



REPÚBLICA
PORTUGUESA

PRESIDÊNCIA DO CONSELHO
DE MINISTROS



GALILEO-PUBLIC REGULATED SERVICE

Gabinete Nacional de Segurança (CPA-PT)

03 julho 2017



**ENCONTRO
COM A CIÊNCIA
E TECNOLOGIA
EM PORTUGAL**

UNCLASSIFIED

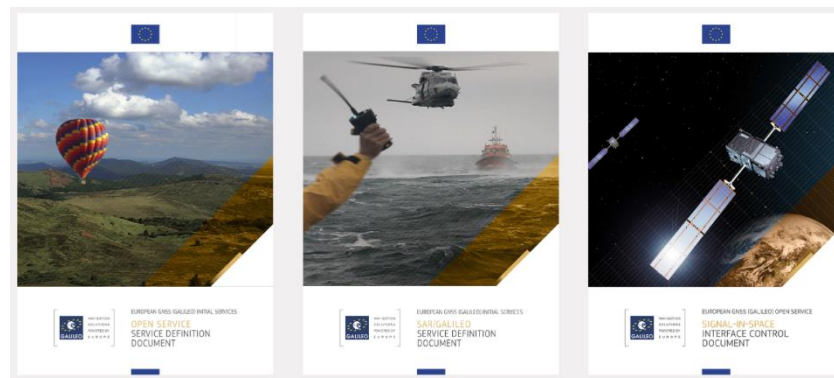
The information used on the following presentation is unclassified.

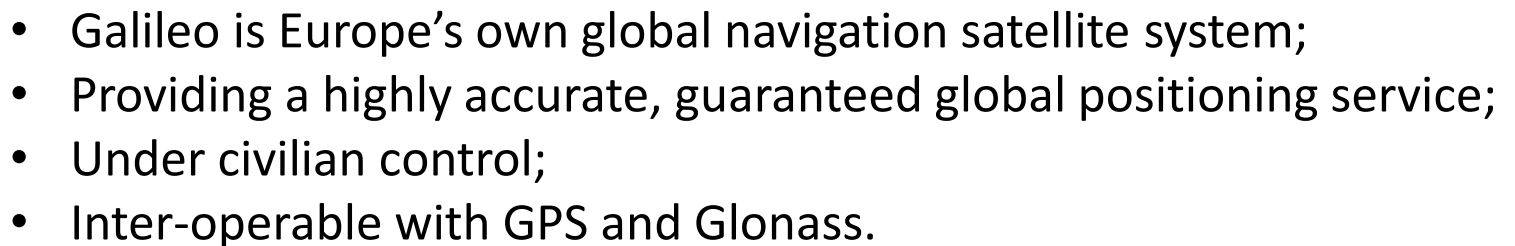
All the technical data is available for the general public in the GSA website.

www.gsa.europa.eu

www.gsa.europa.eu/communication/publications

www.gsa.europa.eu/library/technical-documents





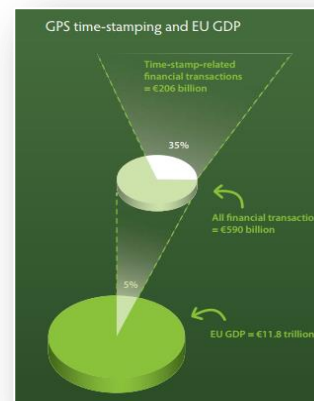
An independent satellite navigation
system for Europe

Why we need
Galileo



Air Transport

- Increasing safety (human lives),
- Avoiding delays and cancellations



Finance

- Time stamping financial operations requirement (EU2009-€206 billion)

Telecomm

- Time signal is indispensable... banking systems, pay terminals, cash dispensers, security systems... **digital electronic communications**

Agriculture, transport fleets

- More efficient services, more accuracy...

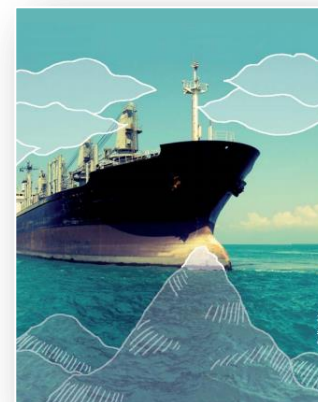
Road Transport

- EU 2009- 30% all vehicles had GNSS receivers



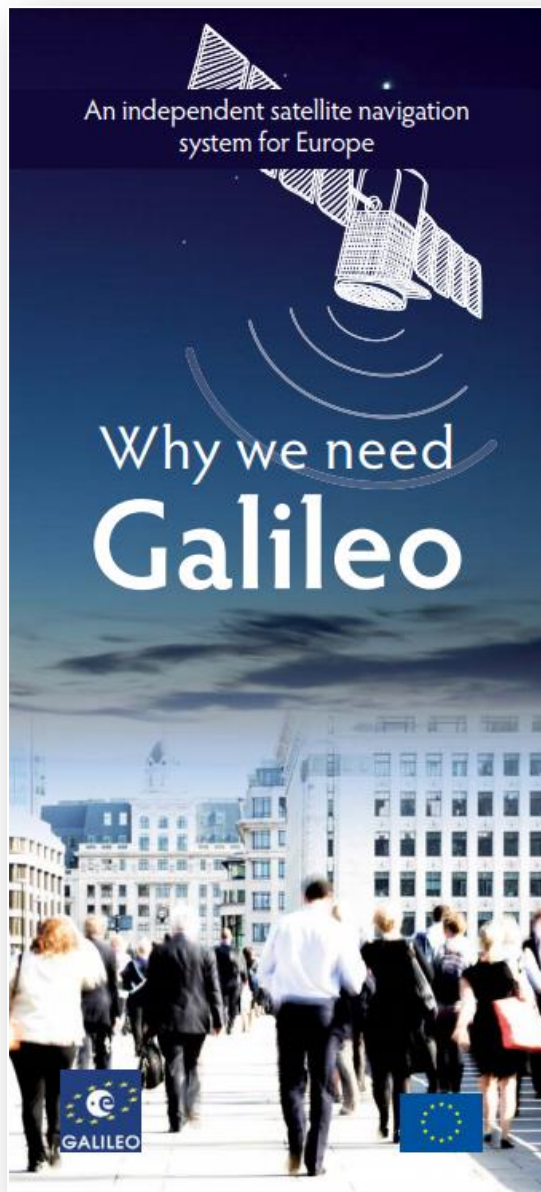
Security & Defence

- More robust, and security encrypted.
- Law enforcement, fire department...







Maritime Navigation

- Increasing safety (GNSS units combined with other marine electronics)



GALILEO INITIAL SERVICES

Open Service (OS)	Freely accessible service for positioning, navigation, and timing	
Public Regulated Service (PRS)	Encrypted service designed for greater robustness and higher availability	
Search and Rescue Service (SAR)	Assists locating people in distress and confirms that help is on the way	
Commercial Service (CS)	Delivers authentication and high accuracy services for commercial applications	

What is PRS?

It's an encrypted and robust service

Resistent to:

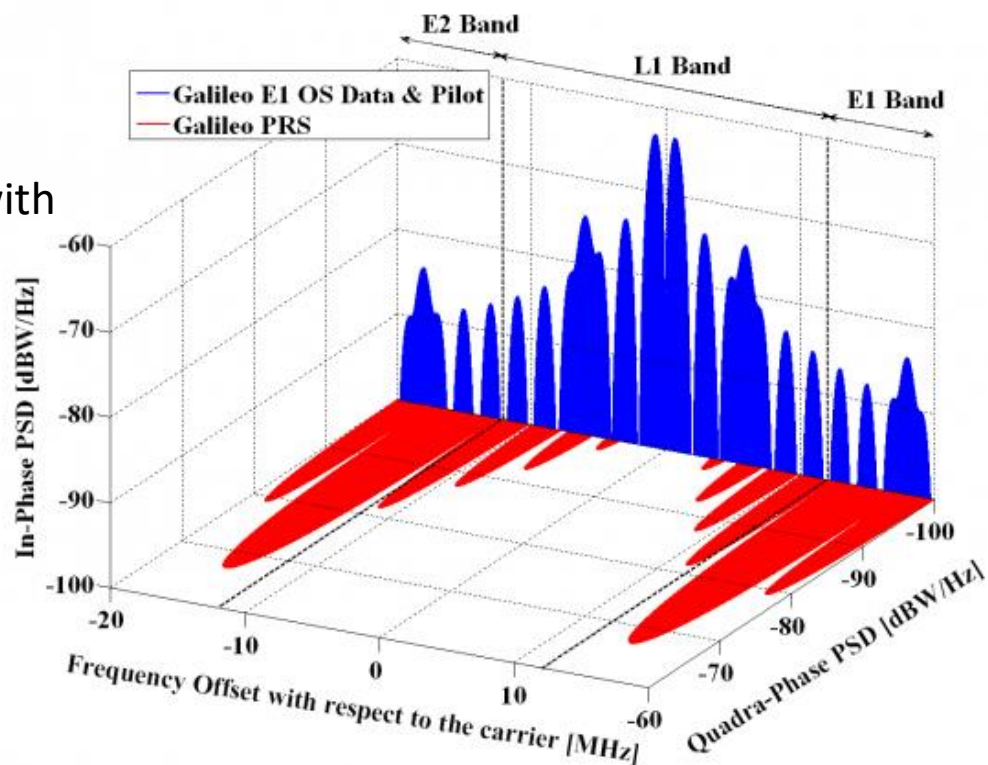
- Jamming
- Spoofing
- Other involuntary interferences and misuse.



Similar to other navigation services, but with important diferenciators:

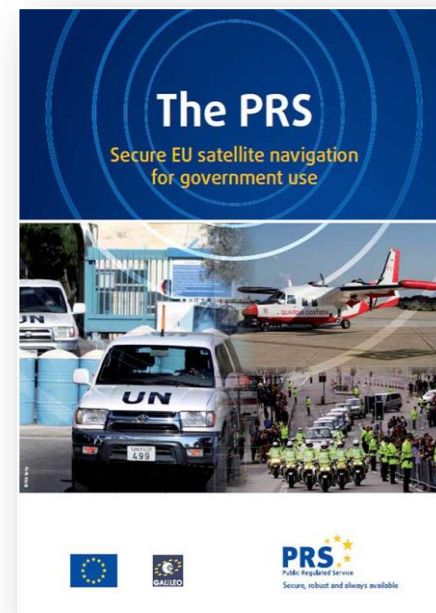
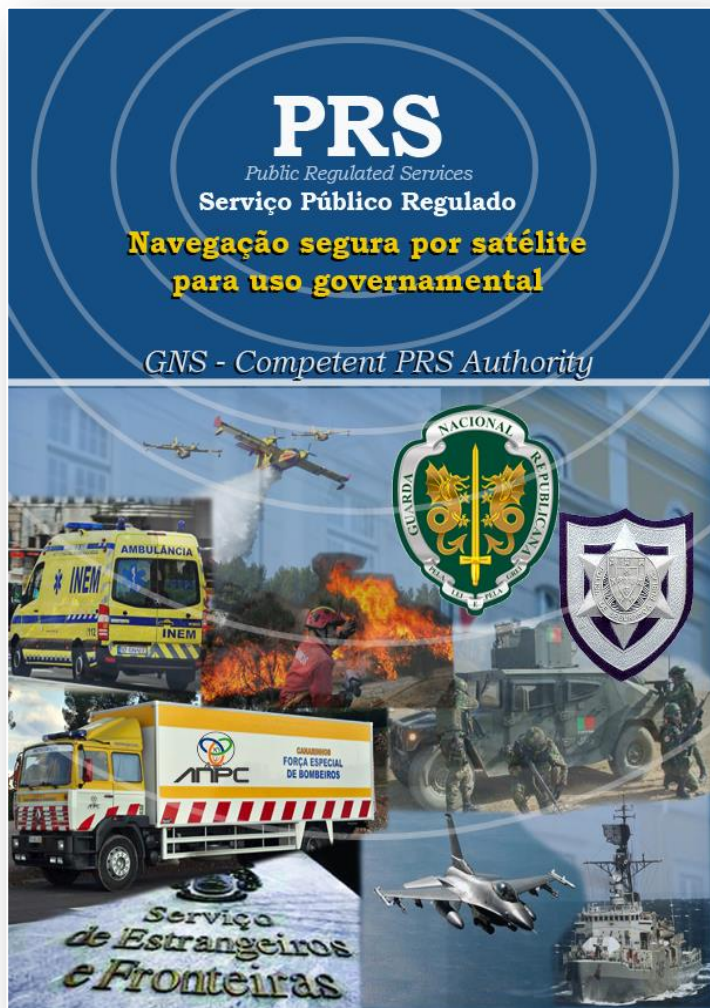
- Ensures continuity of service for authorized users when other systems are inaccessible.
- In the event of intentional interference, the continuity of the service is guaranteed.
- Provides an authenticated position - velocity - timing service.

- Dual band signal (E1 + E6) in order to be more resistant to interference, jamming and bad propagation conditions.
- Better continuity of service
- Better accuracy thanks to the high bandwidth
- Encrypted ranging codes and data
- Access Control mechanisms
- Authentication of the signal



Access to PRS is controlled through key management systems

- Users who don't have access to the secure features of the PRS signal, won't be able to determine any information from this signal



Who is it for? *Decision 1104/2011/EU*

The PRS is primarily intended for use by EU Member State governments;
EU agencies;
Third countries and international organizations (under specific arrangements):

- US, Norway and others (have already manifested interest to have access to PRS)

Access to the PRS service will be controlled through an encryption key system.

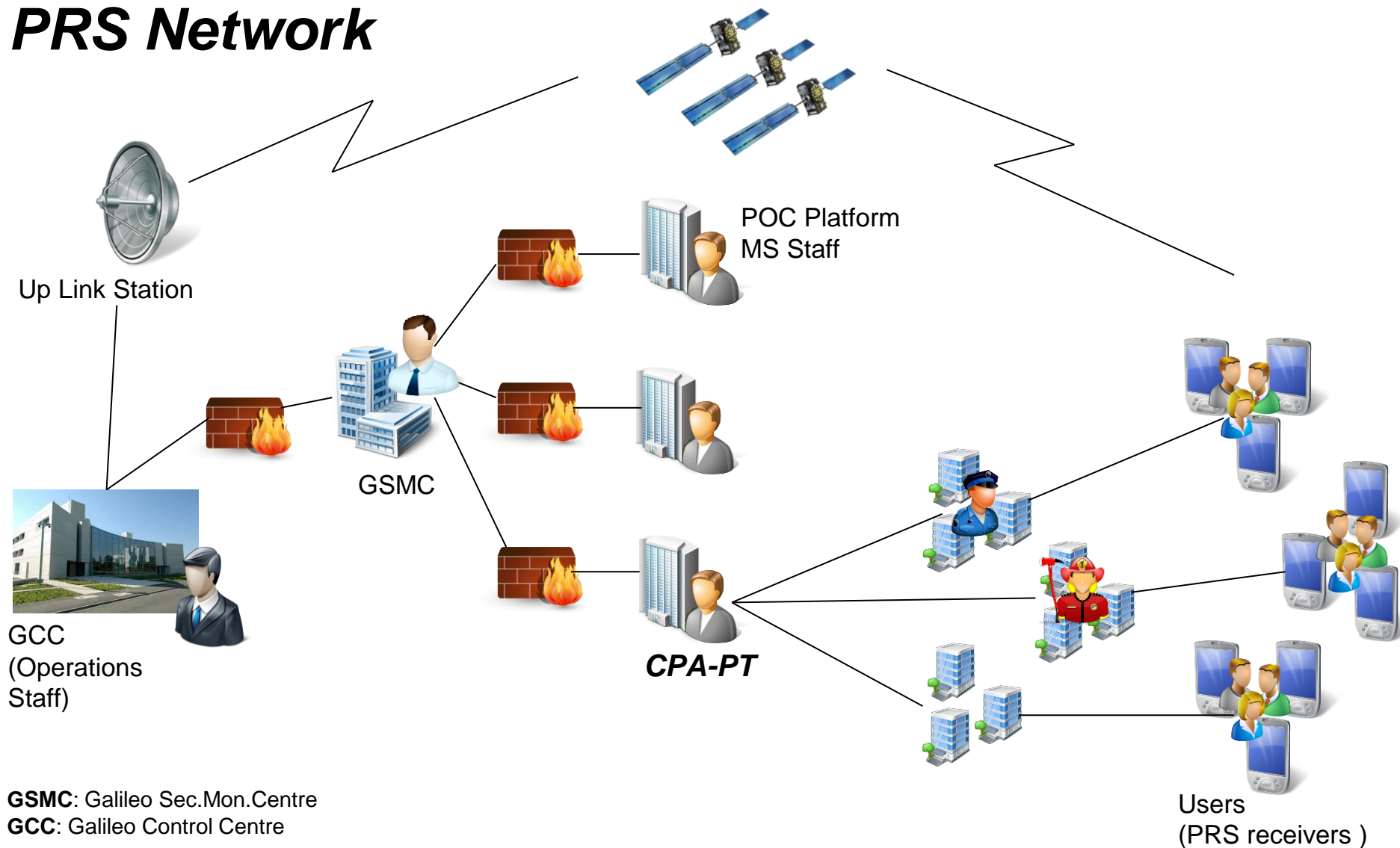
SUPPORT SERVICES

Support

The PRS can provide support for a range of European public safety and emergency services, as well as law enforcement, internal security and customs authorities:

- Police
- Search and Rescue
- Humanitarian aid
- Fire brigades
- Health services (ambulance)
- Defense (Military)
- Coastguard
- Border control
- Customs
- Civil protection teams

PRS Network



IMPLEMENTATION OF CPA-PT



Portuguese CPA (Competent PRS Authority)

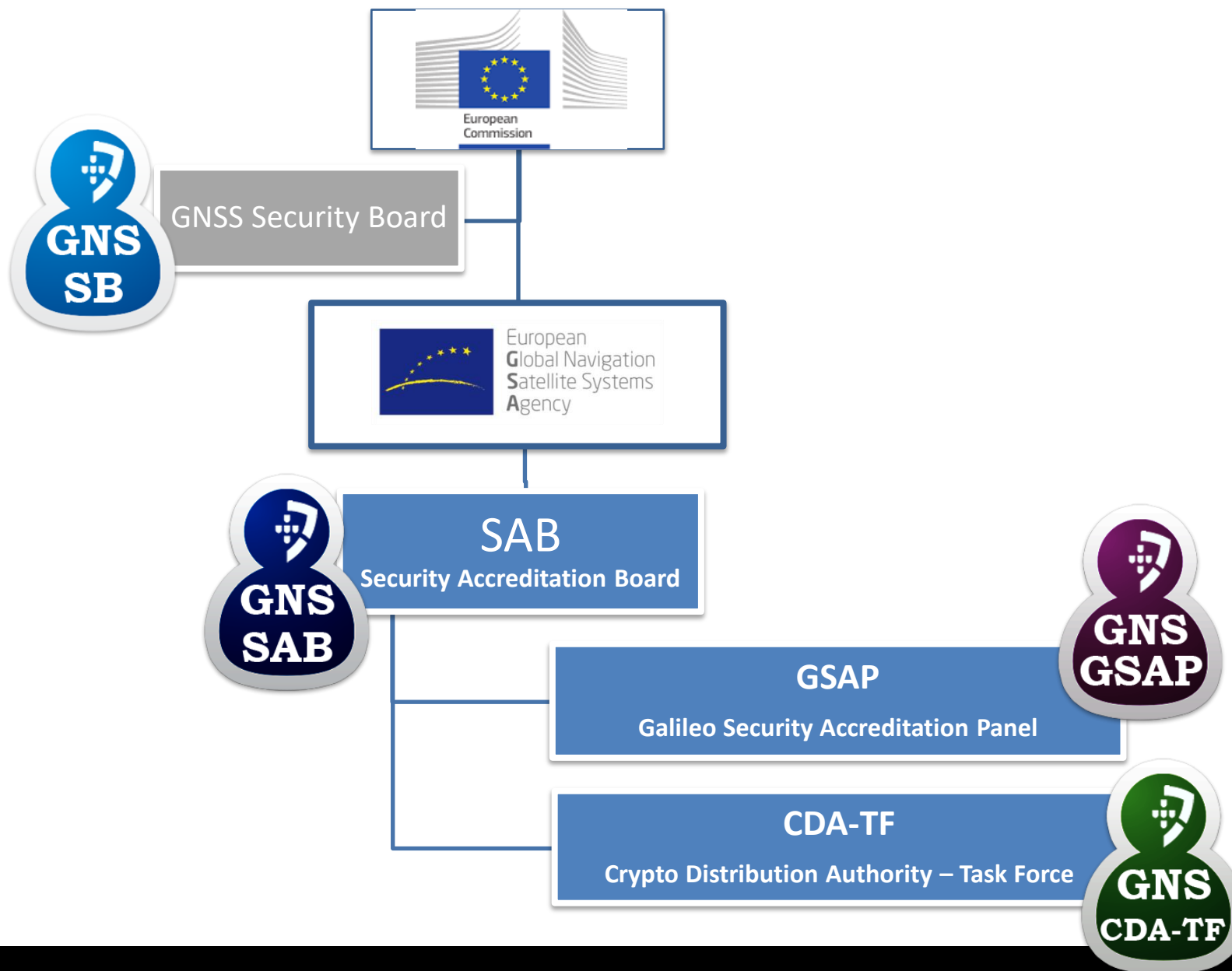
National authority responsible for managing the Regulated Public Service (and all national PRS Users)



Official Formalization of the Portuguese CPA:

11-March-2013

- Response to EU notification (ENTR/H3/EI (2012)1369374), NOV2012;
- According to Article 2 (2) (I) of DL no. 3/2012;
- Compliance with Article 5 of Decision 1104/2011 / EU;





Future:

- Field test Galileo receivers (with and/or without security module)
- Kick off Portuguese POC-P
- Publishing GNS Technical notes for PT PRS user community
- Cooperate in the drafting of the national legislation on the PRS use
- Promote a Conference on PRS (Lisbon, Portugal)



GALILEO PUBLIC REGULATED SERVICE

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