

# Collision Avoidance Service

The Collision avoidance service was designed with the needs of constellation operators in mind. A quick overview of all the assets and their status allows for focusing on the critical situations only. Each conjunction event can be studied in terms of the evolution of collision probability, incorporating estimates from space-track.org. Additionally, the service can be combined with the Orbit Determination service, to obtain dedicated Conjunction Data Messages (CDMs) of both the chaser and target. And it allows the screening of manoeuvres against a CDM itself, as well as the full catalogue of objects. The service comes in three levels:

1. Basic: including visualization and notifications of Vyoma and third-party CDMs
2. Screen: check OEMs against the chaser object, as well as the full catalogue within seconds only.
3. Update: run dedicated tracking campaigns to update the orbit of the chaser object for each high-risk event, resulting in a newly issued CDM. With independent and exclusive data, unnecessary manoeuvres can be avoided.
4. Avoid: manoeuvre optimization, considering satellite and mission constraints, as well as conjunction geometry

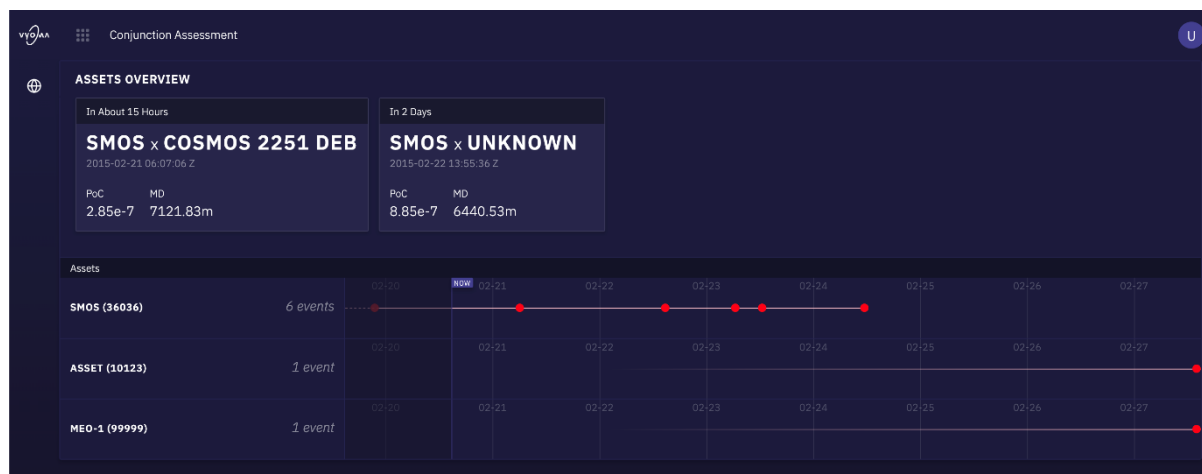


Figure 1. Overview page of our Collision Avoidance dashboard.

**Benefits to operators:** Dedicated tracking of objects involved in conjunction gives more confidence with regards to taking a manoeuvre decision, allowing to avoid unnecessary manoeuvres.