

EUROPEAN SPACE WEEK

#EUSpaceWeek

ONLINE EDITION

EGNOS Programme Update

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Organised by:



European
Global Navigation
Satellite Systems
Agency



Under the auspices of:



EU Space Programme:




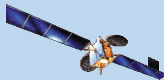










Copernicus

EGNOS



EGNOS OPERATIONAL CONFIGURATION Dec 2020

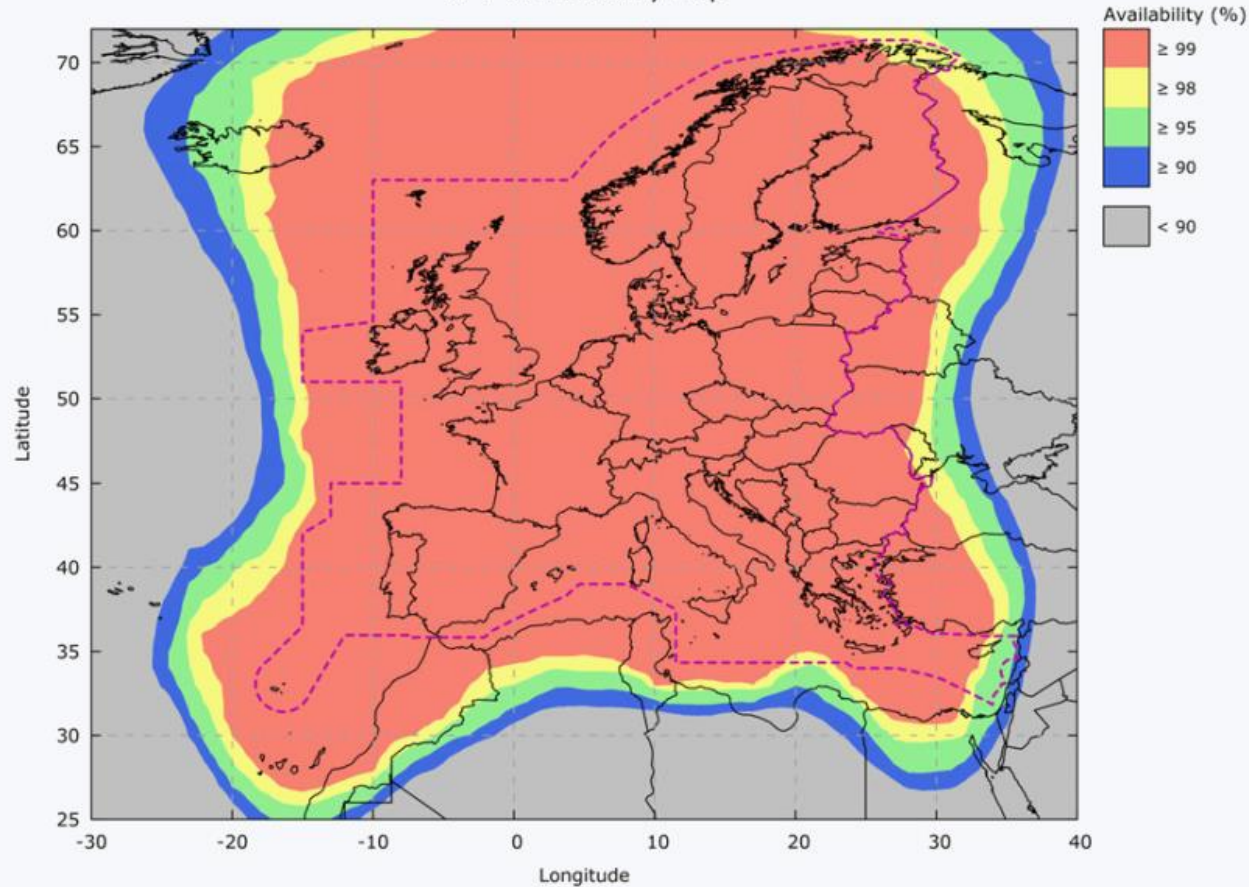


SPACE	SERVICE BROADCAST						TEST / BACK-UP		STAND-BY							
	GEO-1: SES-5 PRN-136 		GEO-2: ASTRA-5B PRN-123 		Inmarsat 4F2 PRN-126 		GEO-3: E5WB PRN-121 									
GROUND	SYSTEM RELEASE 2.4.2-I since Jan 2020															
		Redu-1 OP		Betzdorf-1 OP		Redu-2 OP		Betzdorf-2 OP		Batum-1 Test		Fucino Test		Ramb.		Cagliari
	NLES															
	MCC CIAMPINO				MCC TORREJON				SC TORREJON				OCC TOULOUSE			
	CPF + CCF								ASQF				PACF			
	Abu Simbel	Azores Isl.	Agadir	Aalborg	Alexandria	Athens	Berlin	Canaries Isl.	Cork	Catania						
	Djerba	Egilsstadir	Glasgow	Golbasi	Gavle	Hartebeeshoek	Haifa	Jan Mayen	Kirkeness							
	Lappeenranta	La Palma	Lisbon	Svalbard	Madeira	Malaga	Moncton	Nouakchott	Paris	Palma de M.						
	Reykjavik	Roma	Santiago de C.	Sofia	Swanwick	Toulouse	Trondheim	Tromso	Warsaw	Zurich						
	RIMS: 39 RIMS in Operations															

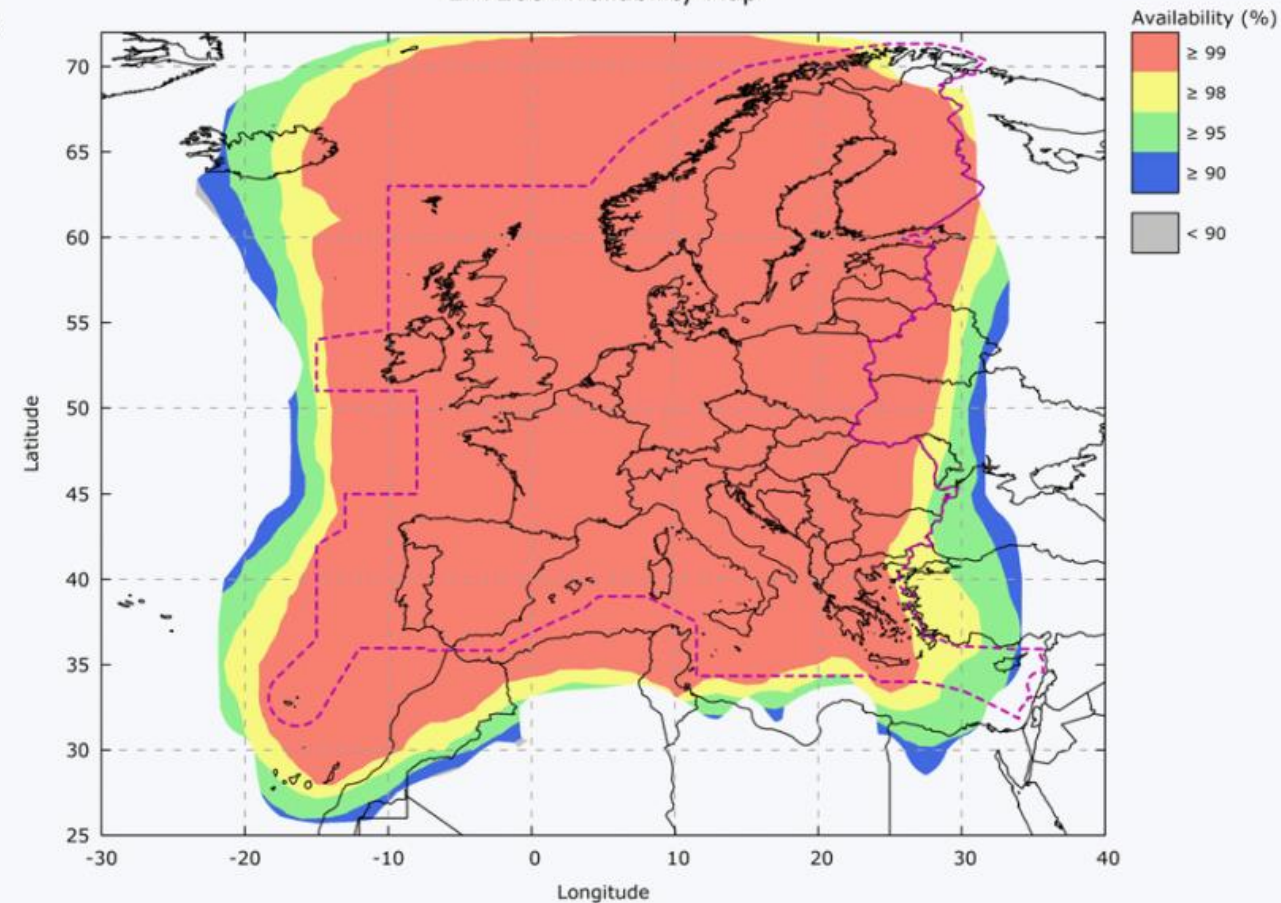
EGNOS SoL Service coverage – SDD 3.3



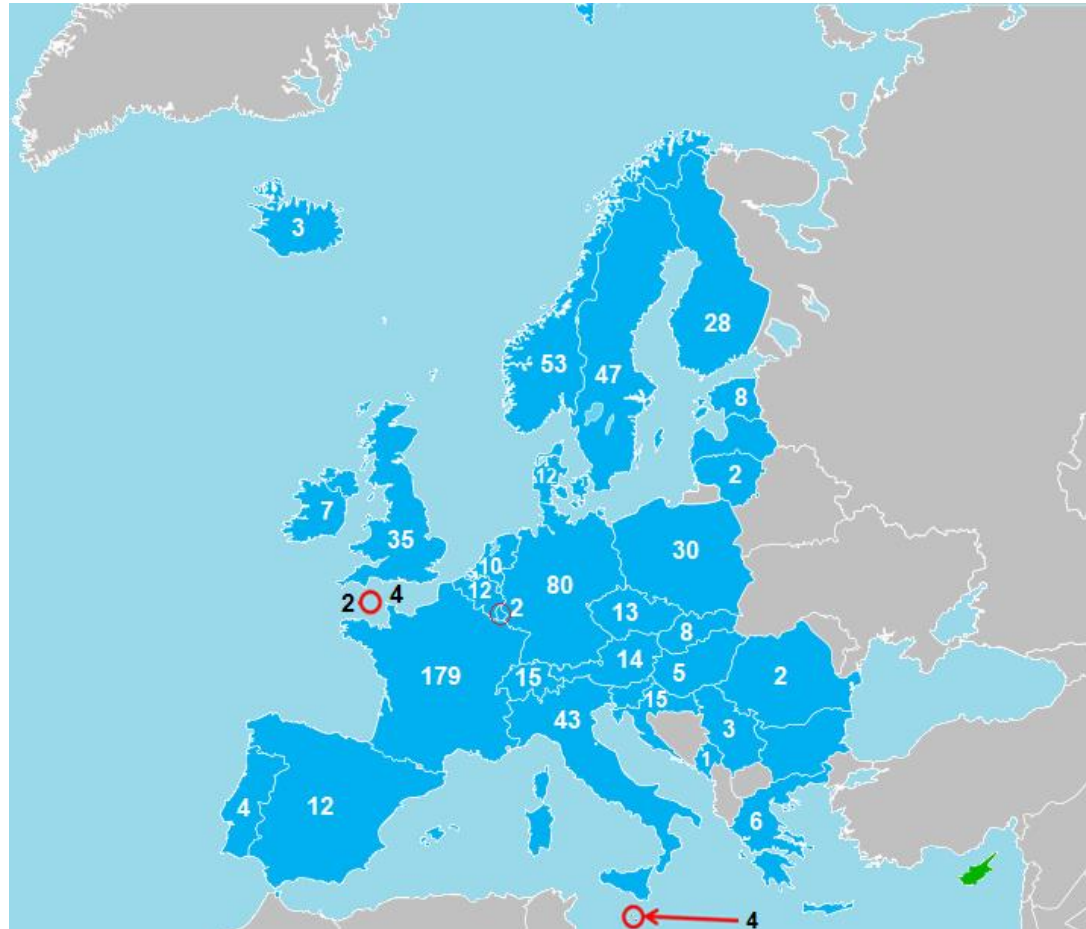
APV-I Availability Map



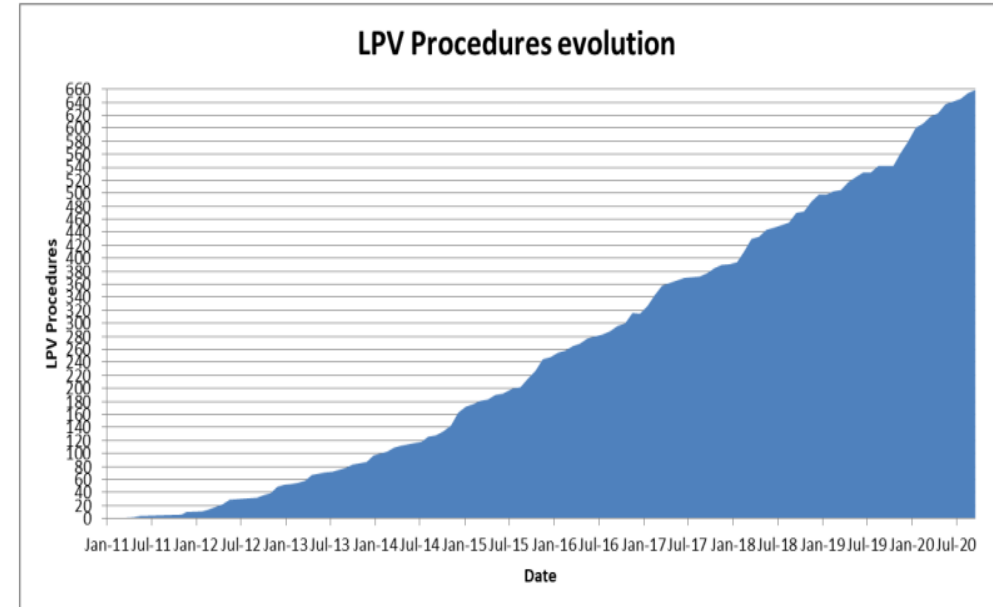
LPV200 Availability Map



EGNOS SoL for Aviation



	No discussion/ No need / No feedback
	Initiated Discussions
	Advanced Discussions
	EWA signed
N	Number of published LPV procedures



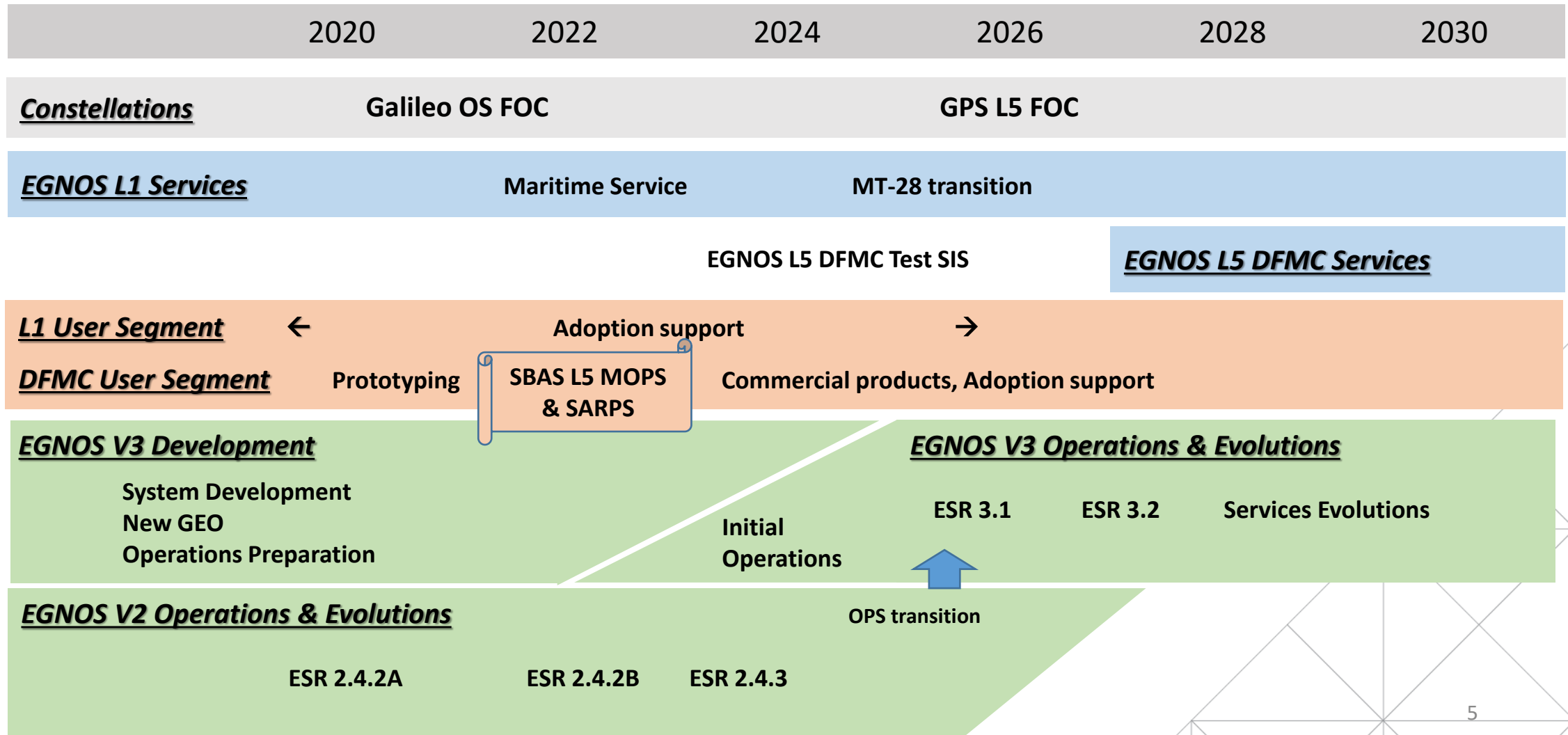
Instrumental runway ends with LPV procedures
October 2020

690 (53%) over 370 airports

PBN Implementing Regulation 2018/1048 (18 July 2018)

53% (now) → 100 % (2024)

EGNOS Exploitation Programme Roadmap



EGNOS System Release Plan



Release	V242-A	YSR5	V242-B	V243 <i>(under procurement)</i>	V3.1	V3.2
Qualification	Done	2021	2022	2023	2024	2026
Entry in operations	2021	2021	2023	2024	2025	2027
Key Features	CPF new HW (solve obsolescence)	“Negative TEC” anomaly correction	<ul style="list-style-type: none"> • RIMS-C G2 (solve obsolescence) • 2 new RIMS sites: Kuusamo, Kiev • Coverage & perfos robustness • I4F2 high inclination 	<ul style="list-style-type: none"> • <i>Solve NLES G2 obsolescence</i> • <i>RIMS-A/RIMS-B Rx obso refresh</i> • <i>Introduction of GEO3</i> 	<ul style="list-style-type: none"> • New Ground Segment • Enhanced robustness 	<ul style="list-style-type: none"> • DFMC SoL Service (GPS-Galileo) capability • <i>Extension to ENI-South and Ukraine</i>

ICAO DFMC SBAS SARPS approved (12-13 Nov 2020)



- L1 SBAS service unchanged: **backward compatibility** to existing Avionics
- **L5 DFMC SBAS service independent** of the L1 SBAS service, with new message structure
- DFMC SBAS enables the provisioning of SBAS service **in regions of active ionosphere** and permits augmentation of multiple GNSS with up to a total of **92 satellites** concurrently
- DFMC SBAS receivers will have **additional resiliency to radiofrequency interference and improved availability during ionospheric storms**
- DFMC SBAS should be able to provide VPLs in the 10-12 m range. The achieved reduction in VPL might enable approval of **additional operational capabilities**, such as **autoland with Category 1 minima**
- The DFMC SBAS concept includes the possibility to use in the future **non-Geostationary SBAS satellites**

Towards new EGNOS services



- **EGNOS Maritime Service:**

- Concept: SoL maritime service, based on “pseudo range and ionosphere” domain integrity performance commitment (no integrity commitment in the position domain)
- EGNOS MRD CCB endorsed Maritime service requirements targeting delivery with EGNOS V2
- Target: service declaration in 2022-23

- **EGNOS for Rail:**

- EGNSS-R and IMPRESS studies (H2020) kicked-off in Sept 2020
- 16 Dec 2020: Kick-off of the **ERGO Working Group**

Linking space to user needs



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