



# **The Alphabus Programme**

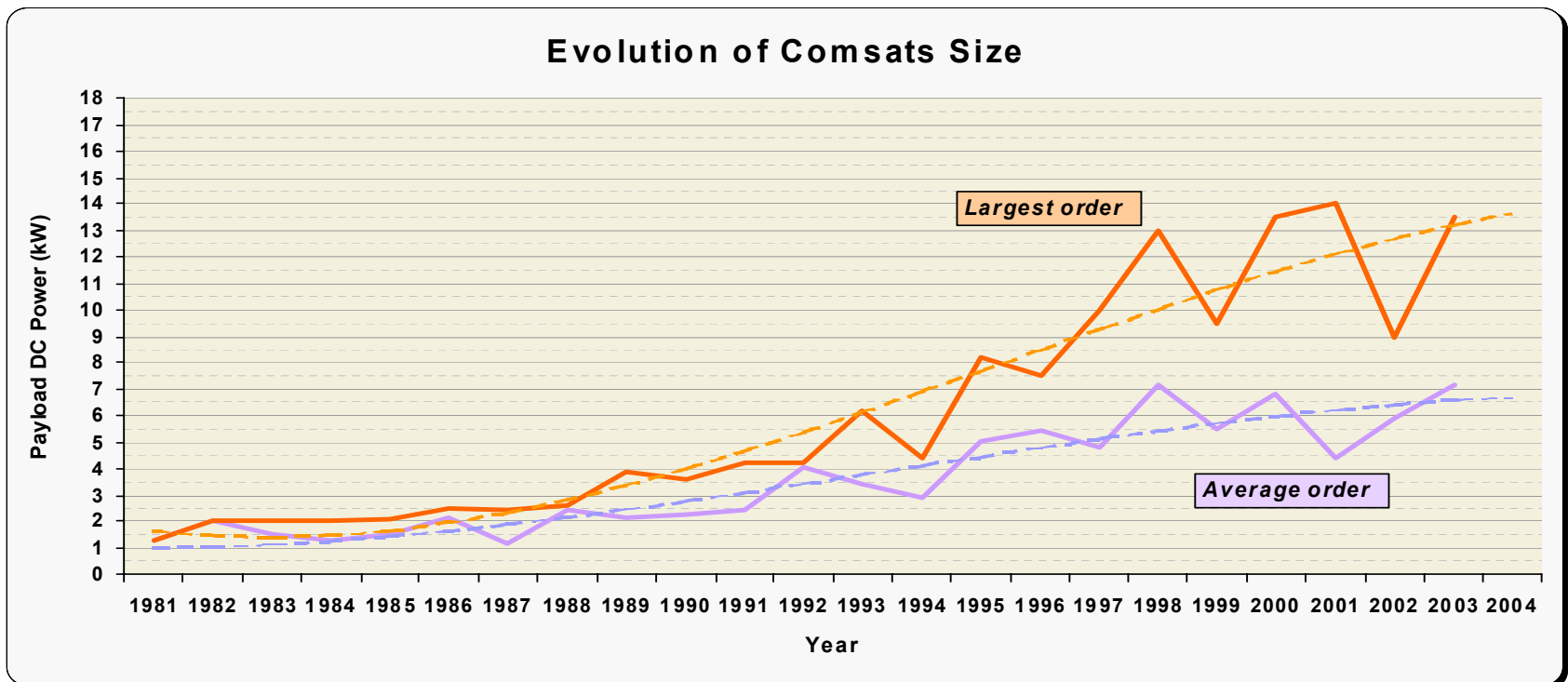
## **A Showcase for European Cooperation**

Le Bourget  
16 June 2005

ALPHA<sup>bus</sup>  
**The Market**

### Satcom Market 2000

- European satcom industry has > 50% of the free market in low to medium satcom range
- Global competitors move into satcom range accommodating very high payload power > 12 kW; gain market niche of 4 BEURO
- European industry in need of a product to follow the market





# The European Response (1)

## Edinburgh 2001

- **European space government and industry leaders create programmatic foundation for a large platform initiative**
- **Global satcom market in relapse; allows time for Europe to bridge product gap with global competitors!**

## Le Bourget 2003:

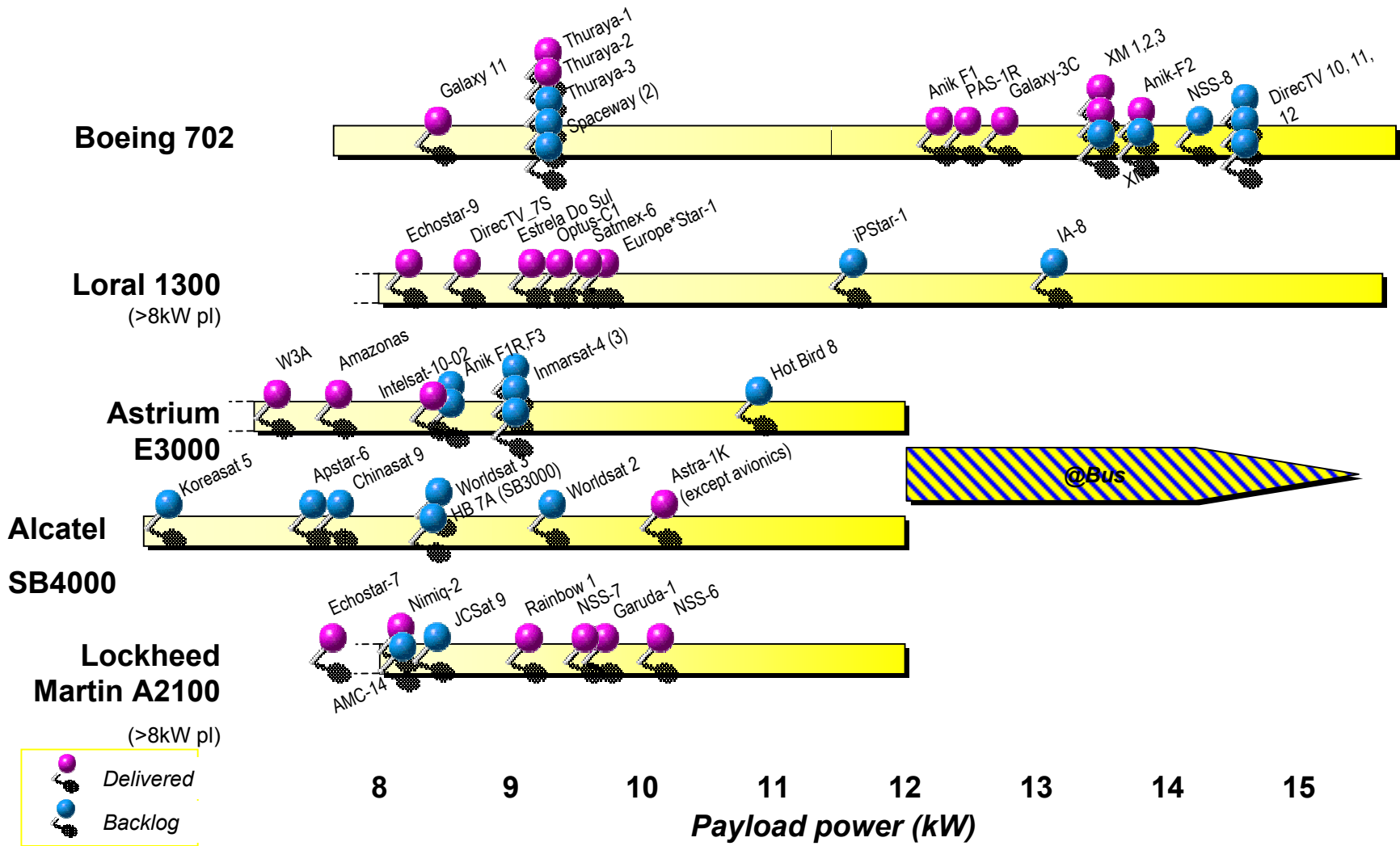
- **Announcement of Cooperation EADS Astrium (F) and Alcatel (F) for the development of a joint Alphabus product line covering 12 – 18 kW payload power**
- **Lessons Learned from Competitor In-Orbit Experience: Alphabus commercial enterprise shall avoid a technology drive!**



## The European Response (2)

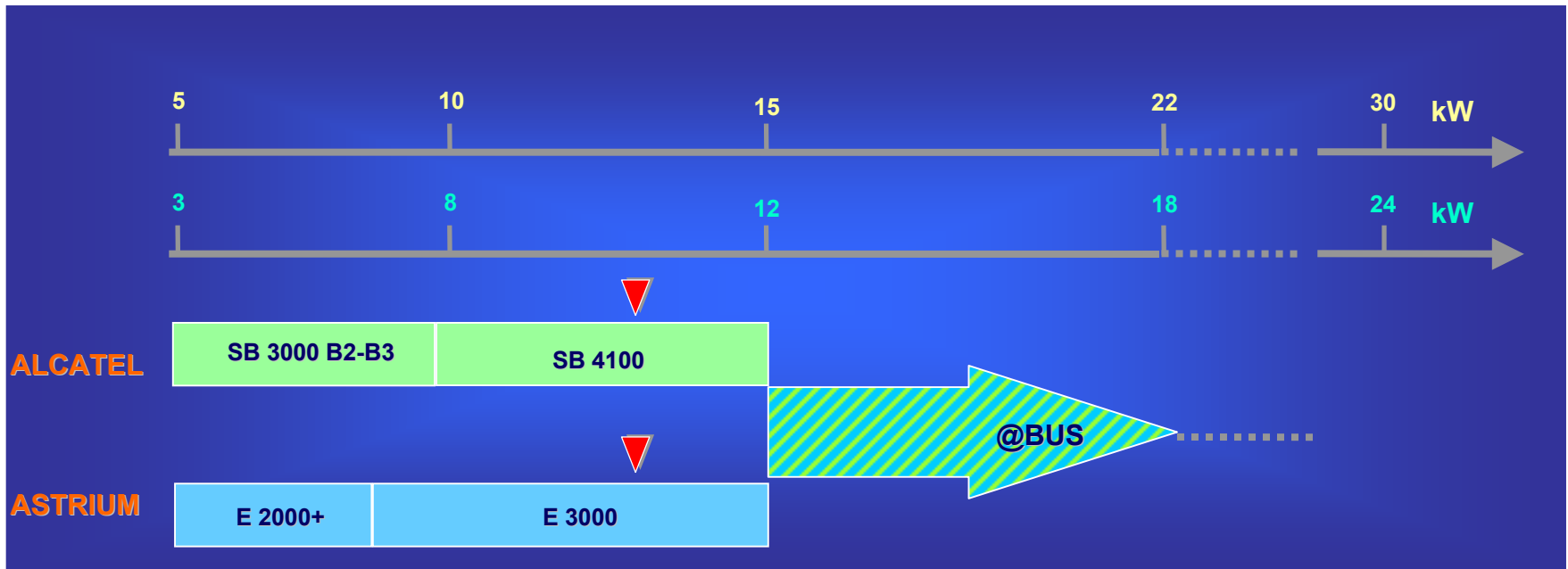
### Alphabus ESA/CNES Preparatory Programme 2002 – 2004

- **Alphabus design consolidated with sound mix of Eurostar/Spacebus heritage and mature enabling technology**
- **Global markets start recovery; new demand for large satcom for direct TV and mobile applications**



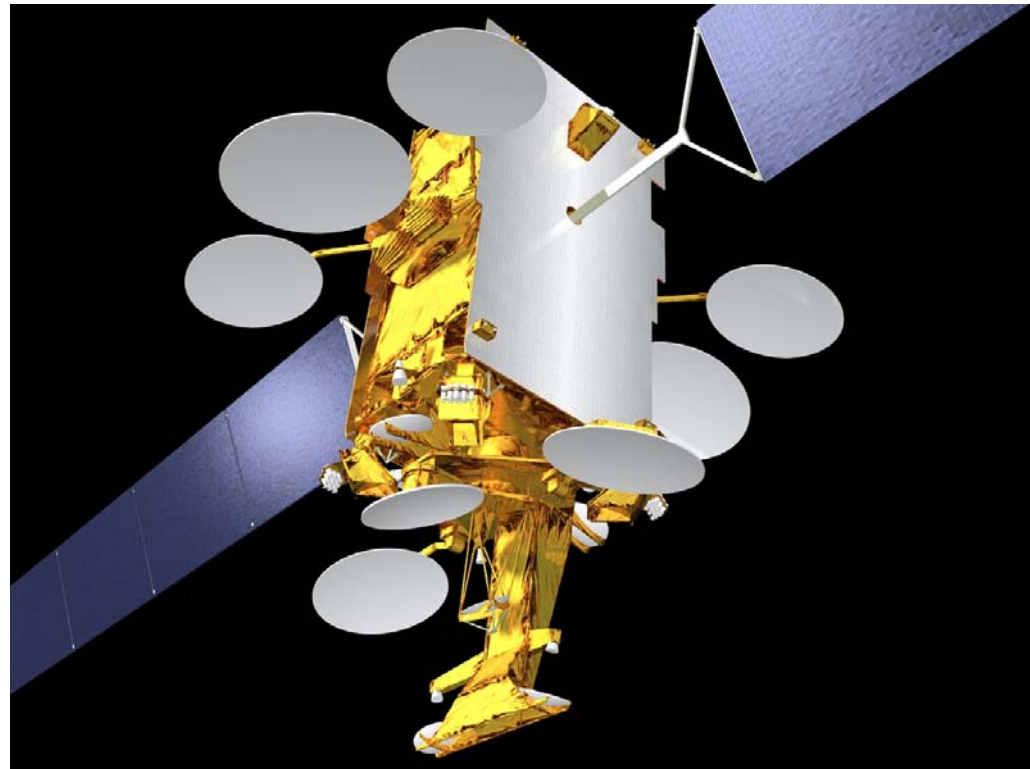
# Alphabus Objective

- Alphabus will be the common top range product for Alcatel Space and EADS Astrium
- Alphabus brings Europe back in the same league as global competitors and completes the full range of European products



## The Alhabus Product (1)

- **Alhabus: a new multi-purpose platform used by EADS Astrium and Alcatel Space to build communication satellites for the high power payload market**
- **Alhabus takes full benefit of the capabilities of the new generation of 5 meter fairing commercial launchers**
- **Compared to Eurostar/Spacebus**
  - ❑ **40 – 50 % more payload mass**
  - ❑ **40 – 50 % more payload power**
  - ❑ **50% more transponders**





## The Alphabus Product (2)

- **Alphabus covers the development and qualification of a product line:**
  - ❑ **Satellite mass: up to 8 metric tons**
  - ❑ **Life Time: 15 Years**
  - ❑ **Payload power 12 - 18 kW**
  - ❑ **Payload mass 1000 – 1200 kg**
  
- **Alphabus surpasses Eurostar & Spacebus growth constraints and will facilitate a wide range of commercial missions:**
  - ❑ **Hybrid C + Ku + Ka missions for TV broadcast and fixed services**
  - ❑ **Ku + Ka multi-spot multimedia applications for broadband access**
  - ❑ **S band multi-spot for mobile mass market S-DMB type**
  
- **Includes procurement of Alphabus protoflight model as fully flight worthy, allowing a rapid response to a first satellite flight opportunity**



## The Cooperation (1)

- ❑ At Industry level Alphabus cooperation is significant in terms of strengthening of the European satcom industry
- ❑ The full development phase is funded by the agencies (to the level of about €200 million) and industrial investment
- ❑ Alcatel Space (F) and EADS Astrium (F) achieve two major cooperation agreements for the commercial phase:
  - a set of commercial agreements covering the terms and conditions for a joint marketing of the Alphabus product line.
  - an agreement on the responsibility and work-share for the production of Alphabus
- ❑ For the ESA/CNES funded development phase: a joint industrial offer with a combined prime project team for Alphabus
- ❑ Alphabus consolidates the supplier line not only for Alphabus, but also extends to the existing Eurostar/Spacebus product lines

## The Cooperation (2)

- **At the level of Agencies the cooperation between ESA and CNES during the Alhabus preparatory phase proved exemplary**
  - the concept of a combined customer project management team worked
  - one uniform request for quotation of the Alhabus main development phase based on a common ESA/CNES contractual baseline achieved
  - a combined ESA/CNES Alhabus Design Review and a combined tender evaluation for the main development phase proved highly effective
  - A combined release of one unique ESA/CNES Development Phase contract

## **Novel approach for European Institutional Space Funding**

- Evaluation & selection of equipment bids cover both institutional development and competitive aspects of industrial commercial follow-on
- European participating states pay into the Alphabus institutional programme a posteriori according to the results of the equipment selection process
- Alphabus supplier based on best competitive result and funding priorities for key technologies in European participating states
- Alphabus secures long-term industrial commercial agreements between equipment supplier and Alphabus prime



## **Alhabus Ultimate Vision**

- Alhabus is exemplary for what can be achieved through European cooperation**
- Alhabus completes the European product range matching and exceeding global satcom competition**
- Alhabus combines the strengths of European satcom industry improving our industrial competitiveness and offering one unique European product**
- Alhabus market entry for commercial bids early 2007**