SSA
Space Situational Awareness

Europe's eyes on space

Facts and Figures

About Space Situational Awareness

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, encompassing collision between space objects, fragmentation and re-entry of space objects into the atmosphere, space weather events, and near-Earth objects"

SSA is composed of **three 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

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

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

Find out more on
https://defence-industry-space.ec.europa.eu/space-situational-awareness_en

@defis_eu **EU Space**

SSA
Space Situational Awareness

SSA subcomponents

Ensuring space safety and sustainability

- consists of a **sensor network and processing capabilities** of 15 EU Member States forming the **EU SST Partnership**
- surveys and tracks **more than 600 objects** in space and feeds hundreds of thousands of measurements on space objects daily into an EU database
- provides **24/7 collision avoidance, fragmentation analysis and re-entry analysis services** to more than 290 organisations through the EU SST Front Desk at EUSPA
- is key to strengthening the EU space industry and achieving a higher level of **EU strategic autonomy**

Monitoring space weather

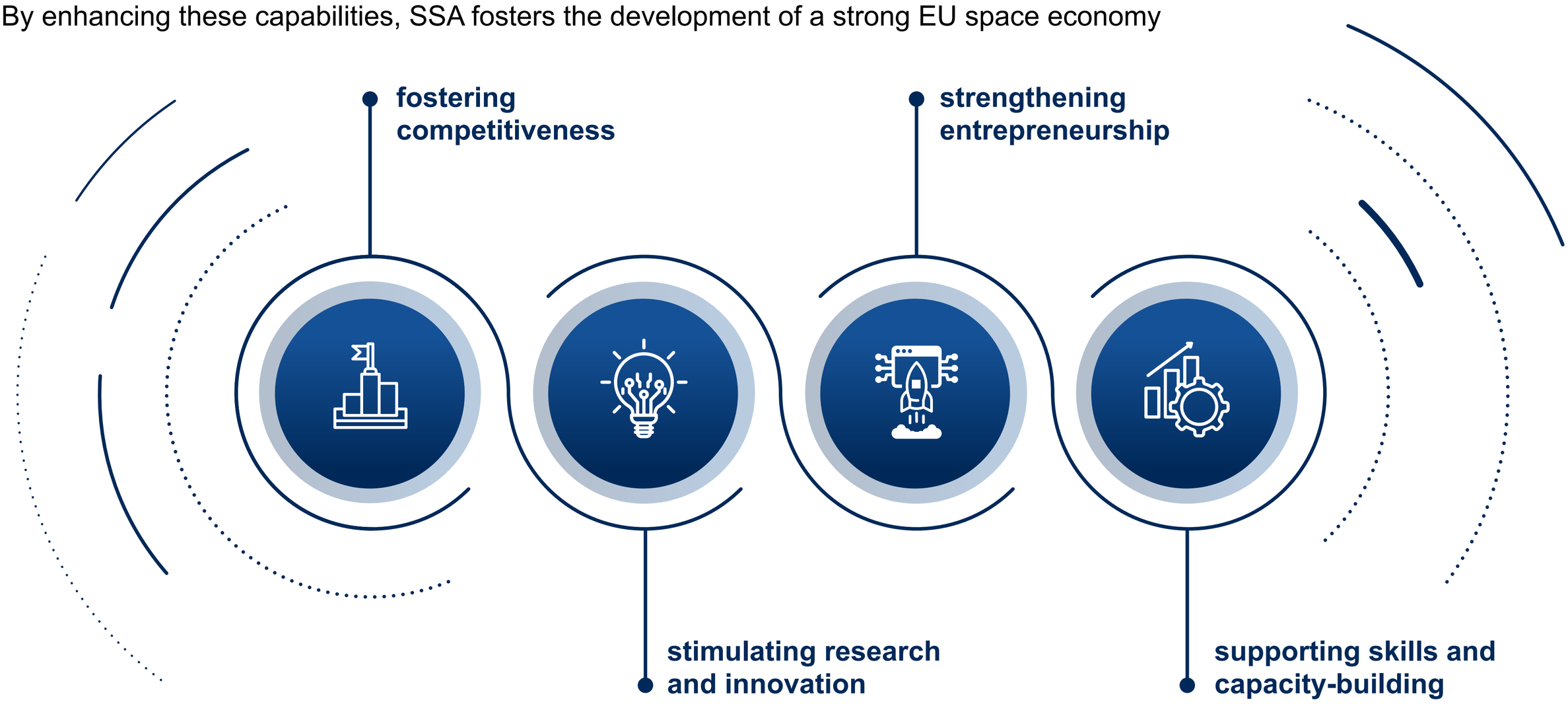
- supports activities leading to the **establishment of a European space weather service**
- assesses and identifies **user needs**
- performs an impact assessment of **different service scenarios**
- supports the development of **space weather models**
- supports the development, testing and validation of **new space weather prediction capabilities**

Observing space rocks

- supports the **mapping of Member States' capabilities** to detect and monitor NEOs
- supports the promotion of **networking** among **Member States' facilities and research centres**
- supports the **development** of a **European catalogue of physical properties** of NEOs
- supports the **development** of a **routine rapid response service** that can characterize newly detected NEOs

Strengthening the EU space economy

By enhancing these capabilities, SSA fosters the development of a strong EU space economy



SCAN ME

Luxembourg: Publications Office of the European Union, 2025

Print ISBN 978-92-68-31631-3 doi: 10.2889/2670362 HV-01-25-016-EN-C
PDF ISBN 978-92-68-31630-6 doi: 10.2889/5992764 HV-01-25-016-EN-N

#EUSpace