



NEREUS - Network of European Regions Using Space Technologies

**Connectivity: secure digital connections
for the future**

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Directorate-General Defence Industry and Space



EU SPACE

Increasingly **unstable**
international environment

Risks and challenges such
as natural and man-made
disasters, EU border
countries, CSDP Missions



New types of
crisis situations,
e.g. pandemics

Dependency on terrestrial
and non-EU SATCOM
infrastructures

Increase in **cyber-attacks threats**



EU SPACE



CRISIS MANAGEMENT

Use cases : Humanitarian crises, maritime emergencies, CSDP-missions, natural disasters, ...

Users : Military forces, civil protection workers, police and homeland security, civilian and military CSDP-missions, humanitarian aid responders

Deployment : <12 hours if compatible terminals are available in the area, otherwise <48 hours



EUROPEAN BORDER AND
COAST GUARD AGENCY



FRONTEX

SURVEILLANCE

Use cases : Border surveillance, maritime surveillance, illegal trafficking, search and rescue (SAR), environmental monitoring, CSDP missions & operations at sea, ...

Users : Maritime security agencies (EMSA), border surveillance agencies (Frontex), military forces, national authorities, ...

Deployment : Permanent **near real time connectivity** between surveillance platforms

KEY INFRASTRUCTURES MANAGEMENT

Use cases : Diplomatic networks, police communications, space infrastructure and services, ...

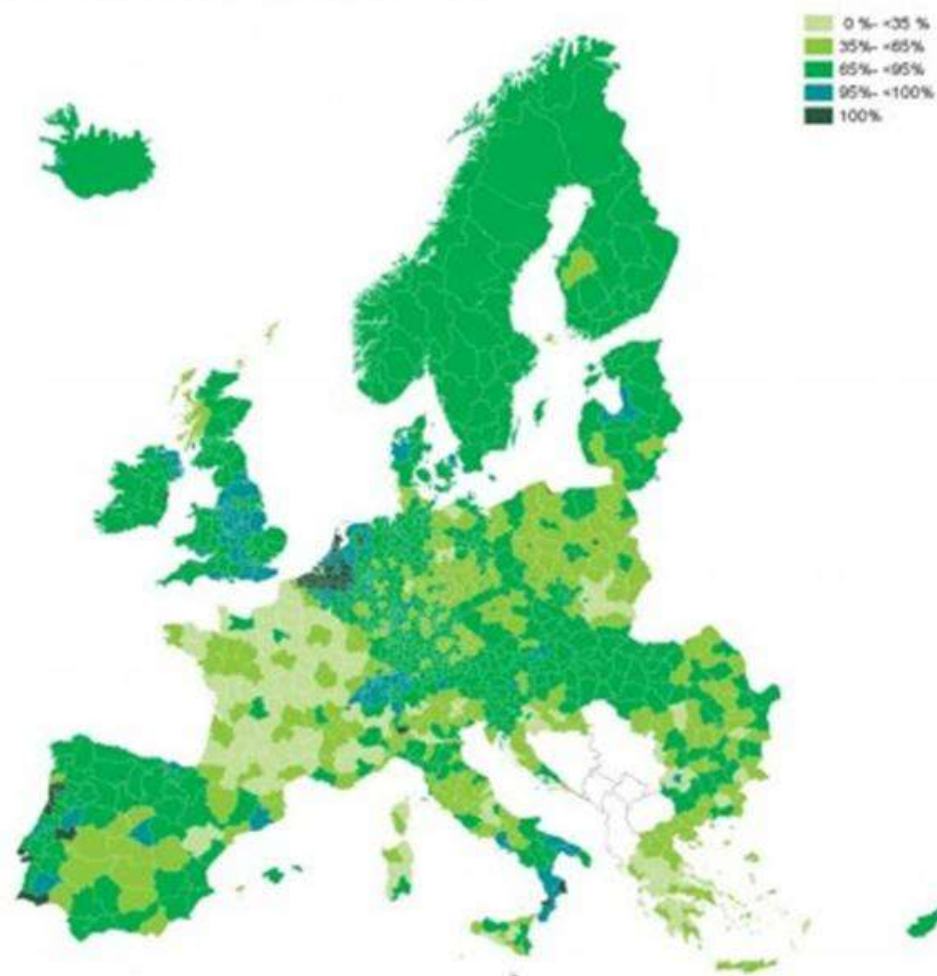
Users : Including the 139 EU Missions and Delegations, 49 DG ECHO field offices, MS Embassies, EU Space Programme components, Aviation Authorities (EASA), ...

Deployment : Permanent **near real time connectivity** between critical infrastructure



Broadband coverage

Europe: Overall NGA broadband coverage, 2016

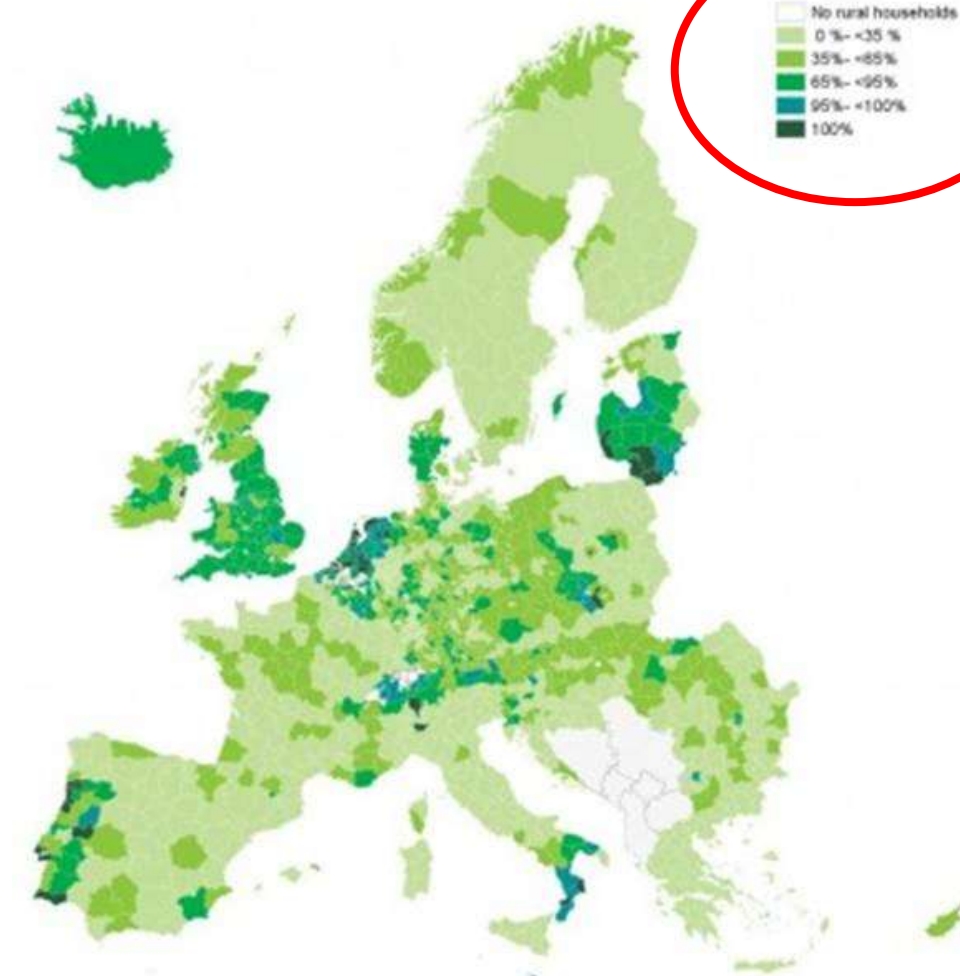


Source: Broadband Coverage in Europe 2016, a study by IHS Markit and Point Topic for the European Commission

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Overall coverage

Europe: Overall rural NGA broadband coverage, 2016



Source: Broadband Coverage in Europe 2016, a study by IHS Markit and Point Topic for the European Commission

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Rural areas

Source: Digital Economy and Society Index (DESI) 2019



22 February 2021



EARTH OBSERVATION
[Copernicus]



SECURE COMMUNICATIONS

[Governmental & Quantum]



NAVIGATION
[Galileo / EGNOS]

MISSIONS FOR A MORE DIGITAL, RESILIENT AND GREENER EUROPE

HIGH-SPEED
BROADBAND FOR ALL



MASS-MARKET

A RELIABLE, SECURE AND COST EFFECTIVE
GOVERNMENTAL COMMUNICATION SERVICE



CONNECTING KEY
INFRASTRUCTURES



CRISIS MANAGEMENT
AND EXTERNAL ACTIONS



SURVEILLANCE



European
Commission

DEFIS

SECURE GOVERNEMENTAL SERVICES



CONNECTING KEY INFRASTRUCTURES

Governmental & Institutional secure communications (Embassies, EUROPOL, ...)

—

Management of Infrastructures (air, rail, road, traffic management)

—

Galileo (augmentation), Copernicus (data relay)

—

Command and control of smart grids and M2M (energy, finance, health, data centres...)



CRISIS MANAGEMENT AND EXTERNAL ACTIONS

Civil protection

—

CFSP- CSDP

—

Humanitarian aid

—

Telemedicine

—

Maritime emergencies (search and rescue)



SURVEILLANCE

Border and remote areas surveillance

—

Remote Piloted Aircraft systems

—

Maritime surveillance

—

Arctic region coverage

—

Complement to military missions

—

Space surveillance

SECURE COMMERCIAL SERVICES



MASS-MARKET

5G / 6G integration

—

Edge computing (edge in the sky)

—

Autonomous driving

—

e-health

—

Smart working, education

—

In-Flight, maritime connectivity

—

Smart agriculture

—

IoT

EU space-based secure connectivity system

*« L'Europe se doit de lancer un troisième grand projet spatial : un **projet de connectivité** par une **constellation en orbite basse** permettant de mettre fin aux zones blanches en Europe »*

Ensure European strategic autonomy, resilience and technological sovereignty

Strengthen Europe's leading role in the world

Fuel an innovative and competitive European industrial ecosystem





In synergy with other space missions

Copernicus

- Data relay for real time missions
- Piggybacked sensors

Galileo

- Signal augmentation
- Quantum key distribution
- Avoid dependency on commercial networks

Egnos

- EGNOS payload on connectivity GEO sats

SST/STM

- Space sensors

Thank you



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