



European Commission

DG Energy and Transport



Overview

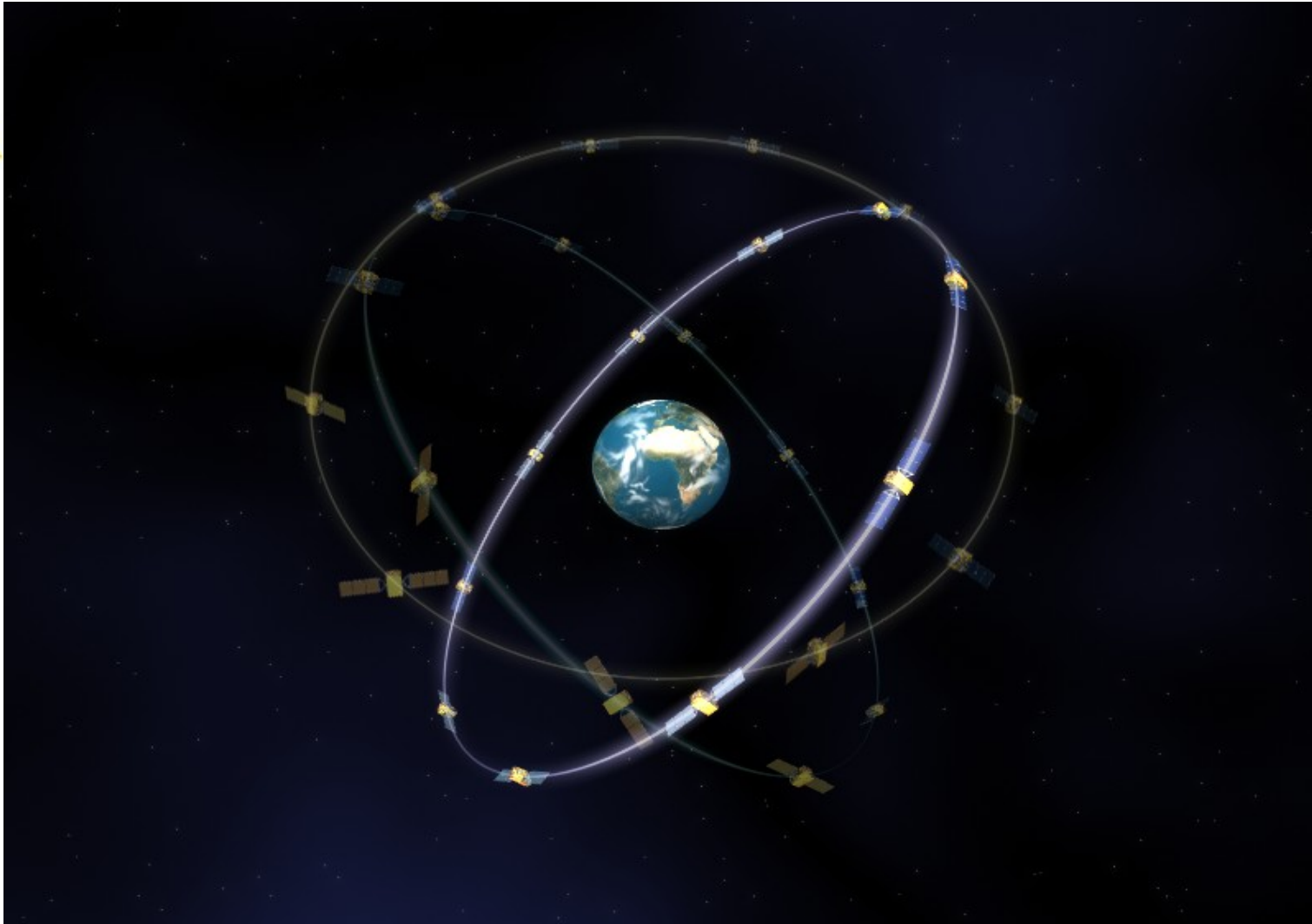
- Galileo Architecture
- Applications & Markets
- State of Implementation
- International Co-operation





Galileo: satellite constellation

(Picture source: ESA)

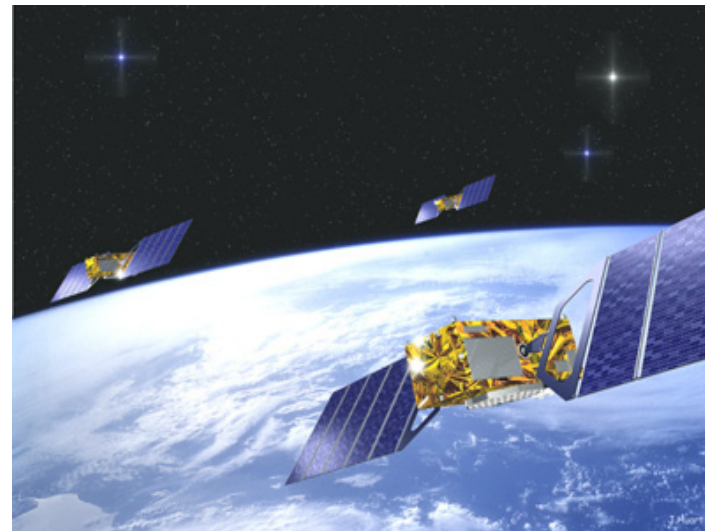
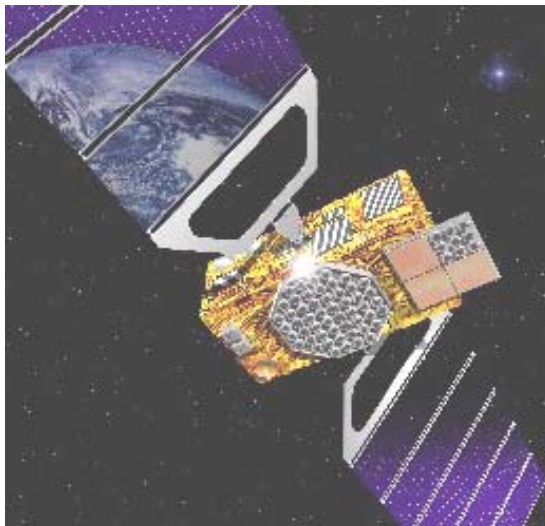




Galileo: an infrastructure

- a constellation (30 satellites)
- local elements

⇒ positioning and timing services





Particularities of Galileo

- **under civil control**
- **tailor made services for different user groups**
- **higher accuracy**
- **guarantee of service**
- **integrity and authentication**



Galileo

a set of services

- **Open Access**

Free to air; Mass market; Simple positioning

- **Commercial**

Encrypted; High accuracy; Guaranteed service

- **Safety of Life**

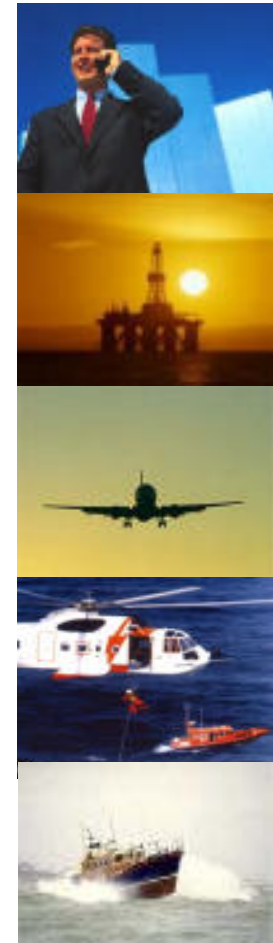
Integrity; Authentication of signal

- **Search and Rescue**

Near real-time; Precise; Return link feasible

- **Public Regulated**

Encrypted; Integrity; Continuous availability





A universe of services and applications





Applications

Safety of Life

- Aviation
- Rail
- Maritime
- Inland waterways
- Ambulance
- Police / Fire
- Search and Rescue
- Personal Protection
- Traffic surveillance
- Dangerous goods trans.
- ADAS

Mass Market

- Personal communication and navigation
- Cars / motorcycles
- Trucks & buses
- Light Commercial Vehicles
- Personal outdoor recreation
- Others...

Professional

- Oil and Gas
- Mining
- Timing
- Environment
- Fleet Management
- Asset Management
- Geodesy
- Meteorological forecasting
- Land Survey / GIS
- Precision survey
- Precision Agriculture
- Fisheries / EEZ
- Vehicle control and robotics
- Construction / Civil Engineering
- Space

Integrity
(error-free),
Standards,
Regulation,
Continuity,
Availability,
Accuracy

Low costs,
Low power cons.,
Small size,
Friendly use,
Best perf.
accordingly

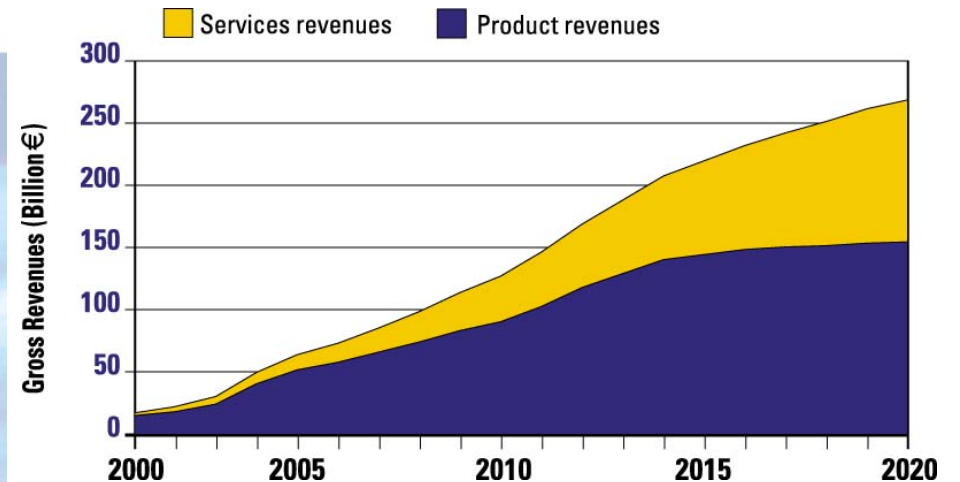
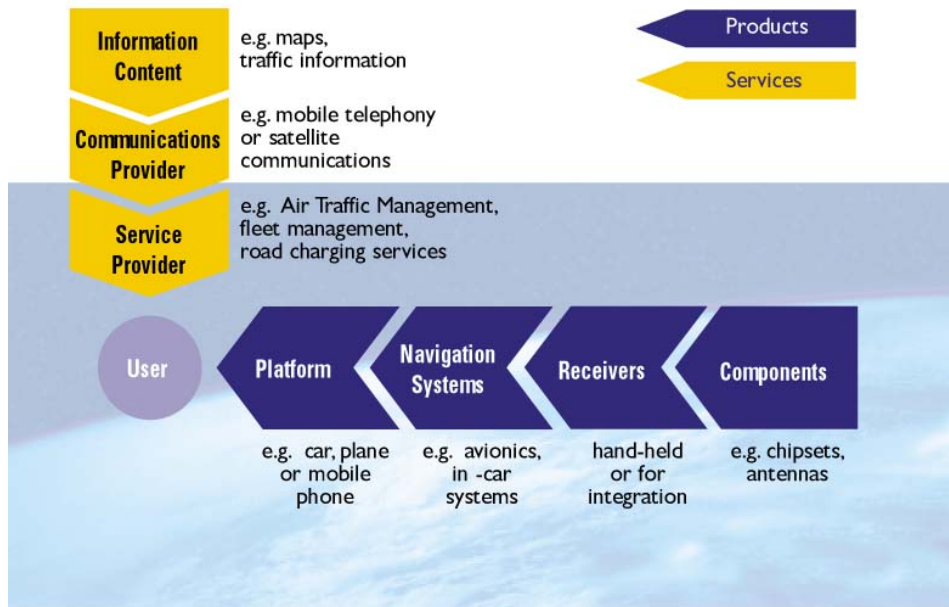
High precision,
High accuracy,
High reliability



Products & Services

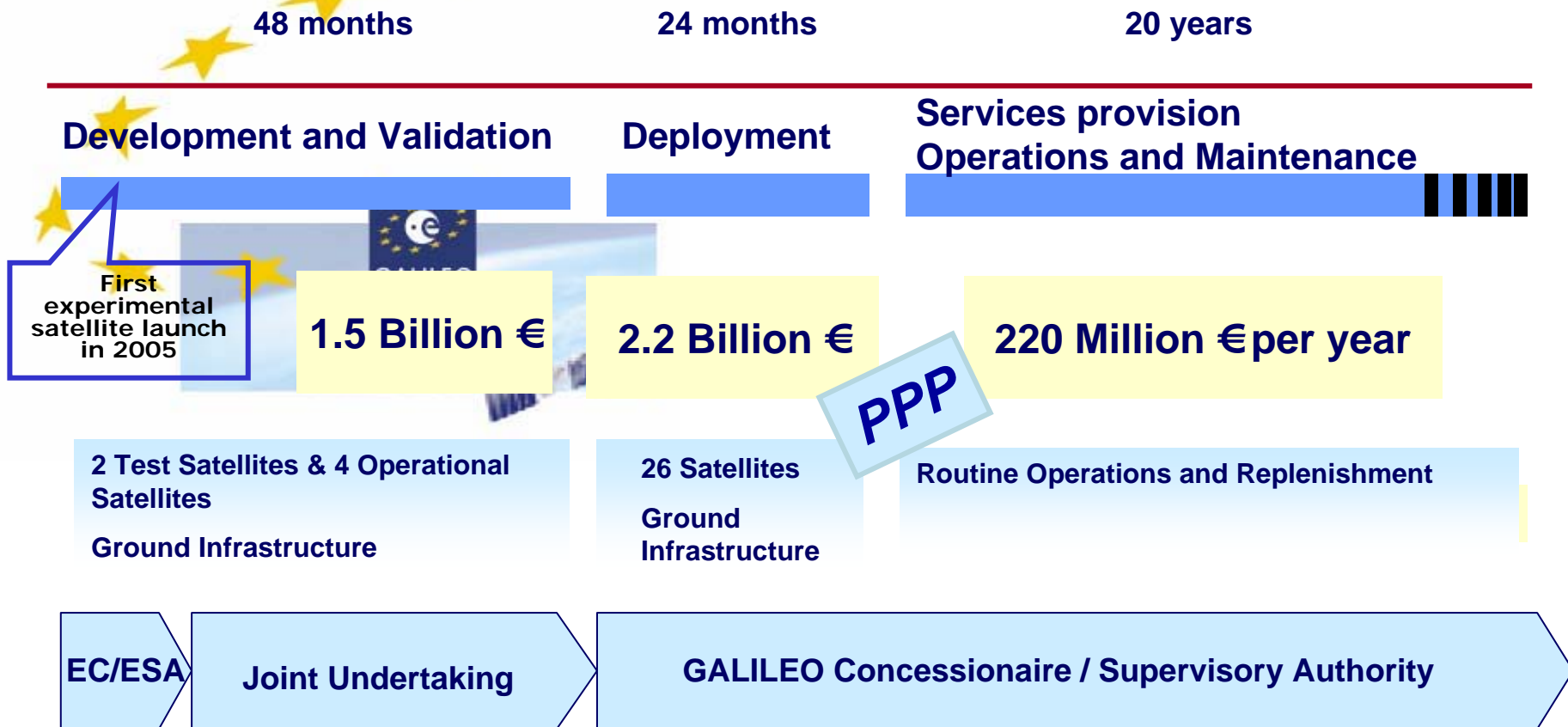
In 2020, estimated worldwide GNSS market

- €275 - €300 billions
- at least 3 billion receivers



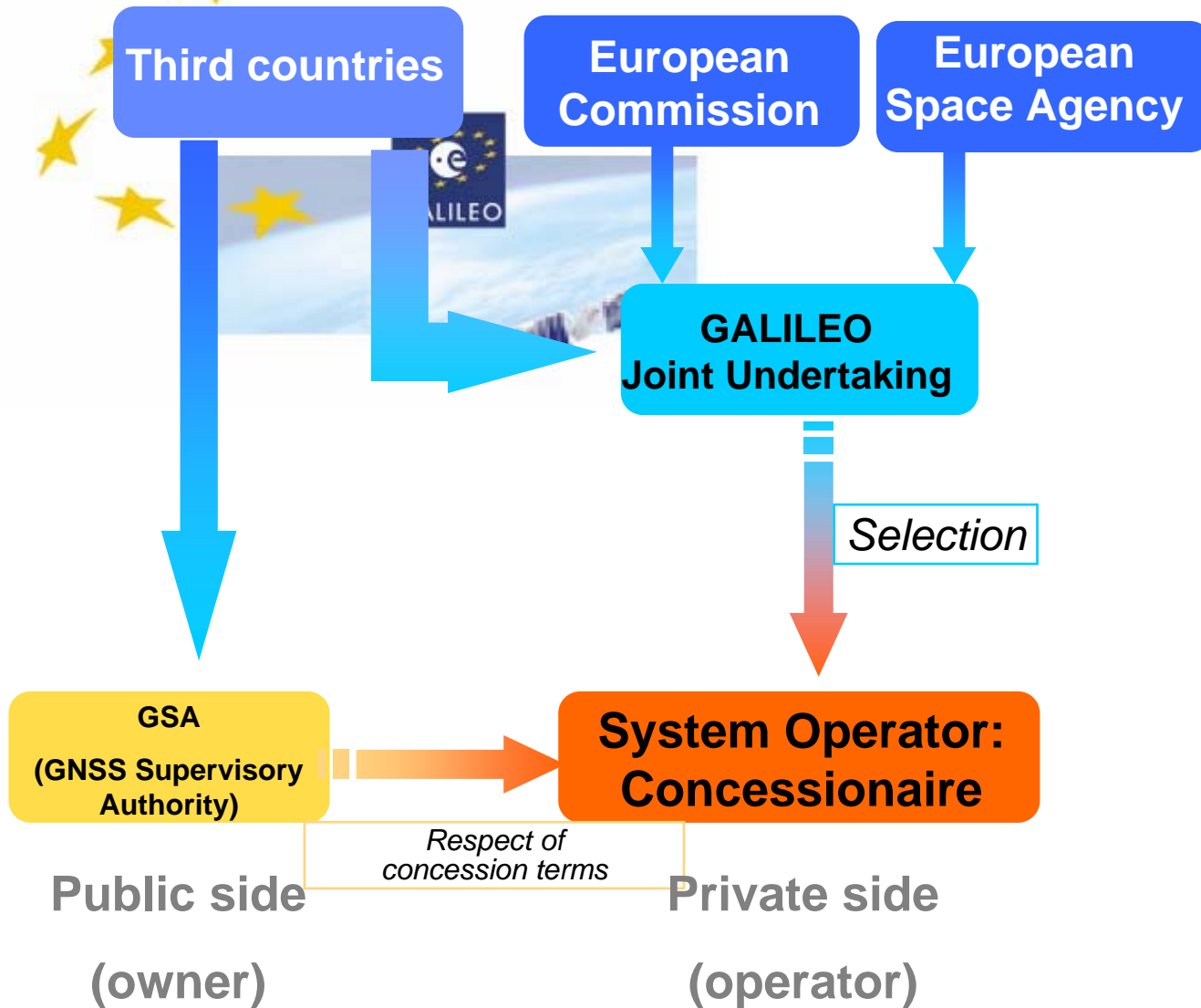


Galileo overall schedule





Galileo framework





Latest Developments

- **First test satellite launched in December and signals sent**
- **In-orbit validation contract (about 1 billion €) in January**
- **Signal definition published on 23 May**
(www.galileoju.com)
- **Concession negotiations progressing (sign in 2007)**
- **Management structures (transfer from GJU to GSA)**



Galileo International cooperation

Perspective:

- New worldwide infrastructure
- Local and regional components
- Research & technology
- Industrial cooperation and market development
- Trade and worldwide markets
- Global Standards and certification
- Co-operation in international organisations

Galileo Centres:

- China
- Mediterranean Region (Egypt)
- Latin America (Brazil)



	Signed/ Initialed	In Progress	Exploratory Talks
U.S.A.	✓		
China	✓		
Israel	✓		
India	✓		
Morocco	✓		
Ukraine	✓		
South Korea	✓		
Russia		✓	
Argentina		✓	
Canada		✓	
Brazil, Saudi Arabia, Australia and others			✓



Areas of international Cooperation

- scientific
- industrial
- applications
- gouvernemental
- institutional



Cooperation with MEDA countries

- Euro-MED GNSS1
- GEMCO Office
- Euro-MED GNSS 2
- Cooperation agreement with Israel and Morocco



http://ec.europa.eu/dgs/energy_transport/galileo

