

SPADER PROJECT

NEWSLETTER 03



Latest SPADER News



SPADER PROJECT

SPADER is a project selected for funding under the EDF 2024 call. Its mission is to develop an innovative space debris removal system that uses concentrated solar rays to alter the thermal and kinetic energy of targeted debris particles.

Space debris includes any man-made objects, or fragments of such objects, that continue to orbit Earth without any form of ground-based control. As the number of space missions grows - driven by more countries launching or participating in space programs - the amount of unmanaged debris in orbit increases as well.

Because there is no natural mechanism in space that removes this material, the debris remains in orbit. Over time, the overall number of these objects grows at an accelerating rate, adding to the long-term accumulation of space clutter and it poses significant risks to ongoing and future space operations.

The SPADER project introduces the concept that is based on a dual catoptric optical system that concentrates solar radiation and directs it precisely through a final optical element toward the selected object. By applying intense solar energy, the system aims to significantly modify the debris particle's physical state, enabling controlled removal or trajectory alteration.

The project will guide research and technological development toward a laboratory-scale model, which will be tested to deliver a Proof-of-Concept. This work will pave the way for future deployment of SPADER in space debris clean-up missions and other advanced space applications.

KICK-OFF MEETING 3 - 4 NOVEMBER 2025

On 3 - 4 November, SPADER partners gathered in Tallinn, Estonia, for the Kick-Off Meeting hosted by VAAL Airships. Discussions covered project management, technical planning, dissemination, ethics and security, establishing the foundation for successful project implementation.

[Find out more](#)

SPADER Kick-Off Meeting, 3 & 4
November 2025, Tallinn, Estonia



SPADER FIRST PLENARY MEETING 4 - 6 MAY 2026, ATHENS

From 4 - 6 May 2026, the SPADER consortium held its first plenary meeting in Athens, marking an important milestone for the European space debris removal initiative. Coordinated by VAAL AIRSHIPS and hosted by SKYLD, GEORING and NTUA/CCIS, the meeting gathered partners from six European countries to review progress and align future activities. Technical achievements across ongoing work packages were presented, while due deliverables were reviewed and submitted. A representative from the European Commission's DG DEFIS provided guidance on project management, reporting and funding procedures. The next plenary meeting will be hosted by the Romanian partners in October 2026.

[Find out more](#)

SPADER 1st Plenary Meeting, 4 - 6
May 2026, Athens, Greece



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Meet the SPADER Consortium



VAAL Airships

VAAL Airships - Beneficiary - ESTONIA (EE)

VAAL Airships builds and operates High Altitude Platform Stations (HAPS), also known as High Altitude Pseudosatellites.

[Visit VAAL Airships](#)



INCDT COMOTI - Beneficiary - ROMANIA (RO)

COMOTI - National Research and Development Institute for Gas Turbines is the only unit in Romania specialized in development and integration of scientific research, constructive and technological design, manufacturing, experimentation, testing, technological transfer and innovation in the field of aviation turbine engines, gas turbine industrial machines and high speed blade machines.

[Visit INCDT COMOTI](#)

SKYLD
SECURITY AND DEFENCE

SKYLD Ltd - Beneficiary - CYPRUS (CY)

SKYLD is focusing in the fields of Security and Defence domain, including European, International, and nationally funded Research projects and tenders and its personnel has extensive experience in managing complex ICT projects at the respective domains.

[Visit SKYLD Ltd](#)



EU3STAR B.V. - Beneficiary - THE NETHERLANDS (NL)

EU3STAR B.V. is built in the 3-star business domain, the aerospace, the defense, and the maritime sectors.

[Visit EU3STAR B.V.](#)



MGM - Beneficiary - ROMANIA (RO)

MGM STAR Construct is a Romanian private company specialized in physical and chemical vacuum deposition (PVD, CVD). Lithography technology, optical manufacturing, manufacturing of mechanical parts, construction works in civil area and activities for a wide range of industrial applications.

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Meet the SPADER Consortium



ICPEST SRL - Beneficiary - ROMANIA (RO)

ICPEST SRL specializes in manufacturing new and reconditioned mechanical parts, producing prototypes, and designing complex assemblies, devices, and molds. The company also conducts advanced research and development activities in precision engineering and processing technologies.

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PLUS ETHICS - Beneficiary - SPAIN (ES)

PLUS ETHICS provides expert support for European-funded projects, ensuring compliance with GDPR, ethics, fundamental rights, and legal standards through specialized research, management, and training.

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ICCS - Beneficiary - GREECE (EL)

The Institute of Communication and Computer Systems (ICCS) is a leading non-profit research organization of the National Technical University of Athens (NTUA), advancing scientific excellence in computational science and engineering. Its interdisciplinary work spans AI, smart systems, communications, energy, climate, biomedical engineering, photonics, and advanced hardware–software technologies.

[👉 Visit ICCS](#)



GEORING - Beneficiary - GREECE (EL)

GEORING Services is the initiator of a system for On-Orbit Servicing Named HERMES, aiming to kick-start the On-Orbit Servicing (OOS) industry in Europe. GEORING has invented and is pursuing deployment of a 5 element system to enable efficient deployment and delivery of a series of services on orbit. Some of these services apply to existing satellites but the full spectrum to the future satellites.

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OTHER SPACE NEWS

Blue Origin's New Glenn Rocket Explodes During Test



Photo: ©Sky at Night Magazine

[Find out more](#)

Blue Origin suffered a major setback after its New Glenn rocket exploded during a prelaunch hotfire test at Cape Canaveral, Florida, on 28 May 2026. The explosion created a massive fireball, severely damaging the launch infrastructure, though no injuries were reported. The incident comes shortly after the company secured key lunar mission contracts with NASA, raising concerns about future launch schedules. Despite the failure, Blue Origin confirmed it will continue investigations and recovery efforts. The event highlights the technical challenges and risks associated with developing next-generation heavy-lift space systems.

EU Space Strategy Strengthens Security and Defence Capabilities



Photo: © EU Commission

The EU Space Strategy for Security and Defence strengthens the protection and resilience of European space assets against emerging threats. It promotes enhanced space domain awareness, safeguards critical infrastructure and supports closer cooperation between civil, commercial and defence actors. The strategy aims to boost Europe's strategic autonomy and reinforce space as a key enabler of security, defence and technological competitiveness.

[Find out more](#)

ESA Supports Polish Radio Telescope for Solar Storm Monitoring

The European Space Agency is supporting the upgrade of a Polish radio telescope, known as Radio Observations of the Solar Indicative Emissions (ROSIE), to improve monitoring of solar activity and space weather events. The initiative will enhance Europe's ability to detect solar flares and coronal mass ejections



ROSIE Solar Radio Telescope Photo: © ESA

that can disrupt satellites, communications, navigation systems and power grids. By strengthening early-warning capabilities, the project contributes to protecting critical space and ground infrastructure. The investment reflects ESA's growing focus on space weather resilience and safeguarding Europe's increasingly space-dependent economy and security systems.

[Find out more](#)

OTHER SPACE NEWS

European Space Agency Space Environment Report 2025

The European Space Agency Space Environment Report 2025 highlights the increasing challenge posed by space debris in Earth orbit. Despite efforts to improve debris mitigation, the number of satellites, rocket fragments and collision-generated objects continues to grow, raising the risk of further cascading collisions. ESA warns that even if all launches ceased today, debris levels would continue increasing due to existing objects already in orbit. The report underlines the importance of responsible satellite operations, end-of-life disposal and active debris removal initiatives. As dependence on space-based services grows, ensuring a sustainable orbital environment has become critical for the long-term security, resilience and viability of global space activities.

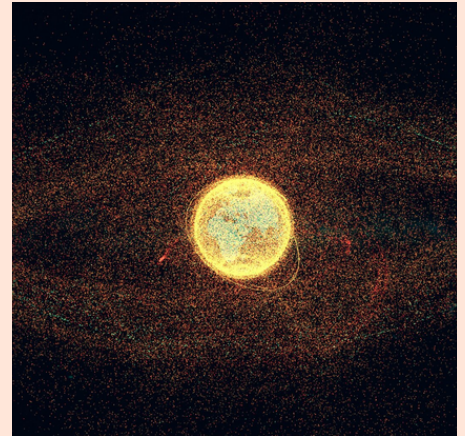


Photo: ©ESA

[👉 Find out more](#)

EU Gains Full Ownership of Galileo Antenna in Belgium



Photo: ©DG DEFIS

The European Union has acquired full ownership of the Galileo antenna located at the European Space Security and Education Centre in Redu, Belgium. The antenna plays a key role in supporting the Galileo satellite navigation system, enhancing operational control, security and resilience. This move strengthens the EU's autonomy over critical space infrastructure and reinforces the strategic importance of Galileo for navigation, timing and security services. The acquisition supports Europe's broader ambitions in space sovereignty and technological independence.

[👉 Find out more](#)

IRIS² to Strengthen Europe's Secure Satellite Connectivity



Photo: ©DG DEFIS

The IRIS² programme is the EU's next-generation secure satellite connectivity initiative, designed to provide resilient communications services for governments, defence users and critical infrastructure. Combining satellite and terrestrial networks, IRIS² will enhance cybersecurity, reduce dependence on external providers and support connectivity across Europe and beyond. The programme represents a key pillar of Europe's space strategy, strengthening technological sovereignty, security and digital resilience.

[👉 Find out more](#)

OTHER SPACE NEWS

NASA Tracks Record-Breaking Solar Radio Burst

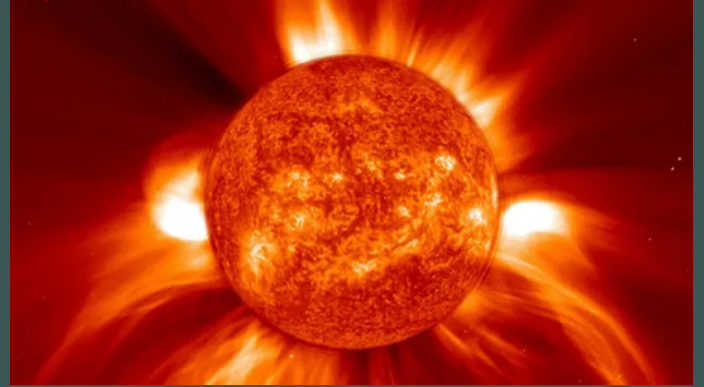


Photo: ©NASA

NASA missions have recorded one of the most powerful solar radio bursts ever observed, providing valuable insights into the Sun's activity and its effects on space weather. The event, linked to an intense solar eruption, temporarily disrupted radio communications on Earth and highlighted the vulnerability of critical systems to solar storms. Data collected by multiple NASA spacecraft will help scientists improve forecasting models and better understand how solar activity can impact satellites, navigation systems, communications and power infrastructure.

[👉 Find out more](#)

Solar activity makes space junk crash to Earth faster



A coronal mass ejection, captured by the ESA-NASA Solar and Heliospheric Observatory spacecraft. Photo: ©NASA/GSFC/SOHO/ESA

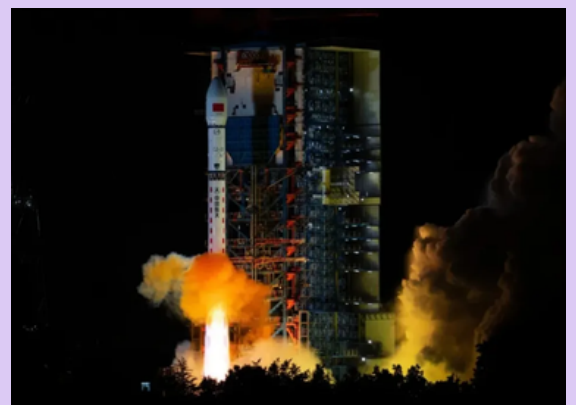
Increased solar activity is accelerating the decay of space debris in low Earth orbit, causing defunct satellites and fragments to re-enter the atmosphere more quickly. While this natural cleansing effect helps reduce orbital congestion, experts warn it is not sufficient to offset the rapid growth in satellite launches. Effective debris mitigation and removal measures remain essential for long-term space sustainability.

[👉 Find out more](#)

China Tests Direct-to-Device Satellite Connectivity

China has launched a new group of experimental satellites to test direct-to-device communications, enabling mobile phones and other user devices to connect directly to satellites without relying on terrestrial networks. The mission supports multiple emerging satellite constellation projects and reflects growing competition in space-based connectivity services. Such capabilities could enhance communications in remote areas, improve resilience during emergencies and expand global coverage. The launch highlights China's continued investment in advanced satellite infrastructure and its ambition to play a leading role in the rapidly evolving space communications market.

[👉 Find out more](#)



A Long March 2D lifts off from Xichang spaceport, May 30, 2026, carrying direct-to-device test satellites. Photo: © SPACENEWS