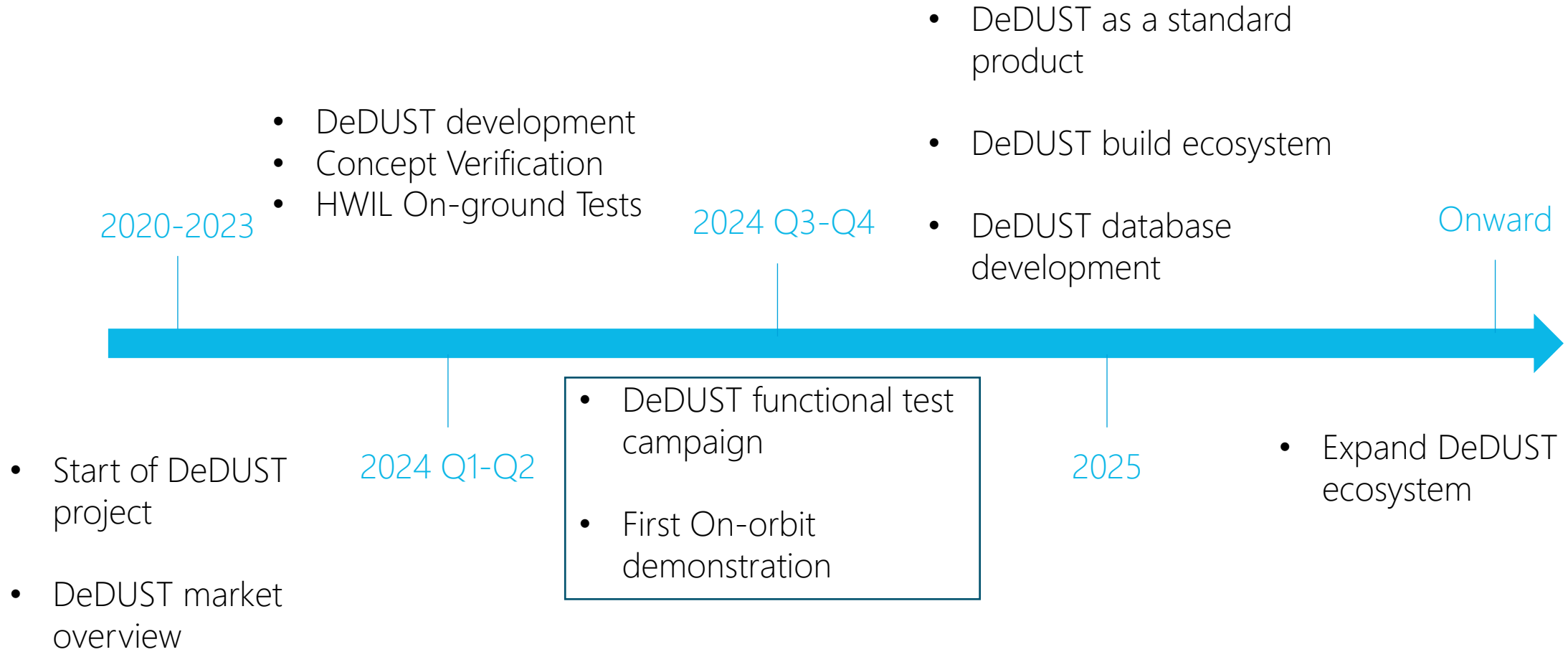
We have scheduled missions to start tracking debris from orbit in 2025

YOUR CONSTELLATION THE LARGEST SSA NETWORK



Detecting 1000 RSO per day ; data downlink size of hundreds of Kilobytes

TIMELINE



- Founded in 2020
- University of KU Leuven spinoff created after >10 years researching ADCS.
- 20 FTEs (>95% engineers)
- State-of-the-art ADCS components and systems
- 2024 pre-launch of DeDUST



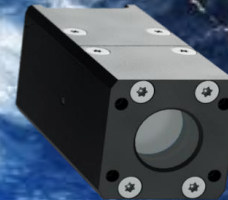
Scorpio
star tracker



Sagitta star
tracker



Zyra reaction
wheel



Twinkle star
tracker