



## How to make space systems financially sustainable?

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**EGNOS**

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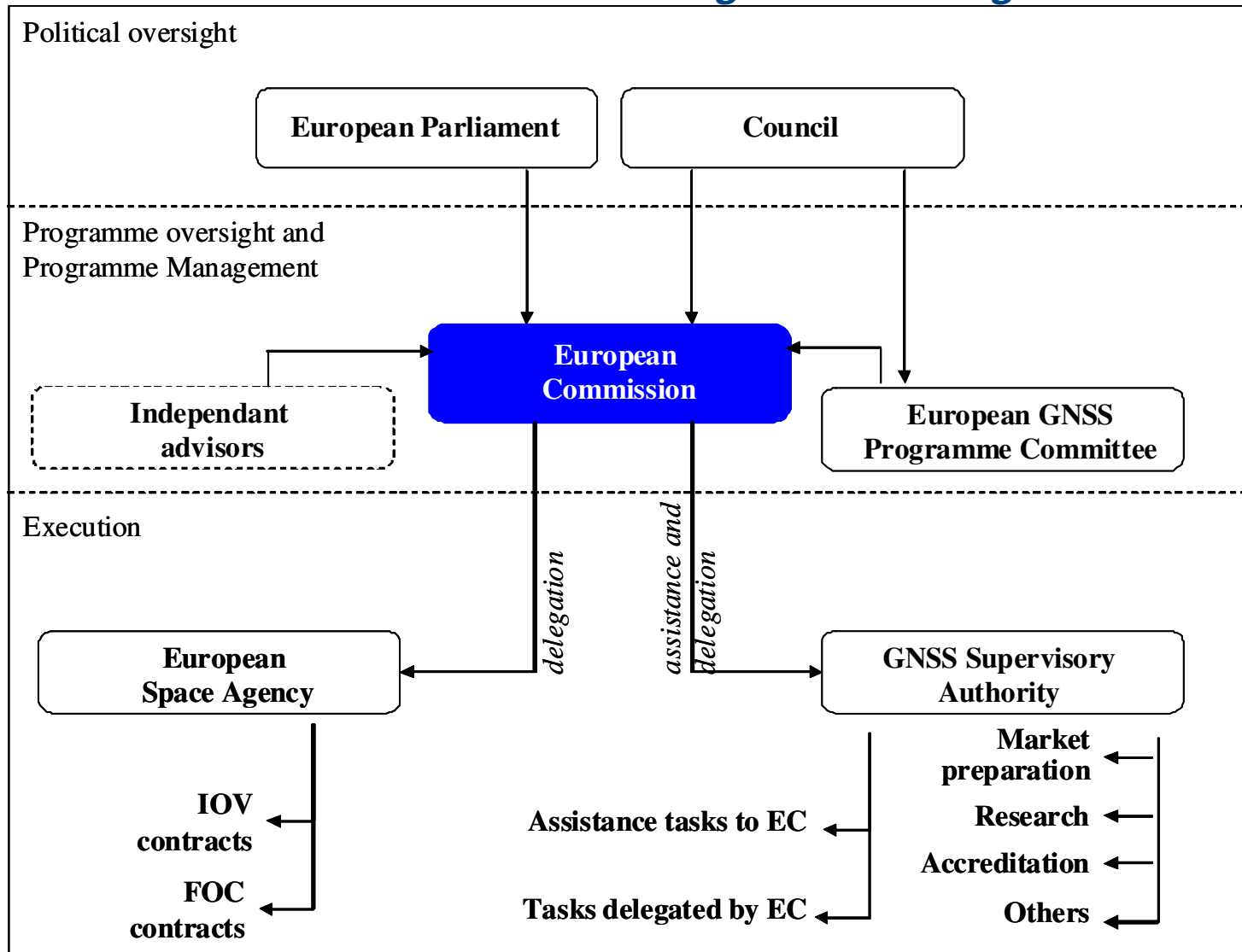
## In the commercial world, financial sustainability of satellite projects is conditioned upon certain factors

- ★ Cash flows
  - ★ Reliance on expected revenue from financed project to provide security for, and service of, project debt
  - ★ Importance of long-term, non-cancellable satellite capacity or satellite services agreements with creditworthy lessees
- ★ Construction Risk
  - ★ Significant initial expenditures for satellite manufacturing, launch services costs, TTC&M and other ground segment constructions and project insurance
  - ★ Availability of sponsor support during construction
  - ★ Reliability of satellite manufacturer and launch services provider as to equipment performance and delivery schedule
- ★ Regulatory Risk
  - ★ Licensing approvals from domestic telecommunications authority
  - ★ International regulatory process and assurance of orbital position and radio frequencies and freedom from harmful interference
  - ★ Export approvals for satellite operator and country of launch site

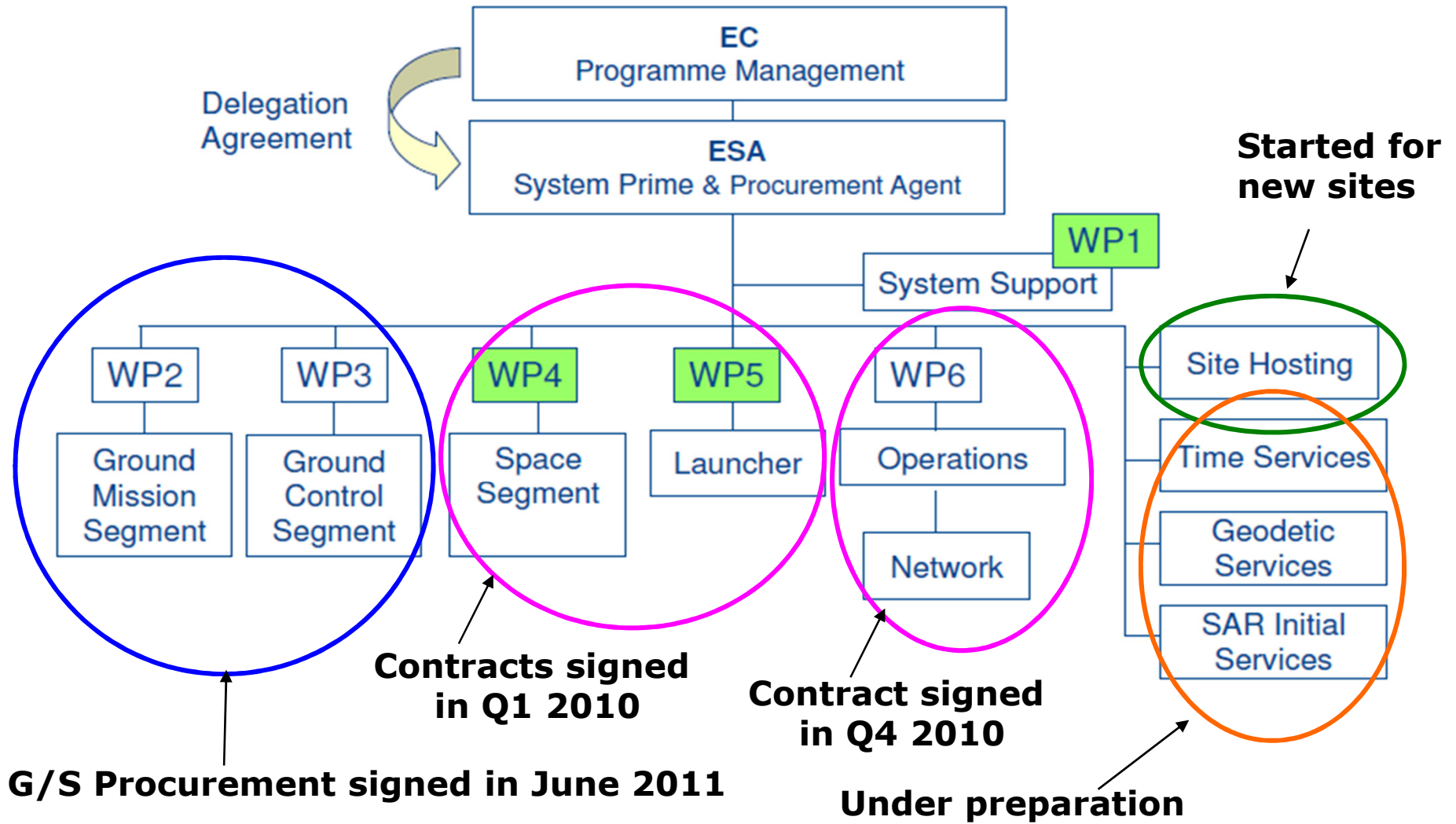
## The failure of the initial public-private partnership for funding the GNSS programme led in 2007 to the decision to pursue their implementation with financing drawn exclusively from the EU budget

- ★ Current budget: 3.4 billion Euros for the definition, validation and deployment phases up to 2013
- ★ Maintaining political support from the Member States for the programme
- ★ Highlighting the benefits of the programme:
  - ★ Leverage strategic advantage of independent GNSS
  - ★ Maximize indirect economic and social benefits to Europe
  - ★ Deliver on innovation
  - ★ Ensure service continuity in case of GPS failure
  - ★ Optimize transport infrastructures
  - ★ Contribution to EU policies (transport, agriculture, environment etc.)

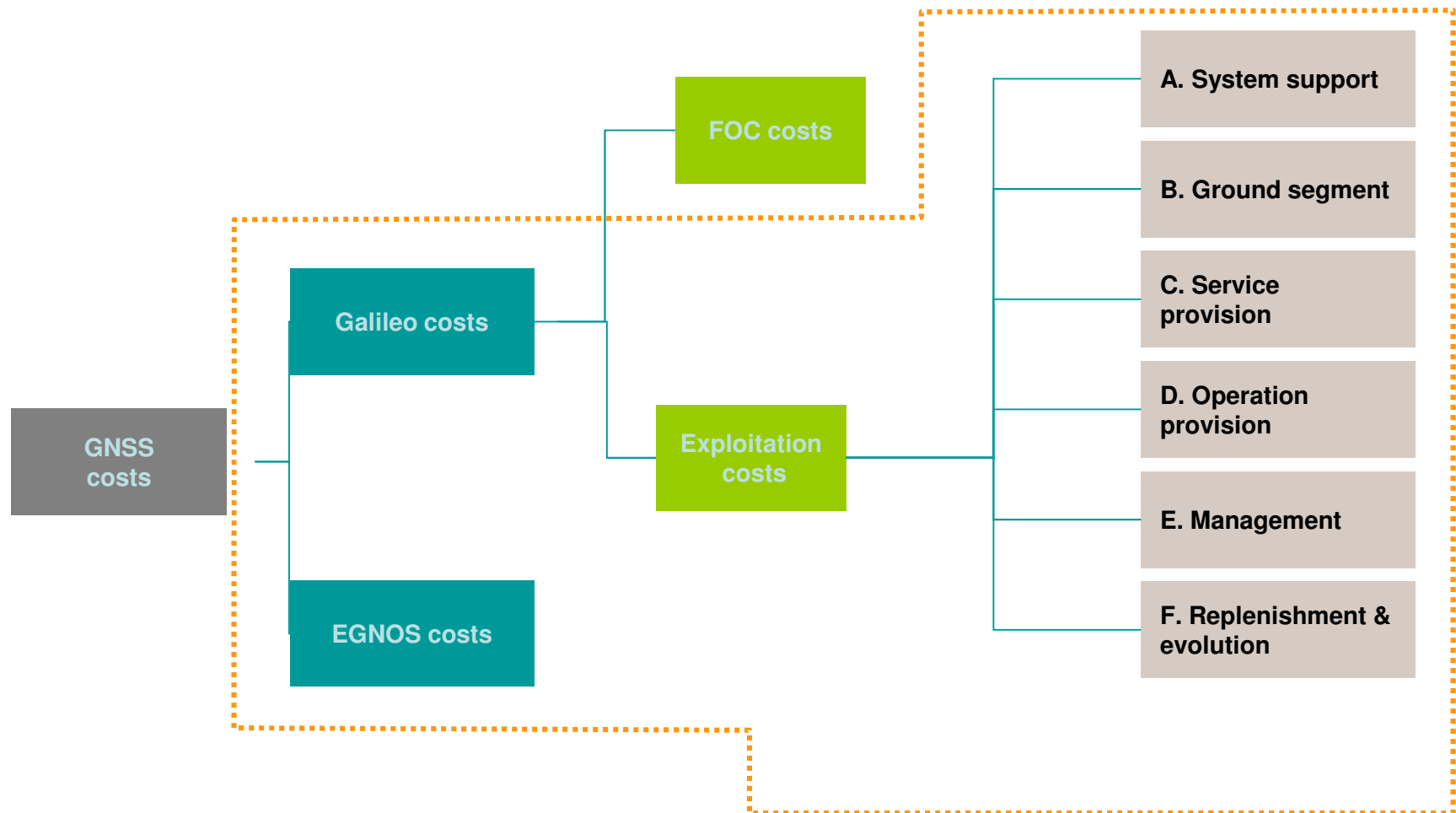
## The 2008 GNSS Regulation entrusts the European Commission with the role of *Programme Manager*



# Galileo FOC Procurement

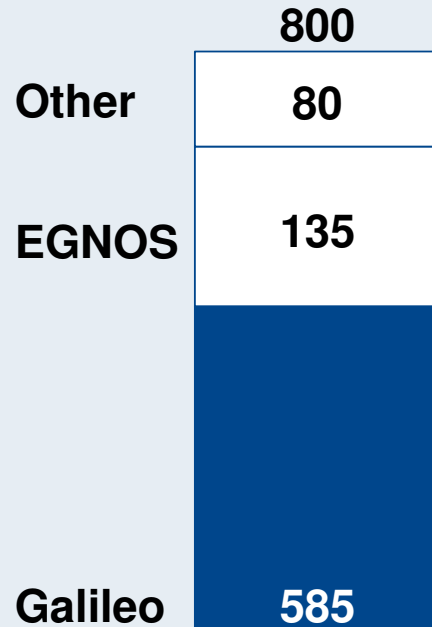


## Galileo exploitation costs segmentation



# Ensure the exploitation of the systems (20 years period)

## GNSS EXPLOITATION : AVERAGE ANNUAL COSTS [€m] ON 20 YEARS

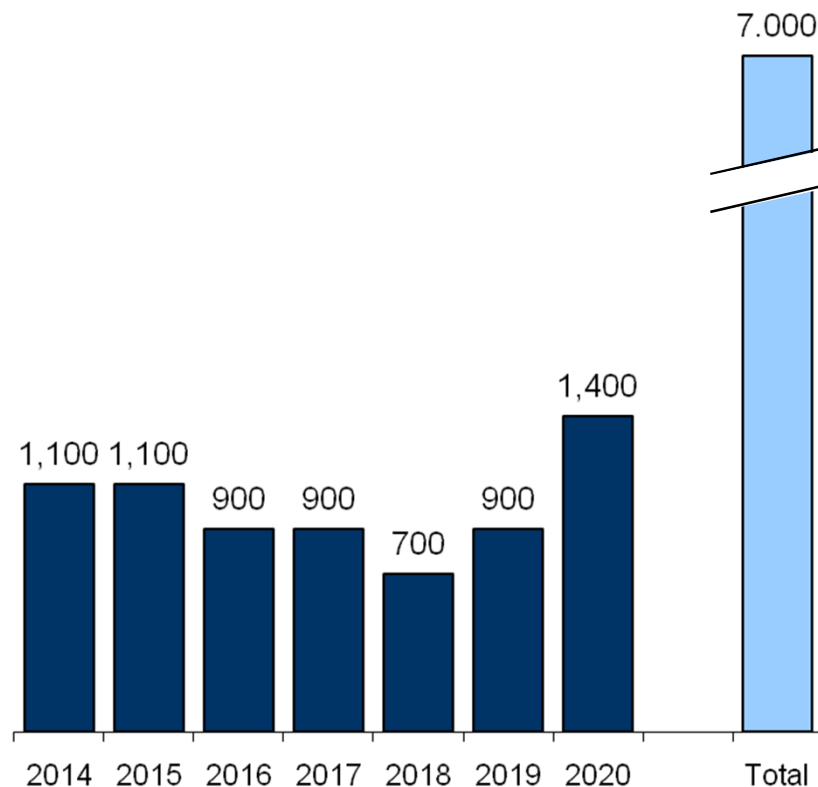


- ★ Exploitation costs cover, among others, operational management, maintenance, service provision, replenishment and technology development
- ★ Lack of funding would lead immediately to a reduction in the quality of the service, incompatible with public service remit



# Next Multi Annual Framework proposal of the Commission

## Multiannual Financial Framework 2014-2020 (in commitments, in million euro) (Communication June 2011)



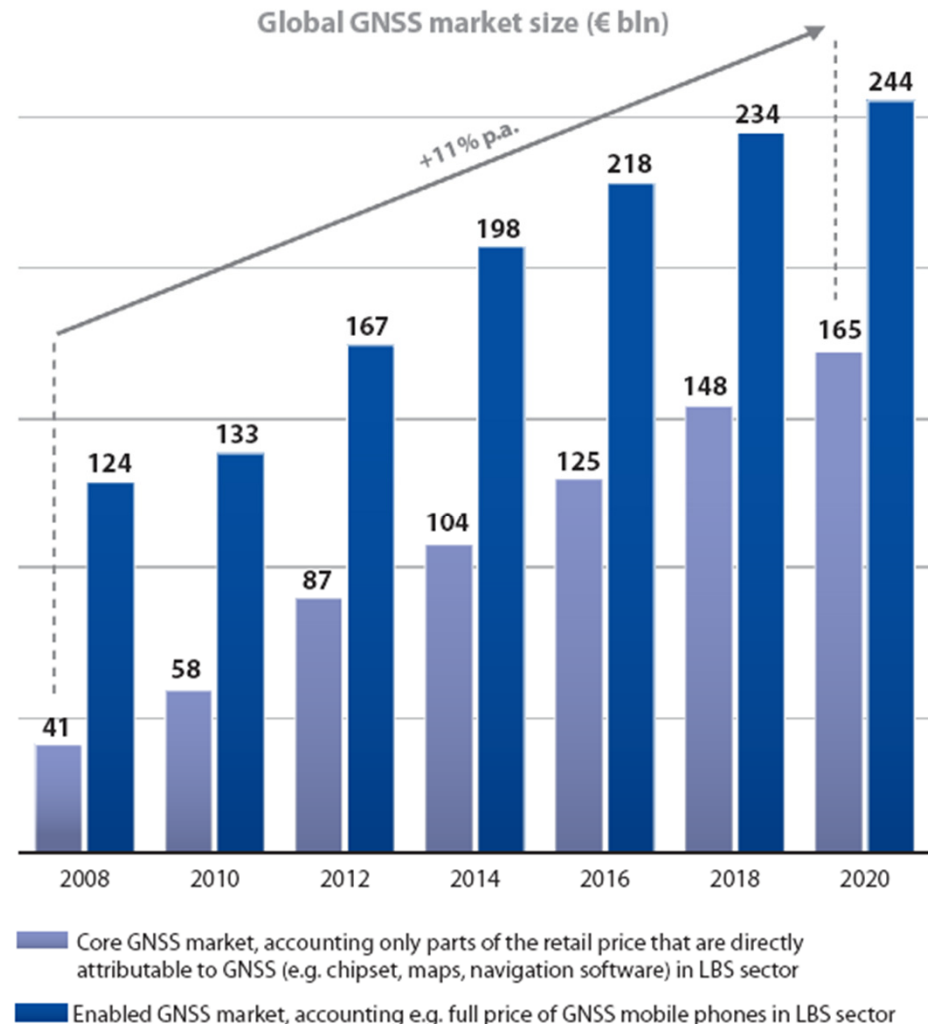
- ★ The budget is proposed for **commitment appropriations**
- ★ It takes into account funding required for Galileo **system completion** and for Galileo and EGNOS **exploitation** (including replenishment)
- ★ Continued efforts will be necessary to keep **costs under control**. This will be ensured in the Regulation laying down the MFF to be adopted in December 2011

## The GNSS market



## GNSS based market will grow significantly over the next decade

- ★ The worldwide GNSS market is expected to grow at an average of 11% per year throughout the next decade
- ★ The overall market is forecast to be worth €244 billion in 2020
- ★ Location Based Services (LBS) and Road applications are the market sectors with the highest growth potential



Source: GSA market report 2010

**According to some estimates, possible direct revenues mechanisms are expected to generate around 80 mln EUR on average over the next three FPs**

	Operational feasibility of revenues generation	Market acceptance	Coherence with EU's strategic objectives	Political acceptability of charging policy
CS - Licence fees on chipsets / receivers	NO			
OS - Licence fees on chipsets / receivers	NO			
OS - Activation fees on receivers	NO			
OS - Receivers rental fees	NO			
OS - Access fees to signal	NO			
SoL - Licence fees on chipsets / receivers	NO			
SoL - Receivers rental fees	NO			
SAR - Licence fees on chipsets / receivers	NO			
SAR - Access fees to signal	NO			
CS - Receivers rental fees	YES	NO		
PRS - Receivers rental fees	YES	NO		
SoL - Activation fees on receivers	YES	NO		
SoL - Activation fees to signal	YES	NO		
SAR - Activation fees on receivers	YES	YES	NO	
SAR - Receivers rental fees	YES	YES	NO	
SAR - Access to acknowledge message service	YES	YES	NO	
OS - Public Alert Service	YES	YES	YES	NO
CS - Activation fees on receivers	YES	YES	YES	YES
CS - Access fees to signal	YES	YES	YES	YES
CS - Access to authentication service	YES	YES	YES	YES
CS - Access to databroadcasting service	YES	YES	YES	YES
CS - Access to High Precision service	YES	YES	YES	YES
PRS - Access fees to signal	YES	YES	YES	YES
PRS - Licence fees on chipsets / receivers	YES	YES	YES	YES
PRS - Activation fees on receivers	YES	YES	YES	YES

## Estimates of possible direct revenues over the next three financial perspectives

- ★ OS = 0 (free of charge)
- ★ SAR = TBC (likely free of charge)
- ★ SoL = TBC
- ★ PRS = 10 -15 Million euros/year
- ★ CS = 65 Million euros/year

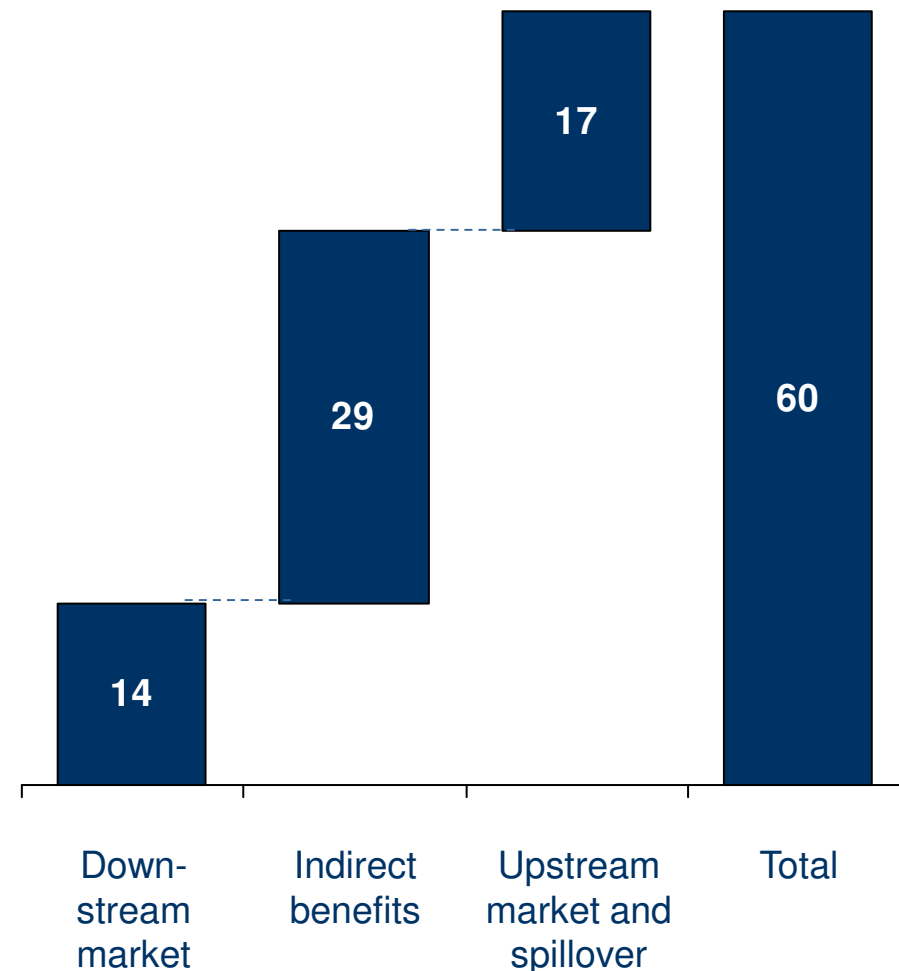
# Indirect benefits

The development of new applications will generate significant socio-economic benefits

These indirect benefits will comprise three main elements:

- ★ Benefits resulting from the growth of the downstream\* market
- ★ Indirect benefits resulting from more efficient production processes, reduced pollution, quicker response times from the emergency services etc
- ★ Benefits generated by the growth of the space sector and technology will transfer to other areas of economic activity

Cumulative socio-economic benefits.....  
2010-2027, in billion EUR



\* Receivers and applications market  
Source: GSA

## EGNSS will likely not be profitable enough to be run on an independent basis, which favours a scheme with public dominance

- ★ Public funding will be dependent on raising significant public awareness among decision-makers and wider public regarding the **strategic importance** of Galileo and EGNOS
  - ★ Galileo will **ensure Europe's independence** in an area that is strategic to its economy and security.
  - ★ With Galileo and EGNOS in place, Europe will be able to **maximise economic benefits** and create highly qualified jobs by enabling new services and business opportunities.
  - ★ The success of Galileo and EGNOS will demonstrate Europe's ability to **deliver on innovation** by developing, deploying and operating complex large-scale space infrastructures.

**Thank you for your attention**



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