



European Satellite Services Provider

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# SPACE & ATM

OPERATIONS AND SERVICE PROVISION

*Charlotte Neyret ESSP, CEO*

# ESSP - European Satellite Services Provider

- ✓ ESSP is a **Pan-European** company, **certified by EASA**, with **strong experience in operations and service provision** of space-based systems
- ✓ ESSP's core competencies are the provision of **space-based Communication, Navigation and Surveillance (CNS)** services to users
- ✓ We provide 24/7 information services to safety **critical-application users**: **SAFETY and SECURITY** are the main priorities for each and all ESSP employees
- ✓ Thanks to our experience and know-how, **we are trusted by EUSPA to operate and provide EGNOS services**



# Satellite-based CNS Services



## Space-based Systems

- Regional / Global coverage from scratch
- Not limited by ground infrastructure
- Newspace enables cost attractive service
- Adapted performance to the need

## Space-based CNS Services

- Performance
- Safety & Security
- Certification for Pan-EU services
- Prepared for the digital world
- Mature & Scalable
- Integrated CNS

## Space-based Service Benefits

- Interoperability
- Global coverage
- Quality of Service
- Optimization of CNS infrastructure costs (opportunity for rationalization)
- Enabler for new services

**Our mission is to take benefits of space systems to provide reliable CNS services to the ATM market**

# Satellite-based NAVIGATION Services

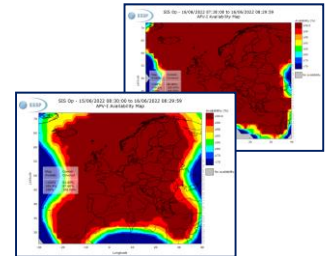


## SBAS Navigation proven benefits

- **Performance and Quality of Service** (Integrity, Continuity, Availability, Accuracy)
- **Cost of ATM operation optimization** (i.e: decommissioning of ILS CAT-I)
- **Greener and cost-efficient Airline Operations** thanks to fuel savings and lower CO2 emissions
- Enable and support **2030 PBN regulation**

## EGNOS Service

- EGNOS services 24/7
- Monitor & analyse EGNOS performance
- Support and interface with users
- Support the development of EGNOS-based services
- Increase the Security
- Support to Galileo



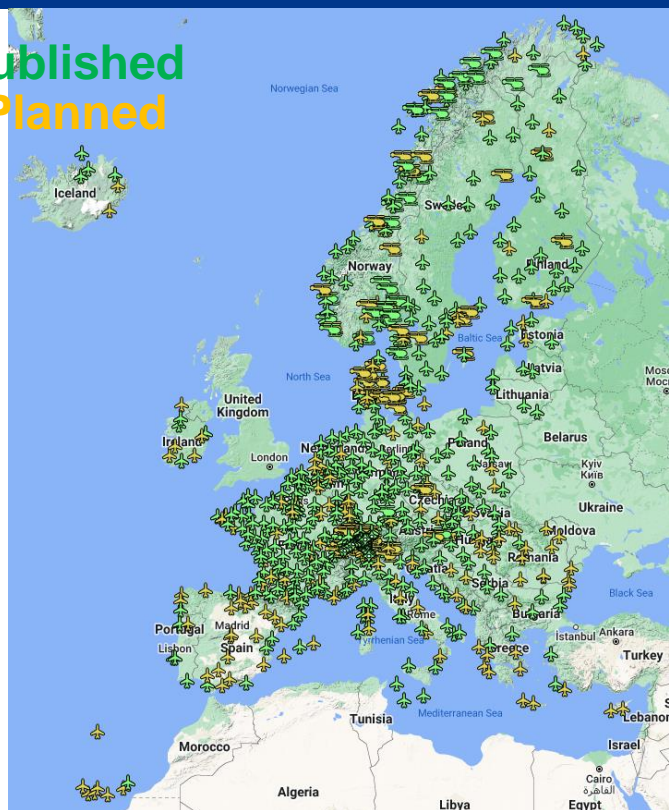
## EGNOS APP

A composite image showing the EGNOS app interface on a smartphone. The app has four main sections: 'EGNOS Helpdesk' (Accessible from app), 'Signal in Space' (EGNOS system information), 'Docs and tools' (Browse official documents &amp; tools), and 'EGNOS performance' (SoL, EDAS, OS services). To the right of the app are two QR codes and icons for downloading the app from Google Play and the App Store.



# Satellite-based NAVIGATION - EGNOS

Published  
Planned



- More than **60% of IFR RWY ends** in Europe already offer SBAS landings
- **Regulation requires 100% by 2024**
- **By 2030, PBN shall be the standard practice**, thus EGNOS-based approach procedures will be the primary means for landing



End of May, Airbus delivered to EasyJet the first A320 equipped with the SBAS Landing System function

Source: LPV map, EGNOS User Support Website (17/06/2022)



# Satellite-based COMMUNICATION Services



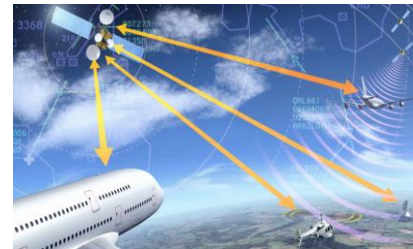
## Datalink Communication needs

- Enhance Performance and Quality of Service
- Allow an increasing amount of traffic data (mid-term congestion, new services, EPP, ...)
- Enable optimized ATM operations (e.g. i4D, TBO, etc..)
- Support the EU Digital Sky, SESAR program and eATM roadmap
- Allow the creation of new demanding data services and applications

## IRIS SatCom Datalink

- Complementary high bandwidth / speed technology
- Mature technology with validated performance and certified receiver available for airlines
- Final validation S1 2023 / **Initial Certified Service** in S2 2023

## Supporting Connected Aircraft



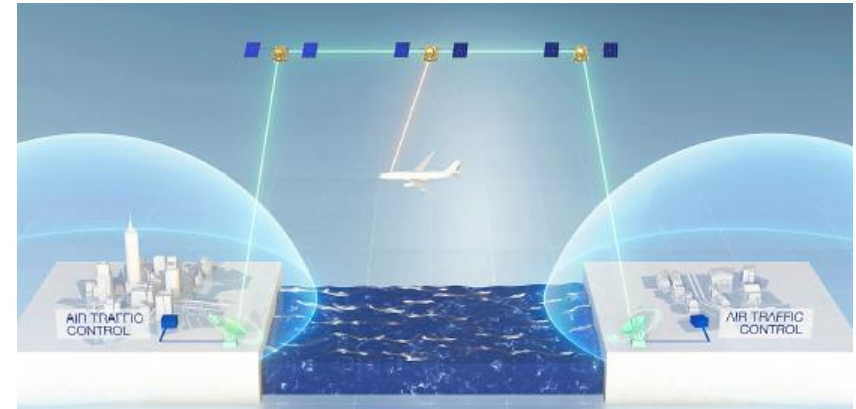
# Satellite-based SURVEILLANCE Services



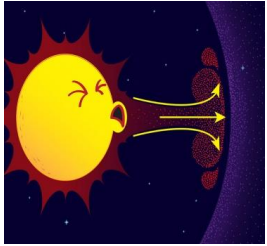
Existing satellite-based ADS-B solutions pave the way for new needs and make new services possible

## Surveillance needs

- **Better performance to enable ATS surveillance continuity and safe separation in Oceanic, En-Route and TMA areas**
- **Competitive cost efficient service**
- **EU Sovereign solution**
- **Complementary surveillance system**



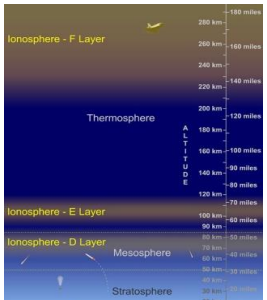
# Space Weather for ICAO



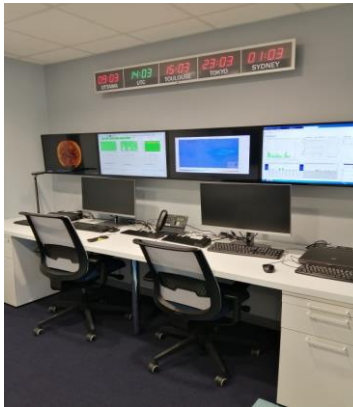
**Solar wind**  
Stream of charged particles



**Magnetosphere**  
Earth magnetic shield



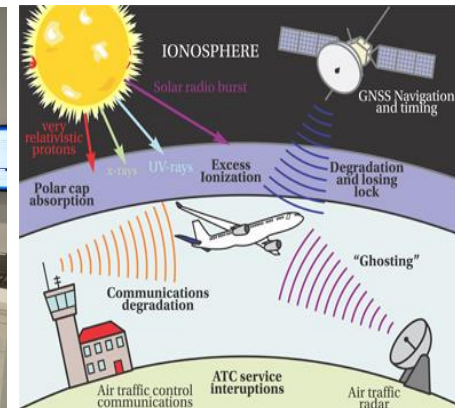
**Ionosphere & thermosphere**  
Layers of Earth atmosphere > 60 km



**To issue advisories** to aviation community in case Space Weather affects

Impacts on Aviation

- HF com
- Radiations
- GNSS
- SatCom







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# Thank you!



[www.essp-sas.eu](http://www.essp-sas.eu)



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MADE IN  
EUROPE