What is SSA?

The **Space Situational Awareness** (SSA) component of the EU Space Programme aims at providing accurate information on the **space environment** and helps to ensure the **uninterrupted functioning of space-based services** for citizens and societies on Earth. It is therefore essential for fostering the **strategic autonomy** of the EU and its Member States.

SSA is a holistic approach: it includes the comprehensive knowledge and understanding of the main space hazards, such as collisions between space objects, the fragmentation of space objects in space and the re-entry of space objects into Earth's atmosphere, space weather events, and space rocks approaching the Earth.

Space Regulation (Regulation (EU) 2021/696):
"Space Situational Awareness or 'SSA' means a holistic approach, including comprehensive knowledge and understanding, of the main space hazards"

Europe's eyes on space

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Space Situational Awareness



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PROGRAMME OF THE EUROPEAN UNION

SSA subcomponents



EU SST

Space Surveillance and Tracking

a system of networked sensors to survey and track space objects together with processing capabilities to provide data, information and services on objects that orbit the Earth

surveys and tracks objects in space to make space operations safer and more secure, which is key to achieving a higher level of EU strategic autonomy and reducing the risk of collisions in space and damage on Earth

- Provides risk assessments of potential collisions of space objects in space
- Provides risk assessments of uncontrolled re-entries of space objects into the Earth's atmosphere
- Detects and characterises fragmentations of space objects in space

SWE

Space Weather Events

capabilities to monitor naturally occuring variations in the space environment at the Sun and around the Earth potentially impacting Earth- and space-based infrastructure

supports the establishment of a space weather service and creates ways to monitor and assess natural changes related to space weather events

- Supports the mitigation of risks to human life on Earth
- Supports the mitigation of risks to assets on Earth and in space
- Supports the development of a European space weather service

NEO

Near-Earth Objects

capabilities to monitor the risk of natural objects, such as comets and asteroids (space rocks) in the solar system, which are approaching the Earth

coordinates and improves European capabilities and activities related to the monitoring of space rocks whose orbits approach or cross the orbit of the Earth

- Supports the physical characterisation of space rocks
- Supports the monitoring of space rocks
- Supports potential deflection procedures if needed

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