

Indra



European space sector, an industry view

Technological and Industrial Capabilities

Space, defence and European security
- Kouru,
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European space sector, an industry view

Space systems are a tool for the EU to monitor and enforce its policies...

- **transport and mobility**
- **information society**
- **industrial competitiveness**
- **environmental protection**
- **land use planning**
- **agriculture and fisheries**
- **sustainable development**
- **security and defence**



and more generally the Lisbon strategy aimed at “making the Union the most advanced knowledge-based society in the world”.

European space sector, an industry view

...at the same time space systems are an essential contributor to most common daily activities of European citizens

- **watching TV**
- **travelling**
- **riding in a taxi**
- **checking the weather**
- **surfing the web**
- **making a phone call**



European space sector, an industry view



- **European space industry is highly competitive with a well proven experience and capacity to play in the global market.**
- **Ensures Europe independence in a highly strategic sector as it is the space field**
- **However the sector globally suffers from low margins, declining revenues and employment reduction since the year 2000.**
- **Strong competition from US companies (supported by strong public expenditures in R&D)**
- **Europe role also threatened by emerging powers (China and India), replacing technology lag by lower production costs.**

European space sector, an industry view

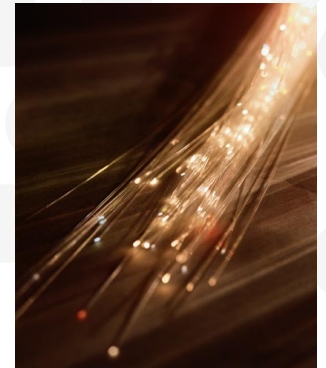


- **To keep a leading position it is necessary to maintain a technological advantage.**
- **Technological advantage can be achieved by:**
 - Stronger investment in R&D
 - Spinning-in technology developments from non-space sectors.
 - Coordination between civil and defence related investments allow synergies: dual-use technology
- **Public support to R&D in space technologies is crucial: High costs and risks and comparatively low returns from commercial and institutional markets.**
- **No European nation is capable of independently maintaining a space policy at the necessary level: Cooperation at EU level is a need.**
- **Space industry: Good track record of collaboration.**

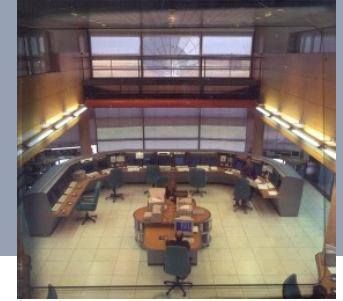
European space sector, an industry view



- **Europe needs a solid space technological base, strong commitment of all actors (industry and institutions) to technology research and development innovation.**
- **European Space Technology Platform: Implementation of a vision for the development and deployment of space systems and technologies in the next decade. Dialogue among all active agents (industry, EU institutions, national space agencies, among others).**
- **ESTP 3 pillars:**
 - Non-dependence
 - Multiple use technologies: spin-in & spin-off
 - Technologies that enable new services for the EU



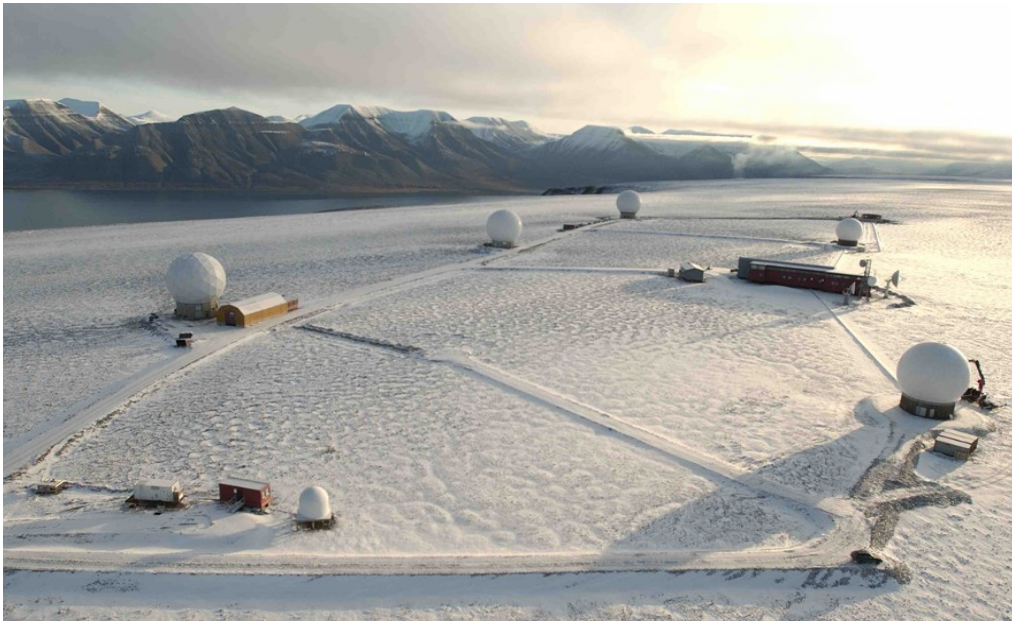
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- 1. The space sector is of strategic importance to Europe. It contributes to Europe geo-strategic policy and decision-making process and is part of citizens daily life**
- 3. In order to keep non-dependence and position in space it is essential a compromise from EU institutions to increase R&D funding to reduce the gap with US and face emerging countries competence.**
- 5. Investment in R&D in the space sector is widely recovered. R&D allow European companies develop state-of-the-art-technologies to successfully compete in the global market. It is a sector with a high export potential with spin-offs to other sectors.**
- 7. Space requires coordination among European institutions and member states, harmonizing policies and optimizing the use of financial resources.**

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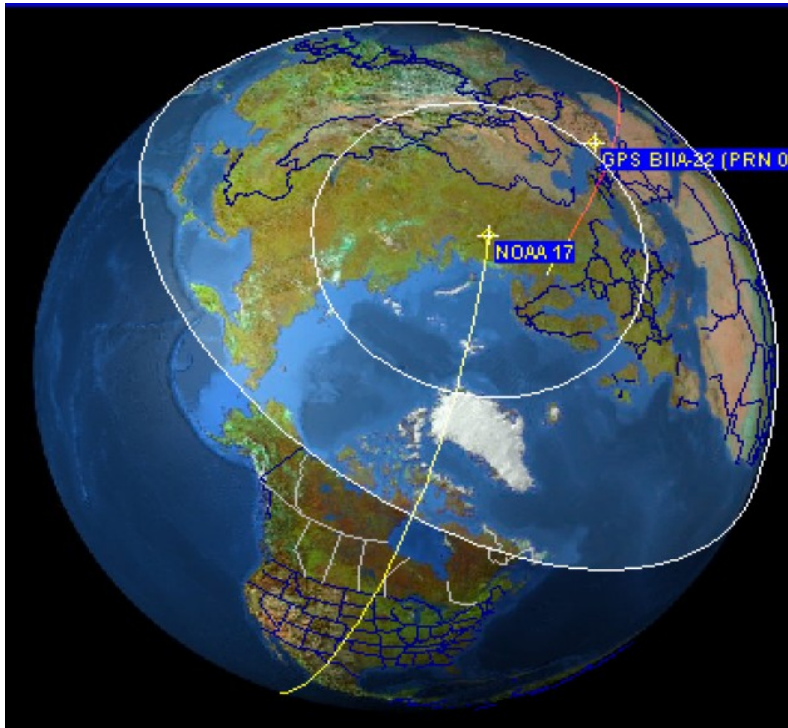
Operational meteorology is based on data from European satellites: MetOp-A will become the first satellite of the EUMETSAT Polar System (EPS). It initiates the European contribution from this orbit in the context of cooperation with NOAA.



INDRA ESPACIO has been responsible for the satellite control station in Svalbard Peninsula in the Arctic Polar Circle.

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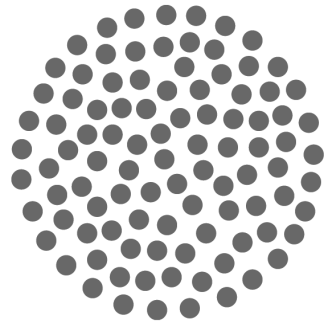
Satellite based navigation (GPS, GLONASS, EGNOS) has become part of daily life. This will be even more when GALILEO is deployed.



INDRA ESPACIO is participating in GALILEO development phase, in several sub-systems, among which:

Development of reference station for GISAR - MEOLUT

- Estimation of the emergency signal position within seconds
- Very precise location of alerts (few metres)
- Multiple satellite detection



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The value of anticipation

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