



european regions airline association

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EGNOS Service Provision Workshop 2016

Warsaw 27-28 September



Representing Europe's Regional Airlines





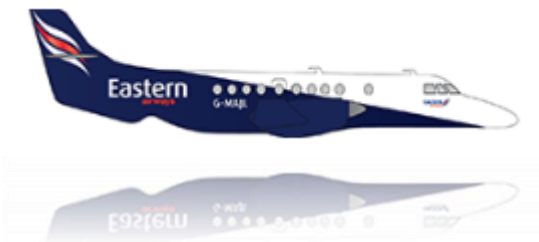
How EGNOS Benefits ERA Members



Regional Airline Successes



- 17 Jetstream 41 aircraft LPV equipped
- 9 Saab 2000 aircraft LPV equipped
- STC development



Regional Airline Successes

HOP!
AIRFRANCE

- HOP-AIRLINAIR ATR LPV retrofit
- 13 ATR42-500 aircraft equipped



Regional Airline Successes

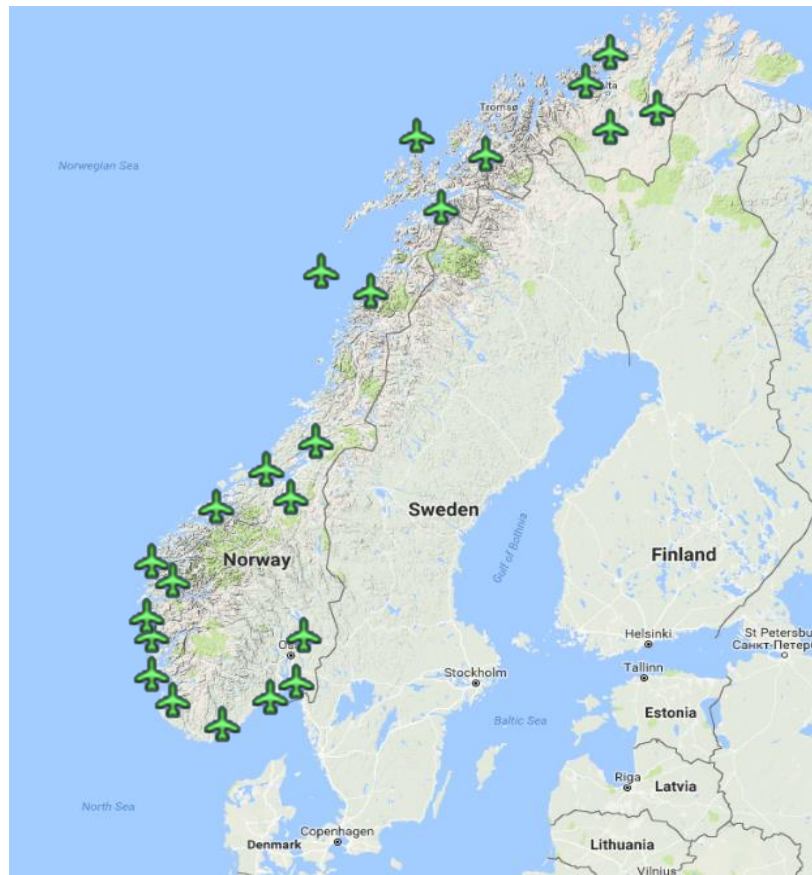


- Aurigny – The first airline using EGNOS
- Implementation of RNAV and LPV at EGJA
- Precision approach capability
- Significant increase in safety benefits



Regional Airline Successes

ICAO	Airport	Approach Type
ENAL	Alesund/Vigra	LPV
ENAN	Andøya	LPV
ENAT	Alta	LPV
ENBL	Forde/Bringeland	LPV
ENBO	Bodø	LPV
ENCN	Kristiansand/Kjevik	LPV + APV-Baro
ENEV	Harstad/Narvik/Evenes	LPV
ENHD	Haugesund/Karmoy	LPV + APV-Baro
ENHK	Hasvik	LPV
ENKR	Kirkenes/Hoybuktkmoen	LPV
ENML	Molde/Aro	LPV
ENMS	Mosjoen/Kjaerstad	LPV
ENNA	Banak / Lakselv	LPV
ENNM	Namsos	LPV
ENRM	Rorvik/Ryum	LPV
ENRS	Rost	LPV
ENSG	Sogndal/Kaukasen	LPV
ENSH	Svolvaer/Helle	LPV
ENSK	Stokmarknes/Skagen	LPV
ENSO	Stord/Sorstokken	LPV + APV-Baro
ENST	Sandnessjoen/Stokka	LPV + APV-Baro
ENVA	Trondheim/Vaernes	LPV + APV-Baro



Regional Airline Successes


widerøe



“EGNOS enhances the integrity and accuracy of GPS and gives us the possibility to fly approaches following a vertical glide path.

This means improved safety at airports with only a non-precision approach in place”

Richard Kongsteien, Vice President and COO - Widerøe



Representing Europe's Regional Airports



Regional Airport Benefits

London Southend Airport



- **Implementation of LPV-200**
- **Potential to attract considerable LPV-capable business aviation movements**
- **Increased accessibility and safety compared to current facility**
- **Potential to attract new commercial operations based on better accessibility**



Regional Airport Benefits

London Southend Airport

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APPROVED 2016



Regional Airport Benefits



Glasgow Prestwick Airport



- LPV, LNAV and LNAV/VNAV runways 12/30 and 21
- Replace, overlay and replicate the current conventional procedures
- Substantially improved minima on runway 21 and a far more accurate arrival than currently provided by the non-directional beacon (NDB) or surveillance radar approach (SRA)



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Regional Airport Benefits

London Oxford Airport



- Lateral navigation (LNAV), LNAV / Vertical navigation (VNAV) and LPV minima to runways 01 and 19
- Approach to runway 19 to be designed with LPV-200 criteria
- Primary regional and business aviation airport in the Thames Valley, identified as a priority for LPV and operators already with LPV capabilities.



Regional Airport Benefits

London Oxford Airport

LONDON
OXFORD
AIRPORT

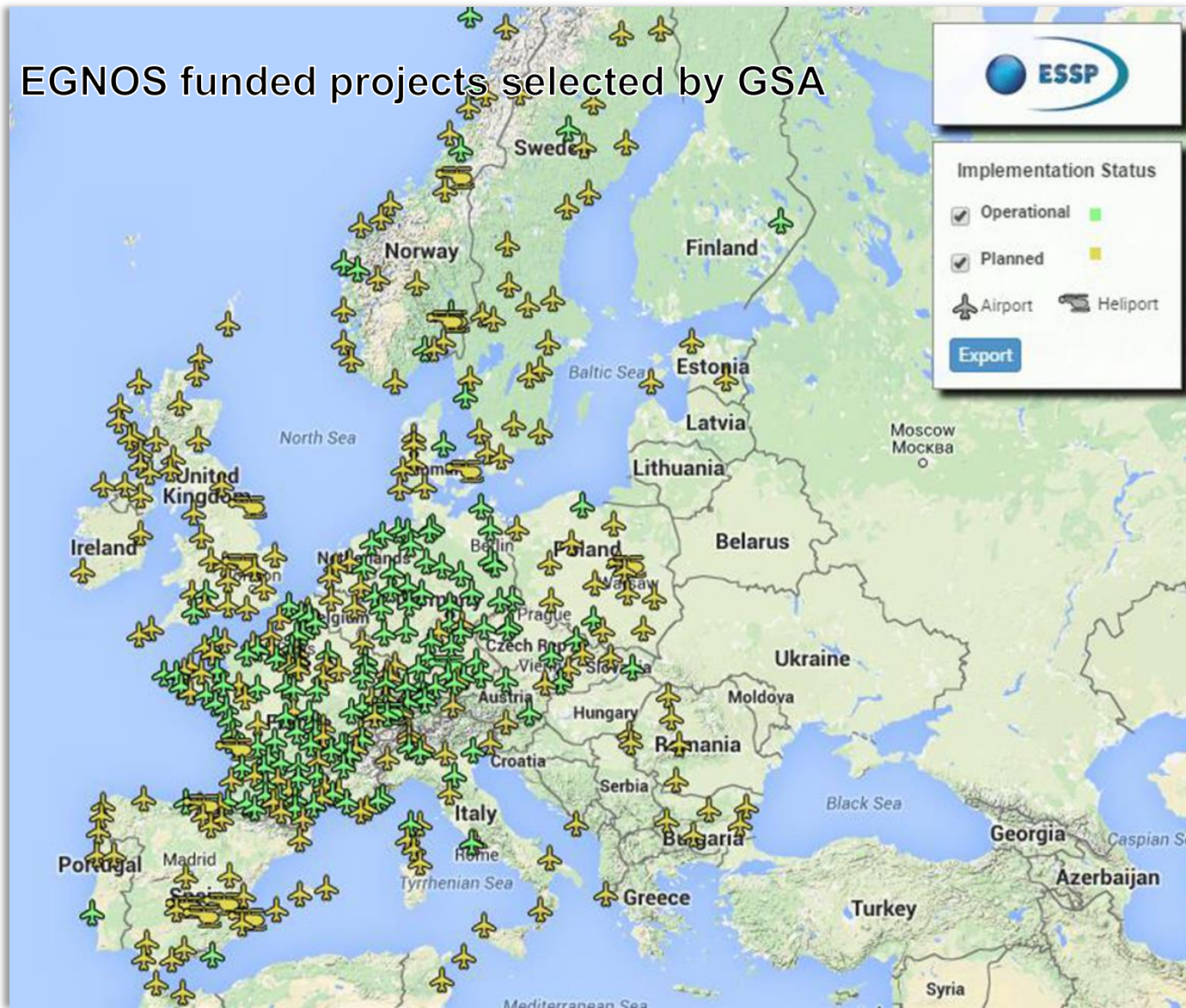
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EGNOS funded projects selected by GSA



EGNOS funded projects selected by GSA

European GNSS Agency GSA is to fund 14 projects to help foster the implementation of EGNOS-based operations and LPV-200 procedures at European airports as part of its 2015 Aviation Call for Grants.

Of the 14 projects selected as part of the first call in 2015, all are currently at various stages of implementation, with some already taking positive steps towards enabling EGNOS operations, particularly as they relate to regional aviation.



Projects include:

**40 LPV procedures
at 18 airports**

2 RNP 0.3 routes

**44 aircraft
retrofitted by 9
operators**

**4 avionics solutions
(STC) development**

**3 Flight simulator
type upgrades**








EGNOS For airlines....



- Enhances and improves safety ✓
- Greater lateral and vertical guidance accuracy ✓
- Enhanced situational awareness ✓
- Reduced fuel burn through more direct approaches and fewer diversions ✓
- Enhanced public reputation due to continued operations in poor weather ✓
- Improved operational performance due to fewer missed sectors ✓
- Reduced workload for flight-crews ✓

EGNOS For airports....

- Enhanced and improved safety 
- Increased capacity through greater accuracy 
- Enhanced operational performance due to fewer missed approaches 
- Enhanced environmental performance through greater accuracy and CDFA potential 
- Cost effective CAT 1 alternative / replacement 



Delivering High Precision and Low Investment for Regional Airlines and Regional Airports in Europe.





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