



Galileo Status

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GNSS Summit, Munich, 26 March 2019

GALILEO - HIGHLIGHTS SINCE LAST MUNICH SUMMIT



□ Infrastructure

- 4 satellites launched end 2017 put into service (L9)
- 4 new satellites launched and put into service (L10)
- New ground segment contracts leading to Full Operational Capability and beyond
- Increased cyber protection capability
- Launch of new procurement for new satellites generation (transition batch)
- New Search And Rescue MEOLUT antenna in La Reunion (Indian Ocean)

□ Regulatory

- eCall regulation entered into force in April 2018
- U.S. FCC Waiver granted (E1/E5 frequencies)
- New E112 Regulation

GALILEO - HIGHLIGHTS SINCE LAST MUNICH SUMMIT



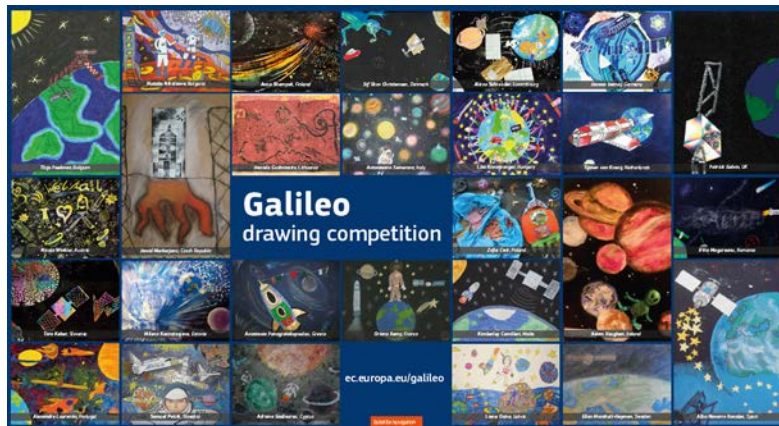
□ Services

- Continuous service improvements
- Opening of the Galileo Reference Centre in NL
- Relocation of the second GMSC in Madrid
- Regular publications of performance reports

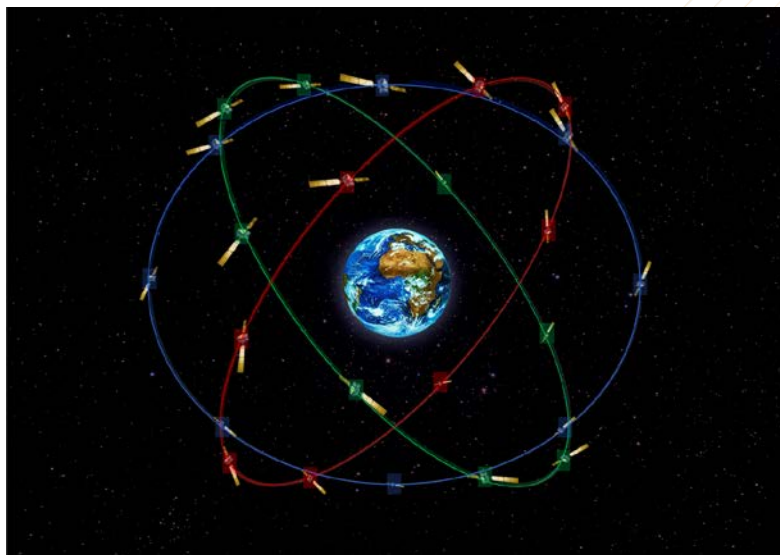
□ Usage and Awareness



























- Accuracy matters campaign
- MyGalileoApp & Galileo Master competitions
- Second Galileo User Consultation Platform in Marseille

GALILEO OPERATIONAL CONSTELLATION STATUS



22 operational for NAV
 23 operational for SAR



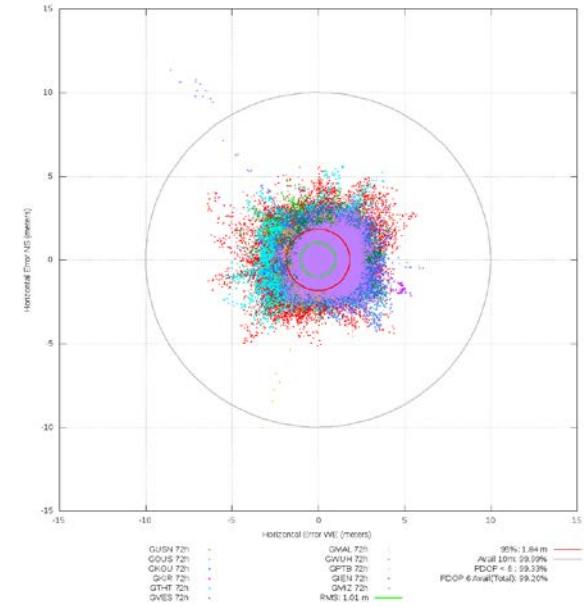
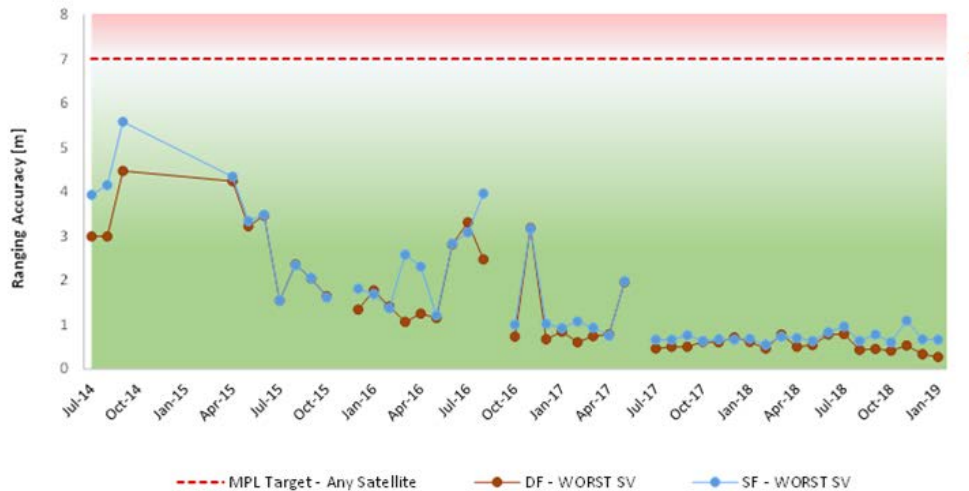
Batch	Launch	Satellite	Status	Name	
IOV	L1 (21/10/2011)	GSAT 101	Nominal	Thijs	
		GSAT 102	Nominal	Natalia	
	L2 (12/10/2012)	GSAT 103	Nominal	David	
		GSAT 104	SAR only	Sif	
FOC	L3 (22/08/2014)	GSAT 201	Elliptic Orbit	Doresa	
		GSAT 202	Elliptic Orbit	Milena	
	L4 (27/03/2015)	GSAT 203	Nominal	Adam	
		GSAT 204	Spare	Anastasia	
	L5 (11/09/2015)	GSAT 205	Nominal	Alba	
		GSAT 206	Nominal	Oriana	
	L6 (17/12/2015)	GSAT 208	Nominal	Andriana	
		GSAT 209	Nominal	Liene	
	L7 (24/05/2016)	GSAT 210	Nominal	Danielè	
		GSAT 211	Nominal	Alizée	
	L8 (17/11/2016)	GSAT 207	Nominal	Antonianna	
		GSAT 212	Nominal	Lisa	
		GSAT 213	Nominal	Kimberley	
		GSAT 214	Nominal	Tijmen	
	L9 (12/12/2017)	GSAT 215	Nominal	Nicole	
		GSAT 216	Nominal	Zofia	
		GSAT 217	Nominal	Alexandre	
		GSAT 218	Nominal	Irina	
	L10 (25/07/2018)	GSAT 219	Nominal	Tara	
		GSAT 220	Nominal	Samuel	
		GSAT 221	Nominal	Anna	
		GSAT 222	Nominal	Ellen	

REMARKABLE PERFORMANCES

Measurements of:
Distance: ~20 cm
Position: ~1.5 m
Time: ~8 ns



MPL on Ranging Accuracy - Any Satellite



Definition	Committed Target	Item	October 2017 to September 2018	November 2018	December 2018	January 2019
Ranging accuracy (DF, 95%)	< 7.0 m	Best Satellite	0.25 m	0.23 m	0.19 m	<u>0.18 m</u>
		Worst Satellite month	0.79 m	0.53 m	0.33 m	<u>0.27 m</u>
	< 2.0 m	Constellation Average	0.54 m	0.31 m	0.24 m	<u>0.23 m</u>

=> New monthly record !

GALILEO SERVICES

Open Service (OS)

- Free and Open Positioning Navigation & Timing (3 frequencies)



Public Regulated Service (PRS)

- Encrypted, more robust, unlimited & uninterrupted access



Search and Rescue (SAR) - contribution

- Forward link + **acknowledgement "return link"**



High Accuracy and Authentication

- **Free High accuracy services + signal authentication services**



Safety-of-Life (SoL) - contribution

- **Multilateral Workplan for aviation adoption (ARAIM+EGNOSv3)**



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ABOUT



TEXT SEARCH



CONTACT

❑ New Services and Performance Commitments

- Return Link Service approaching commissioning date
- OS Service Definition Document update
- OS SIS Interface Control Document update (INAV Improvement)

❑ And even more...

- Satellites 201/202 soon providing operational PVT...
- OS Navigation Message Authentication live test...
- High Accuracy early phase...



THANK YOU

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