EU SPACE

FOR EU BORDER AND INTERNAL SECURITY

Unlocking the power of space for a secure society

#EUSpace

EUSPA
European Union Agency for the Space Programme

The EU Space Programme Supporting EU Border and Internal Security

In a context of evolving global challenges, the European Union, through the European Union Agency for the Space Programme (EUSPA), reinforces its commitment to leveraging EU space technologies for the enhancement of security.

The EU Border and Internal Security market segment encompasses activities to protect people, the environment and the organisation of our societies by increasing situational awareness, deterring and mitigating activities undertaken by hostile actors, and managing other threats, risks and hazards that could endanger EU assets and people.

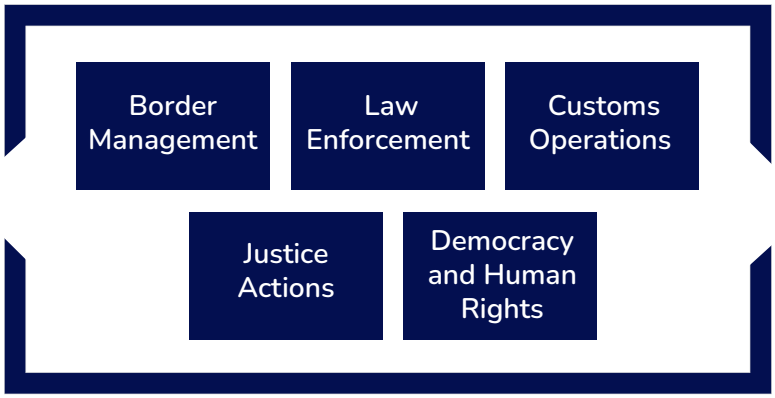
The focus of EU Border and Internal Security includes different application areas such as Border Management, Law Enforcement, Customs Operations, Justice Actions, and Democracy and Human Rights.

These application areas can take advantage of innovative solutions enabled by EU Space services including the use of automated platforms, protection against specific cybersecurity threats, through the provision of secure satellite communications and accurate and reliable satellite navigation and timing among others.

Through data and services provided by Galileo, EGNOS, Copernicus, GOVSATCOM, and IRIS^2, EU Space plays a pivotal role in enhancing the safety, security, and sustainability of European and global communities.

Use of automated platforms (e.g. Robots, drones) minimising risks for humans

Protection against cybersecurity threats such as jamming and spoofing



Enhance operational awareness and decision-making in all conditions

Safeguard EU borders from threats like smuggling and illegal migration

The added value of EU Space

Data and services provided by EU Space – Galileo, EGNOS, GOVSATCOM (and in the future IRIS²) and Copernicus – work in synergy to fortify the resilience of societies against fast evolving challenges. By leveraging the unique capabilities and synergies among these components, the EU is set to enhance its strategic autonomy, ensuring the security of its citizens, and supporting sustainable development across member states.

- **Galileo,** the European Union Global Navigation Satellite System (GNSS), delivers robust and accurate positioning, navigation, and timing (PNT) information. It enhances the operational effectiveness of response efforts, contributes to safety, by improving asset management for law enforcement operations, gathering precise measurements and reconstructing crime scenes swiftly, and coordinating cross-border investigations, among others.
- **GOVSATCOM**, and the future IRIS², provide secure, reliable, and cost-effective satellite communication services to authorised users, particularly when terrestrial networks are unavailable, compromised or unsecure. GOVSATCOM supports critical missions such as border surveillance, customs operations, law enforcement and diplomatic communications.
- **Copernicus** provides authorised end-users with data and products to support risk analyses and enhanced situational awareness through the Security Service aiding informed decision-making that underpins EU Border and Internal Security objectives.

Direct benefits from the EU Space Programme

The EU Space Programme's components provide a collective foundation for EU Border and Internal Security. These components deliver crucial data for applications across diverse sectors. Some examples of applications include:

- **Galileo-Enabled Customs Operations:** Customs authorities increasingly utilize Galileo's GNSS services for real-time tracking of goods and vehicles, enhancing border management, operational safety, and efficiency. By integrating Galileo differentiators (e.g. Open Service Navigation Message Authentication (OSNMA) and High Accuracy Service (HAS)) with Earth Observation (EO) data, customs operations can accelerate their digital transformation, improving efficient logistics and reducing delays in sensitive regions.
- **Combined Galileo, Copernicus and GOVSATCOM for Border Surveillance:** The combined use of Galileo services with EO imagery and secure satellite communications is a key enabler of pre-frontier intelligence for early detection of events or people movements which could impact EU border control activities as well as enhancing border surveillance operations by providing accurate and reliable navigation and secure communications to safely coordinate deployed border patrol forces and coast guards and track their sensitive assets.
- **Galileo authentication for Forensics:** The Open Service Navigation Message Authentication (OSNMA) of Galileo provides authenticated positioning and timing data, essential for applications requiring trustworthiness. This is crucial to help ensure that the PNT information collected by forensic specialists has not been compromised or tampered with, enhancing the ability of law enforcement professionals to clear crime scenes faster and with greater accuracy, even under adverse conditions.
- **Copernicus for Environmental Crime:** Law enforcement and environmental compliance bodies can be supported in detecting environmental crime cases with evidence from EO images. This includes applications in illegal waste disposal, logging, mining and trafficking operations, as well as water pollution cases.
- **Combined Galileo and GOVSATCOM for Unexploded Ordnance (UXO) Clearance:** The use of robotic platforms, such as dog-robots or unmanned aerial vehicles (UAV) equipped with Galileo and secure satellite communication technologies, demonstrates the integration of space technologies with robotics to enhance safety in hazardous environments. These autonomous platforms can navigate challenging terrains and carry out safety-critical operations, such as UXO clearance, without risking human lives.

EU Space Programme's Role in EU Border and Internal Security

Through the EU Space Programme, the Union advances its capability to conduct security and surveillance operations more effectively. For instance, Galileo and EGNOS enhance border and internal security operations with precise and authentication location services, whereas Copernicus supports border monitoring and maritime surveillance by providing high-resolution imagery. Upcoming services from GOVSATCOM (and in the future IRIS²) will ensure that these operations are conducted over secure and reliable communication channels, even in remote or contested environments.

The alignment of the EU Space Programme with the objectives of the EU Space Strategy for Security and Defence ensures a strategic, coordinated approach to security and dual use operations. By leveraging space assets, the EU not only enhances its surveillance capabilities but also contributes to global security, stability, and peace.

EU Agency for the Space Programme

EUSPA provides safe and secure European satellite navigation services and promotes the commercialisation of Galileo, EGNOS, and Copernicus data and services. It also coordinates GOVSATCOM, the EU's governmental satellite communications programme, and is responsible for the Programme's Space Surveillance and Tracking (SST) Front Desk operations service. By fostering the development of an innovative and competitive space sector and engaging with the entire EU Space community, EUSPA contributes to the European Green Deal and digital transition, the safety and security of the Union and its citizens while reinforcing its autonomy and resilience.

The EU Space Programme

The EU Space Programme, composed of Galileo, EGNOS, Copernicus, GOVSATCOM, Space Situational Awareness and IRIS², is the first integrated space programme created by the European Union to support its space policy, address societal challenges such as climate change and technological innovation, support the EU internal market – and more.

Galileo

Galileo is Europe's Global Navigation Satellite System. It provides accurate, reliable and precise positioning, navigation, timing and safety services. Galileo is designed to provide Europe and European citizens with independence and sovereignty while creating a multitude of services and applications across sectors, ranging from aviation and maritime to agriculture and location-based services.

EGNOS

The European Geostationary Navigation Overlay Service (EGNOS) is Europe's regional satellite-based augmentation system (SBAS) used to improve the performance of global navigation satellite systems like GPS and soon, Galileo. EGNOS uses a set of geostationary satellites and a network of ground stations to increase the accuracy of existing Global Navigation Satellite Systems.

Copernicus

Copernicus is the European Union's Earth Observation programme, looking at our planet and its environment to benefit all European citizens. It offers information services that draw from satellite Earth Observation and in-situ (non-space) data.

IRIS²

The IRIS² Satellite Constellation is the European Union's answer to the pressing challenges of tomorrow, offering enhanced communication capacities to governmental users and businesses while also ensuring high-speed internet broadband to cope with connectivity dead zones.

GOVSATCOM

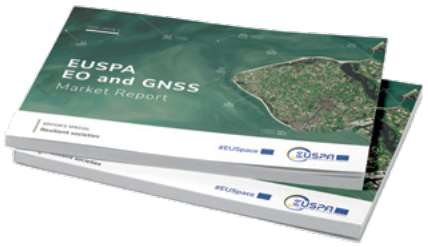
The EU GOVSATCOM initiative will ensure the long-term availability of reliable, secure and cost-effective governmental satellite communications services for EU and national public authorities managing security critical missions and infrastructures.

Space Situational Awareness

To mitigate collision risks between EU Space satellites and other spacecraft and debris, the EU established a set of capabilities through the Space Situational Awareness (SSA) component of the EU Space Programme. An integral part of SSA is Space Surveillance and Tracking (SST). SST uses a network of ground- and space-based sensors and other infrastructure to survey, track and protect EU Space assets from artificial space objects orbiting Earth (mostly debris from launchers or satellites).

Interested in more EU Space opportunities for EU Border and Internal Security?

Download the EUSPA EO and GNSS Market Report here:



Download the EUSPA Secure SATCOM Report here:

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Linking space to user needs

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