European Commission

European GNSS Agency

EGNOS

EGNOS extension to Eastern European Neighbourhood partner countries

Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine

European Commission

European Global Navigation Satellite Systems Agency

EGNOS

Satellite-based connectivity contributes to smart and safe transport, greener cities and enables the digitalisation and modernisation of the economy. In this context, cooperation with the partner countries with regard to extending the coverage of the European Geostationary Navigation Overlay Service will contribute to safer aviation, in line with EU legislation, to cost-effective maritime and rail transport and help boost high-precision agriculture.

Eastern Partnership policy beyond 2020: Reinforcing Resilience - an Eastern Partnership that delivers for all, JOIN(2020)56

EGNOS – the European Geostationary Navigation Overlay Service

- Global navigation services (GPS, Galileo, etc) are a new commodity
- Low cost, accuracy of few meters, no guarantee of service
- Some users require better performance:
  - meter accuracy
  - integrity of the information – safety critical applications

- EGNOS - Europe's satellite-based augmentation system improves the performance of GPS, and soon Galileo
- EU-owned and funded, civilian system with regional coverage
- Free of charge for the users and widely adopted in off-the-shelf receivers

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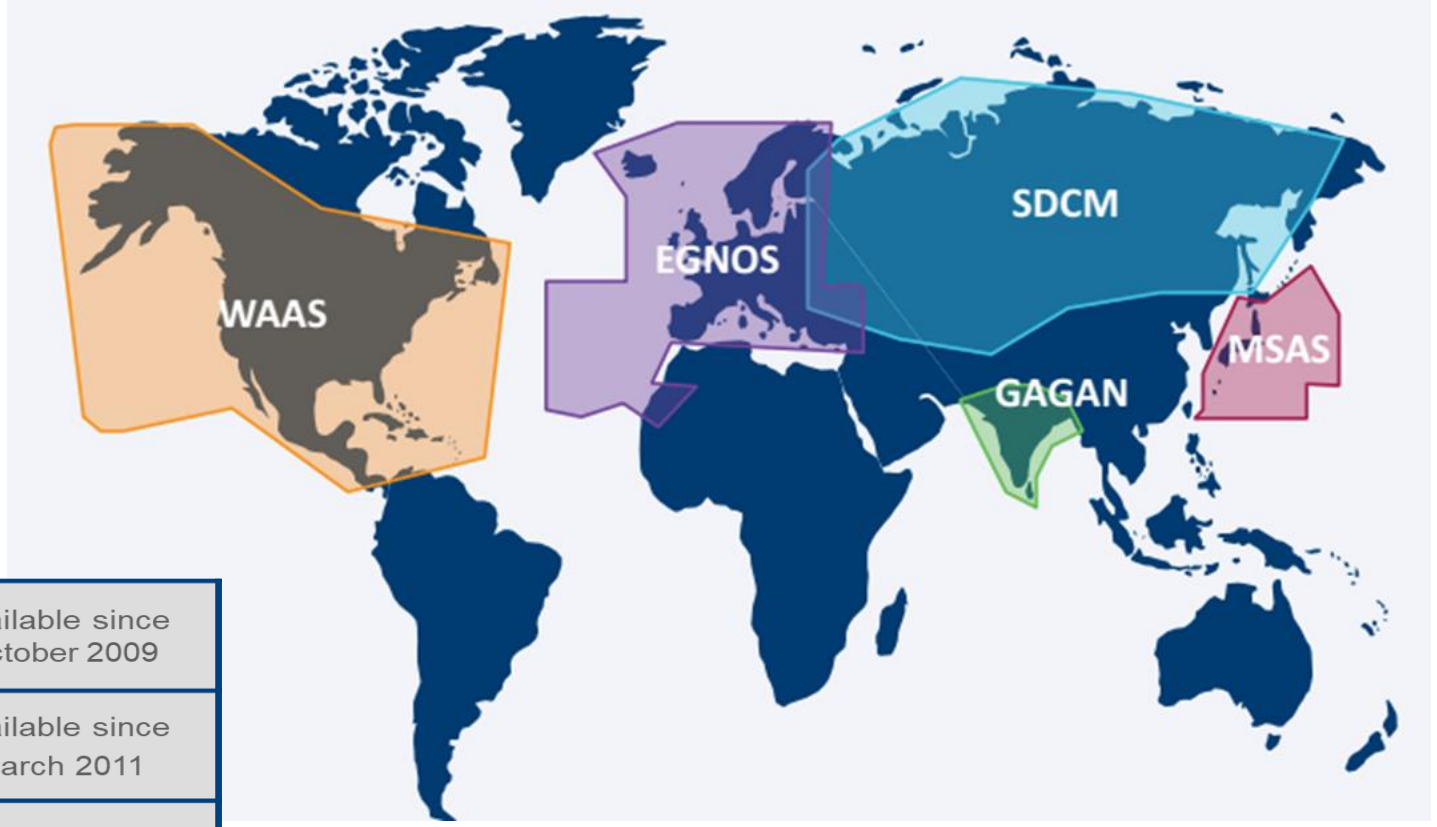
EGNOS

EGNOS is the European satellite-based augmentation system (SBAS) sharing the same standards as all other SBAS systems around the world



Open Service (OS)	Accuracy ~1m, free	Available since October 2009
Safety of Life Service (SoL)	Accuracy ~1m, compliant to aviation standards	Available since March 2011
EGNOS Data Access Service (EDAS)	Accuracy <1m, corrections provided by terrestrial networks	Available since July 2012

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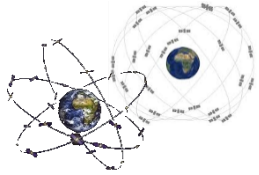
EGNOS

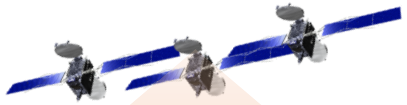
EGNOS System Composition



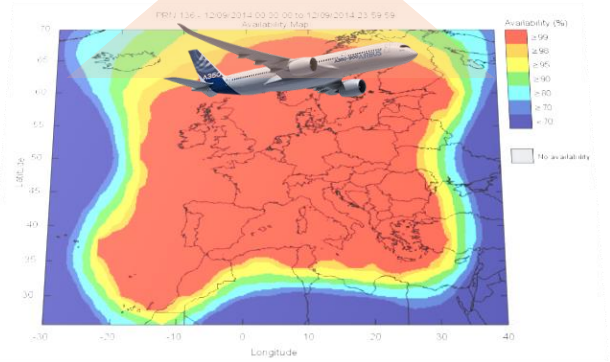
GPS

Galileo

3 geostationary Satellites



Broadcast



6 Navigation Land Earth Stations

Reception by ground stations (Ranging and Integrity Monitoring Stations RIMS)

RIMS

EDAS service by terrestrial network

Mission control centres
Operational control centres

Computation (Central Processing Facility)

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EGNOS

EGNOS adoption in all market segments in Europe

Increased safety, operational benefits and cost savings
More than **26000** LPV capable flights/month

Signaling and train control; asset management & intermodal logistics; passenger information system

81% EGNOS Open Service penetration in receivers' models

safe navigation in rivers, canals, lakes and estuaries, port logistics

EGNOS

Road tolling

Regulated applications: eCall and Smart Tachograph regulations using Galileo and EGNOS

More than **75%** of European GNSS enabled tractors are equipped with EGNOS

More than **75%** of surveying and mapping receivers are EGNOS compatible

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EGNOS

Why an EGNOS extension to ENP East?

EU considerations

- Ground stations in ENP East to benefit also the EU as well as EGNOS extension to ENP South
- Possibility for ENP East countries to diversify providers
- New markets and cooperation opportunities
- Single Transport Area, Connectivity

Benefits for partner countries

- Leverage at small additional cost EU cutting-edge technology
- Benefit from same quality of service as the EU
- Modernisation, digitalisation and greening of the economy
- Net benefits eg from improved efficiency, lower infrastructure costs

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EGNOS

€8 Million from the EU for the EGNOS extension to ENP East:

- European Neighbourhood Instrument's East Regional Action Programme has allocated €8 Million for the development of cutting-edge technology and deployment of infrastructure to extend EGNOS service coverage to the East European Neighbourhood.
- EGNOS Open Service will be available to all ENP East countries, free of charge for final users equipped with EGNOS-enabled receivers.
- EGNOS Safety-of-Life service will be used by ENP East countries that have signed an agreement with the EU.
- Long-term EU vision: as with any cutting-edge technology, considerable lead time before EGNOS is fully operational in the ENP East (2026-7).

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Thank you

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EGNOS