

ClearSpace-1 mission

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Context: ClearSpace-1 is space debris removal project of European Space Agency (ESA) for launch in 2025

- More than 500,000 pieces of debris, or “space junk,” are tracked as they orbit the Earth. They all travel at speeds up to 17,500 mph, fast enough for a relatively small piece of orbital debris to damage a satellite or a spacecraft. The rising population of space debris increases the potential danger to all space vehicles, but especially to the International Space Station, space shuttles and other spacecraft with humans aboard.
- This mission will be the first mission to remove an item of space debris from orbit.
- European Space Agency has awarded a service contract to a consortium led by the Swiss startup company ClearSpace
- This project involves building a spacecraft equipped with four robotic arms to capture debris and drag it into Earth’s atmosphere.
- Project of ESA called Active Debris Removal/ In-Orbit Servicing – ADRIOS. The results will be applied to ClearSpace-1.
- ClearSpace-1 ‘chaser’ will be launched into a lower 500km orbit for commissioning and tests before being raised to the target orbit
- First task would be deorbiting a substantial piece of a Vega rocket left in orbit in 2013.

Other

- JAXA’s Commercial Removal of Debris Demonstration project (CRD2), which includes two separate mission phases that together will aim to accomplish the removal of a large body currently on orbit, the spent upper stage of a Japanese rocket.

