



# *Overview*

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**European Commission**



***UN/US Expert Meeting Vienna***  
**13-17 December 2004**



# Position and timing

- Galileo key features
- Services
- Galileo+GPS
- International
- Public Private Partnership





# Galileo:

## Key features

1. Market oriented

2. Autonomous

➤ *Galileo will be a complete, self-standing system*

3. Interoperable with GPS

4. Available globally

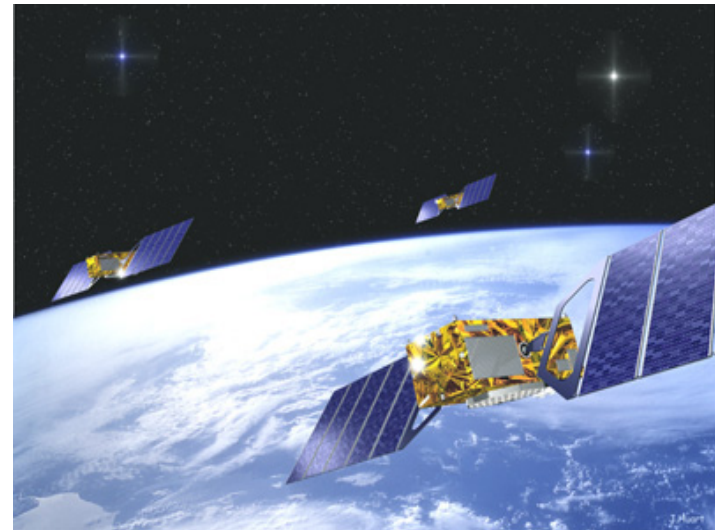
5. Accountable

➤ *Galileo will incorporate full service and performance monitoring and will be able to warn users of service deficiencies, including a real-time “integrity” network*



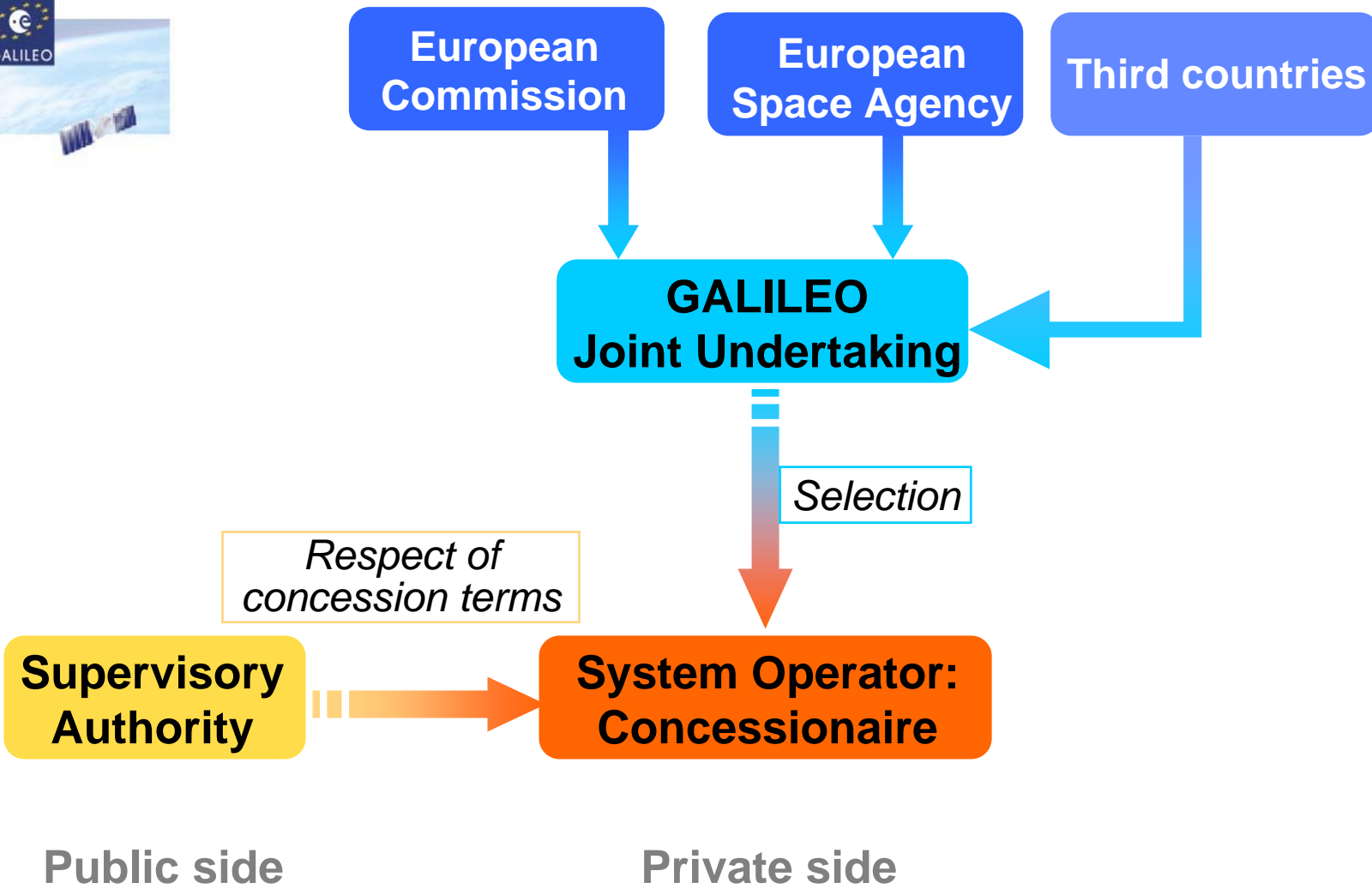
# Galileo infrastructure

- a constellation (30 satellites)
  - local elements
- ⇒ positioning and timing services





# Galileo framework





# Position and timing






- World markets
- Galileo
- **Services**
- International
- Public Private Partnership





# Galileo

## Services confirmed

<b>Navigation</b>	<b>Open Access</b>	Free to air; Mass market; Simple positioning and timing	
	<b>Commercial</b>	Encrypted; High accuracy; Guaranteed service	
	<b>Safety of Life</b>	Open Service + Integrity and Authentication of signal	
	<b>Public Regulated</b>	Encrypted; Integrity; Continuous availability	
<b>SAR</b>	<b>Search and Rescue</b>	Near real-time; Precise; Return link feasible	



# Position and timing

- World markets
- Galileo
- Services
- **International**
- Public Private Partnership







*Long and challenging negotiations successfully concluded leading to signature of the EU-US Agreement on June 26th 2004 at Dromoland Castle, Ireland*

# Galileo-GPS: Compatibility

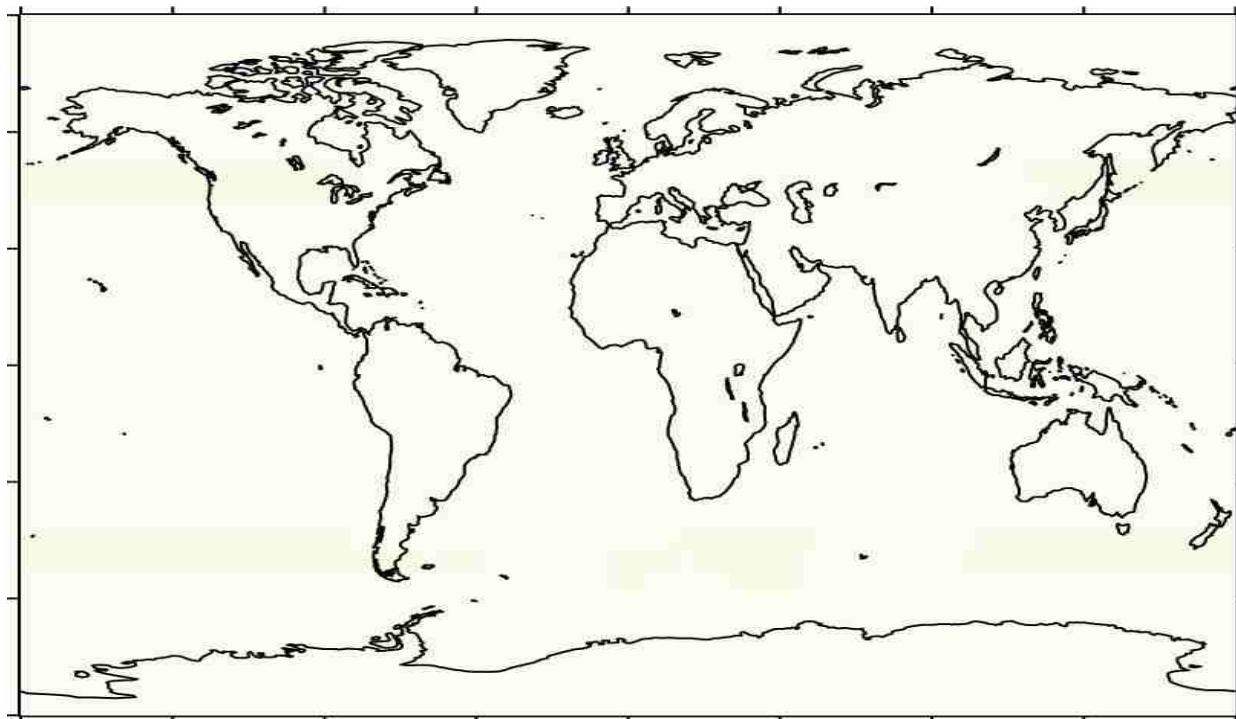
- Full interoperability and compatibility Galileo and GPS
- Galileo+GPS = world standard for civil GNSS
- Equivalent protection of Galileo PRS & GPS Mcode
- Signals: common baseline modulation + optimisation possibilities
- Joint broadcasting of GPS/Galileo time offsets
- Trade non-discrimination



# GNSS

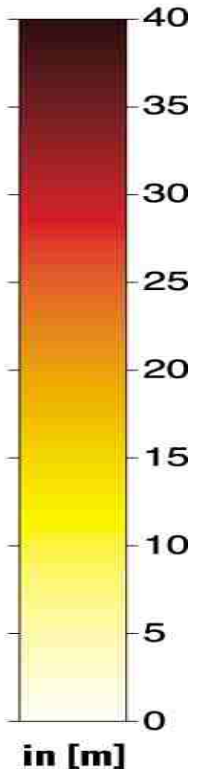
# Improvements

**GALILEO + GPS + EGNOS**



**GPS  
+  
EGNOS  
+  
Galileo**

Source ESA





# Galileo International in 2005

	Signed	In Progress	Preliminary Talks
U.S.A.	✓		
China	✓		
Israel	✓		
India		✓	
Canada	ESA		
Russia		✓	
Ukraine		✓	
Brazil			✓
South Korea			✓
Morocco			✓
Argentina			✓
Chile			✓
Others			✓

## Perspective:

- Worldwide Markets
- Local-Regional Infrastructures
- Global Standards
- Products Certification
- Financing



# Position and timing

- World markets
- Galileo
- Services
- International
- **Public-Private Partnership**





# A universe of applications

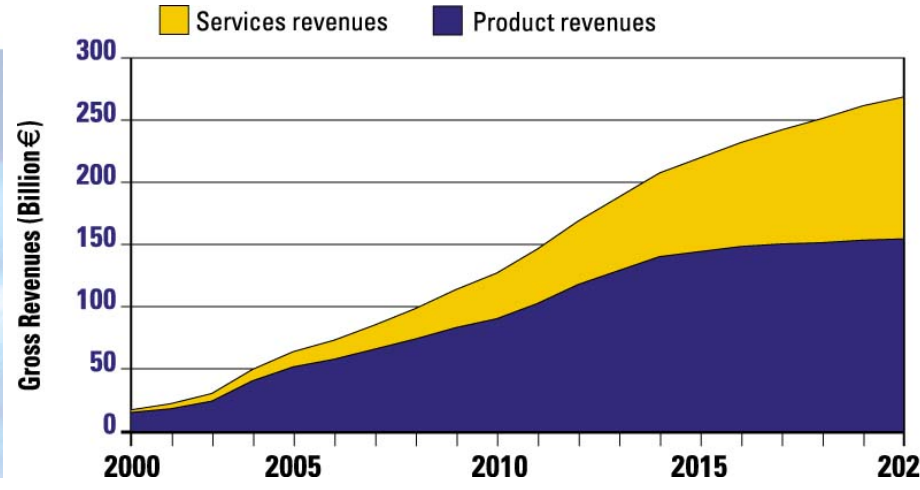
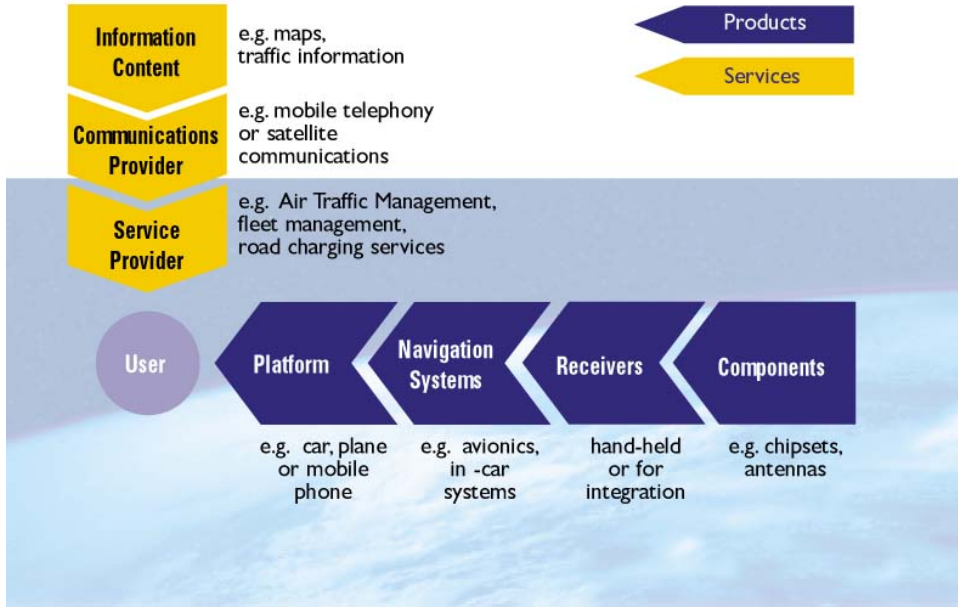




# Products and services

In 2020, Worldwide Market

- €275 billions
- 3 billion users





# Galileo PPP: Concession

## Bids confirmed:

- services characteristics
- commercial viability
- financial robustness

## Next steps:

- Selection of preferred bidder (risk allocation)
- Contract Negotiations

**BIDDER: Alcatel, Finmeccanica, Vinci**  
**BIDDER: Inmarsat, Eads, Thales**

- 20 year concession contract





# Galileo management: Supervisory Authority

- Progressive start of European GNSS Supervisory Authority
- Replace Joint Undertaking
- Tasks:
  - owner of Galileo assets
  - represent public sector interests towards the concession holder
  - safety and security



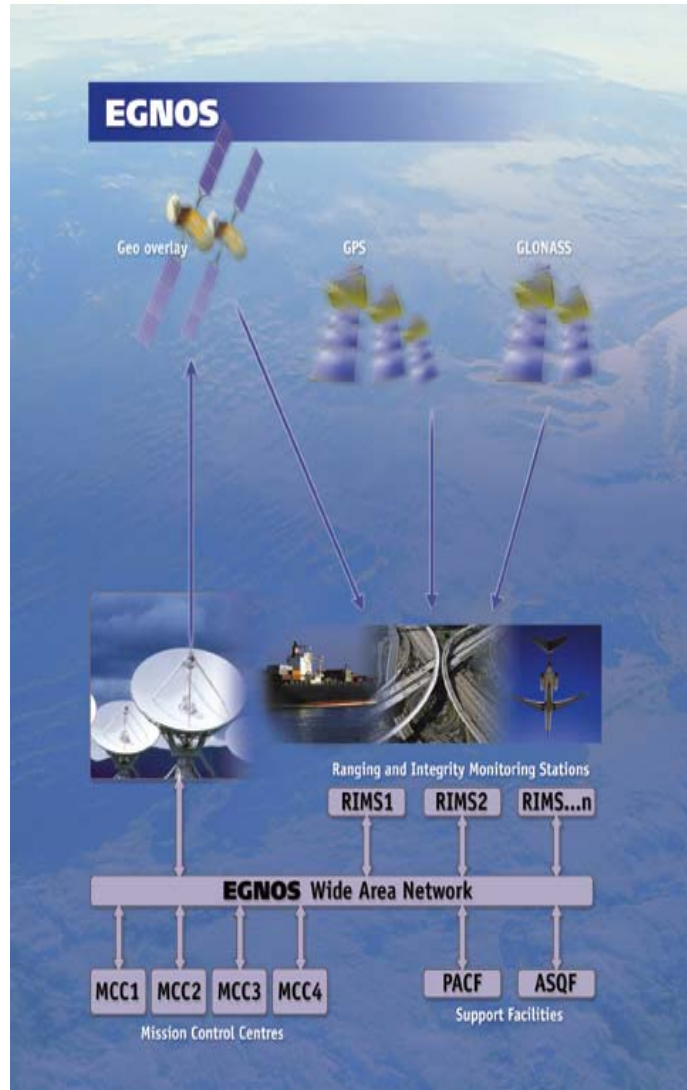




# Galileo

## Research

- 100 MEuro / 6th Framework Programme
- First Call: 7 contracts running
- Second Call:
  - User Segment
  - Projects for different User Communities
  - Projects for Technological development
  - Mission Consolidation
  - Innovation and international cooperation
- Third Call
- Non-EU Countries may participate

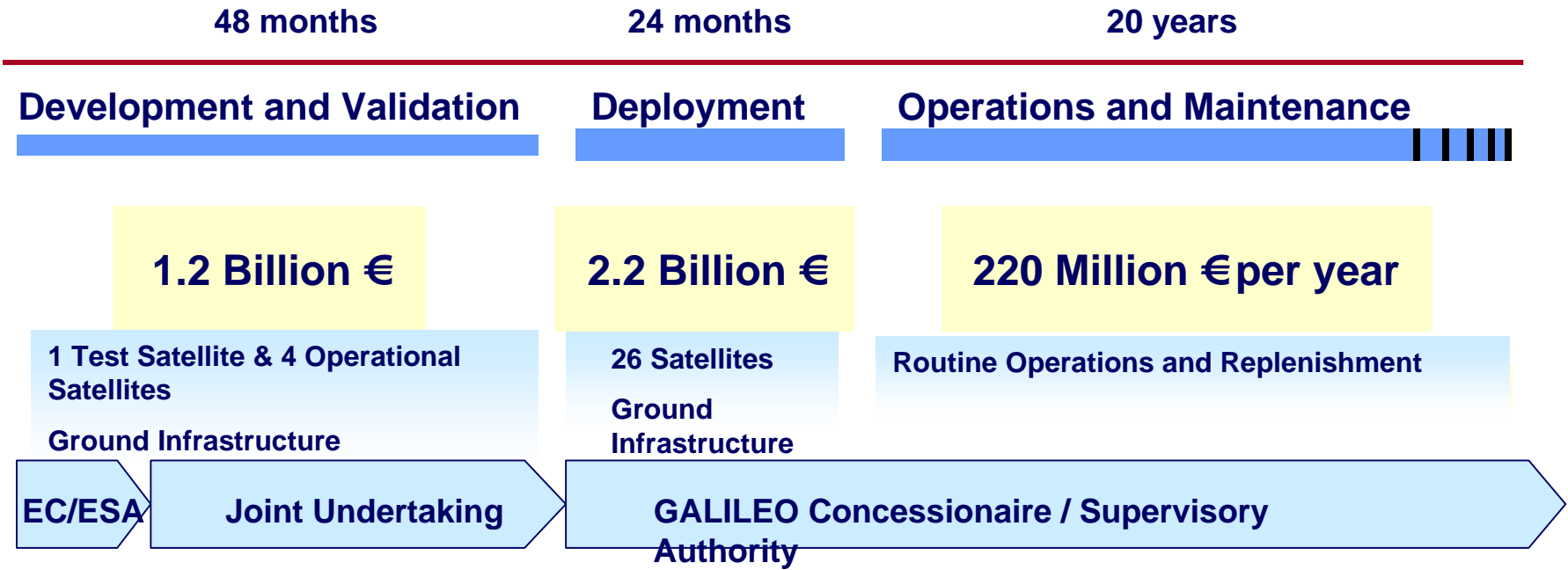


# Galileo first step: EGNOS

- Operational Readiness Review under completion 2005
- EGNOS optimal integration into GALILEO
- EGNOS evolution, extensions and export



# Overall Planning



# Conclusions



- Galileo steadily progressing;
  - ◆ PPP confirmed, concession selection underway
  - ◆ Management structure defined (European GNSS Supervisory Authority)
  - ◆ Development activities advanced
  - ◆ Passage to Deployment phase confirmed
- International cooperation extending:
  - ◆ EU-US agreement (joint standard, coexistence of equals)
  - ◆ EU-China agreement
  - ◆ EU-Israel agreement
  - ◆ Others underway

