

# Cooperation Between Space Industry in Established and Emerging Space Nations

Gilles Maquet – Vienna, February 12, 2008

All the space you need



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# Astrium cooperation with India 1/2

## ■ Long history of relations:

- 1996: Astrium (DASA) was awarded a contract from ISRO for the supply of dual gridded reflectors and propellant tanks for one of the ISRO's communication satellite, INSAT-2E.
- 1999: ISRO has awarded the contract to Astrium for the design, manufacture and installation of two Compact Antenna Test Facilities (CATF).

## ■ Transformation of relations: Supplier to a Partner

- Cooperation between Europe and India in the space sector took a significant leap-forward at the Le Bourget Airshow in Paris
  - June 2005: Signature of an MoA between Astrium and Antrix/ISRO
    - for the joint development and global marketing of communications satellites (<4kW payload power; launch mass in the range of 2 to 3 tons)
      - Astrium – communication payload
      - Antrix/ISRO – satellite platform and AIT (Assembly, Integration & Test)
  - The aim of this cooperation is to optimize the ISRO's INSAT 2K and 3K satellite platforms along with Astrium payloads.

# Astrium cooperation with India 2/2

- Successful partnership...
  - Astrium/Antrix partnership has been selected by two major satellite operators
    - Eutelsat, France for its W2M satellite contract
    - Avanti Screen Media, U.K for its HYLAS satellite contract
- Expanding cooperation beyond...
  - Astrium also participates in a number of horizontal co-operation programmes with the Indian space industries with an aim to support mutually beneficial partnerships
    - Ground Systems
    - Remote Sensing applications
    - Distribution of satellite images
- A Key Partner...
  - With its competences and competitiveness, we see India a key partner for the future of Astrium

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# Astrium vis-à-vis New Member States (NMS) of the European Union 1/2

- Possible win-win situation for NMS and Europe...
  - when avoiding duplication of industrial capabilities in space hardware systems;
  - when developing common projects dedicated to the development of infrastructures serving NMS needs;
  - when developing NMS competence in the space services sector.
- ... provided that a cooperation approach disposes of support...
  - political support within the New Member States (motivation and request coming from NMS);
  - political support from European Commission in charge of space applications (positive attitude towards cooperation projects).
- ...and some funding from EU structural funds.
  - ~ 150 billion € available;
  - partial use for cooperation projects in Space = essential for NMS integration in the European space community.

# Astrium vis-à-vis New Member States (NMS) 2/2

- EO applications providing numerous possibilities for cooperation, e.g.:
  - Strategic Environmental Assessment for NMS Infrastructure Projects
    - Need: Requirement for EU funded infrastructure projects / EU Directive
    - Product: Assessment Map and Scenario Assessment
  - Subsidies in Agriculture linked to Environmental Regulations (DG AGRI)
    - Need: Precision Farming and Water Quality Monitoring / EU Directive
    - Product: Assessment Map / Management Recommendation
  - Risk Management / Plain Floods, Fire
    - Need: Forecast and Management of Floods and Fire
    - Product: adaptation of already existing tools / National Risk Centre Integration
  - Security / Border Security
    - Need: Border Security to EU standards
    - Product: Integrated approach with defence industry / space and EO input
- Infoterra already active (subsidiary in Hungary) and prepared for cooperation projects

# Astrium cooperation with Algeria

- ALSAT 2 programme (2006)
  - cooperation on multiple levels (technological and administrative) as a basis for long term, sustainable cooperation
    - Cooperation programme on two satellites ALSAT 2A et 2B.
    - Co-development by a joint design team composed of ASAL and Astrium engineers.
    - The first satellite is engineered and developed at Astrium, and integrated and tested within Astrium premises.
    - The second satellite is to be integrated in Algeria by ASAL with the support of Astrium.
    - INTESPACE is currently supporting the implementation of the integration facilities in Algeria.
    - Procurement of the launch service has been kept by the customer.

# Astrium approach in cooperation programmes 1/2

## ■ Space School Training

- General topics
- Specialised courses for engineers involved in a programme. Courses covering all the domains of Space engineering.

## ■ Joint engineering

- Integration of its partner's personnel within the Astrium managerial and technical teams during the programme development, or vice-versa.

## ■ Engineering support

- Setting the necessary infrastructures within the partner's country (e.g. ground segment, AIT centre...)

## ■ Involvement of partner's industry

- Development of key elements in the space system

# Astrium approach in cooperation programmes 2/2

- System hand over
  - Training and support to ensure a smooth hand over of the system after launch.
- System life time support
  - Proposal of operational enhancements
  - Anticipation of software corrections, upgrades

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