

#EUSpace



Unlocking the potential of Earth Observation data for climate change and urban areas

Linking Space Technologies with User Needs

Reinhard Blasi, Malta, 24 February 2023



The road to EUSPA

2002



Galileo Joint Undertaking (GJU)

Managing the 1st phase of Galileo Development

2004



European GNSS Supervisory Authority

Supervising the development of EGNOS and Galileo

2010



European GNSS Agency (GSA)

Galileo and EGNOS service provision and uptake

2021



EU Agency for the Space Programme (EUSPA)

Galileo, EGNOS, Copernicus, GOVSATCOM

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New EU Space Regulation ((EU) 2021/696)



- To acknowledge the growing role of space in supporting EU priorities in terms of growth, competitiveness, sustainability, and security
- Setting the ground for the creation of EUSPA, in **2021** (retroactive effect to 01/01/2021)

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A new EU Space Programme 2021-2027

With the new regulation, space data and services are at the heart of a technological revolution

A new EU Space Programme

EU space activities **under one umbrella**



EGNOS

EGNOS “Makes navigation signals more accurate and trustable for Safety-critical applications”

Operational in **400+ airports** & helipads in 23 countries



Galileo

Global satellite navigation and positioning system (GNSS)

More than **3 billion Galileo receivers** worldwide



Copernicus

Earth Observation (EO) and monitoring based on satellite & non-space data

Nr.1 world provider of space data and information (>20TB/day)



GOVSATCOM

Secure satellite communications for EU governmental actors

Rapid support over crisis areas



Space Situational Awareness (SSA)

Space Surveillance and Tracking (SST)

Space Weather Events (SWE)

Near-Earth Objects (NEO)



Others

Access to Space

Research & Innovation

Entrepreneurship

Certification & standardisation

Capacity Building

EUSPA's mission

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Exploitation

- Management, operation, maintenance, improvement, evolution & protection of infrastructure
- Galileo and EGNOS services provision and 24/7 operations
- GOVSATCOM hub
- Space Surveillance and Tracking (SST) Front Desk as of 2023



Security

- Security Accreditation for all components
- Operational security of Galileo and EGNOS
- Operation of the Galileo Security Monitoring Center (GSMC)



Market development, communications, user uptake, applications, innovation

- Galileo, EGNOS, Copernicus, GOVSATCOM

Boosting the market, creating innovation and making EU aerospace ecosystem more competitive

- EUSPA as **catalyst of EU Space Downstream**
- Building on the **3+ billion Galileo users** and well proven market driven/ demand pull methodology...
- Unleash the potential of **Copernicus for business / private users**, leveraging the industrial ecosystems
- Design **end-to-end solutions** for civil and governmental users, leveraging the **synergies** among Galileo, Copernicus and GOVSATCOM
- Create a **new generation of EU space entrepreneurs**, start-ups and innovators, supporting them to scale-up, reach out the first customers and right investors
- Grow the EU Space Downstream **industry competitiveness**



Integrating the EU Space Programme with a synergetic approach...

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...putting Space in the centre of the economy and society...



EUSPA funding tools stimulating innovation and fostering EU aerospace ecosystem, incl. start-ups & SMEs

CASSINI and Entrepreneurship

Foster EU's innovative spirit to deliver **applications and services**

Stimulate **innovation and entrepreneurship** in the **aerospace ecosystem**



Horizon Europe

Foster adoption of Galileo, EGNOS and Copernicus via **application development**

Support the integration of services into devices and their **commercialisation**



Galileo/EGNOS research (Fundamental Elements)

Foster the development of innovative Galileo and EGNOS-enabled **receivers, antennas and chipsets**

Increase **EU industry competitiveness**



Aviation Grant Programme

Foster **EGNOS operational implementation** for civil aviation

Maximise EGNOS adoption all over EU



EUSPA contributes to the EU Agenda

Stronger Europe

Strategic autonomy and non-dependence of Europe in space

Green Deal

EU-space-based applications for sustainable economy, transport, agriculture, biodiversity, energy, smart cities...

Digital

Security of EU space, uninterrupted high capacity connectivity everywhere, IoT

Resilience

Innovative downstream space sector

Taking actively into account the development of markets and users



+

Technology Report and
dedicated
Governmental Report
for Member States

Available at EUSPA website:

https://www.euspa.europa.eu/sites/default/files/uploads/euspa_market_report_2022.pdf

European GNSS and Earth Observation: a promising convergence for sustainable development

- The UNOOSA study *“EGNSS and COPERNICUS: Supporting the Sustainable Development Goals. Building blocks towards the 2030 Agenda”*, was prepared with the support of GSA
- It analyses the role of EGNSS and Copernicus supporting the UN Sustainable Development Goals
- And stresses the potential of EGNSS-EO convergence stimulating innovation and increasing the use of space technology



GNSS and EO support all the SDGs with various levels of contribution

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- 13 out of 17 SDGs are flagged as goals for which EGNSS and EO contribute significantly to their fulfilment and monitoring
- 65 out of 169 indicators defined as KPIs for SDGs directly benefit from the use of GNSS and EO
- 38 use cases are presented in the report, showcasing the tangible contribution towards sustainable development in already deployed solutions



...and a brand new publication on how EU Space helps organisations for their green transition

- EU Space for Green Transformation, a new report by EUSPA, introduces the Green Deal and its implications for companies.
- It also presents detailed examples of how various industries, including **energy, road transport, aviation, agriculture, forestry and mining**, are leveraging the power of EU Space to drive their sustainability journeys.



EU Space as enabler for URBAN DEVELOPMENT AND CULTURAL HERITAGE



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- Earth Observation for valuable information in urban planning, monitoring of informal dwellings + progress of urban greening
- **Copernicus Land Monitoring Service** for **monitoring of cultural heritage**, identifying and mapping risks (e.g., coastal erosion, ground subsidence)
- Copernicus Emergency Management Service **to tackle natural and man-made disasters** affecting urban environment
- GNSS-based solutions to accurately survey and map towards advanced 3D models of urban areas of the built environment
- **EGNSS receivers** with around **98%** of surveying and mapping receiver models being **Galileo-capable** and **80%** of mapping and GIS receiver models **EGNOS compatible**
- **Galileo for augmentation service providers** worldwide, with the majority of service providers are already supporting Galileo in their networks



Innovative satellite-based services supporting urban practices

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Innovative satellite-based services supporting urban practices to make our cities:

- **Healthier**
- **Cleaner**
- **Safer**
- **More efficient**
- **Data driven**



Examples of Space based KPIs under assessment to support Green City recovery

Emissions



Quantity and location of NO_x, SO_x, CO_x

Air quality and atmospheric composition

Monitoring of surface albedo

Waste



Quantity and location of Methane

Urban sprawl

Public transport



Air quality and atmospheric composition

Kilometres of bike lanes

Kilometres of bus lanes

Road surface conditions

Mapping to support to autonomous transport

Ports and airports



Quantity and location of NO_x, SO_x

Port expansion and waterway development

Airport expansion

Fuel consumption monitoring

Galileo improves availability of position information in the urban environment (vs GPS only solution), enabling better location of vehicles and assets, which is key to optimize the network planning.

Copernicus data correlated with GNSS improves monitoring of emissions, city activity and use of transport infrastructure and green spaces, and supports urban planning.

All opportunities in one newsletter

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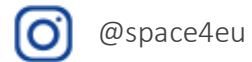
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Linking space to user needs

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