Belgian participation in “ORFEO” programme

Brussels – 04/03/2010
Jean-Christophe Schyns – Joost Vandenabeele
First agreement regarding the involvement of Belgium in the Spot programme was signed in 1979.

In 2001, cooperation program between France and Italy,

- ORFEO
- Pleiades (France) the optical component
- Cosmo-Skymed (Italy) the radar component

CNES in charge of the management of the ORFEO programme

Cooperations have been set up for the PLEIADES optical component with Sweden, Belgium, Spain and Austria.
ORFEO Accompaniment Program

2003: CNES launches the Accompaniment programme

Goals: to **prepare, accompany** and **promote**
Use and exploitation of the images

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**Thematic part**: large range of applications
Specification and validation of products and services required by end users (8WG)

- WG1: Sea and coastlines
- WG2: Risks and humanitarian Aid
- WG3: Cartography, Town and country planning
- WG6: Forestry
- WG7: Agriculture

**Methodological part**: definition and development of tools for the operational exploitation of the future optical and radar images
Belgian participation in accompaniment programme

- In the framework of the Belgian participation in Pléiades programme (27 M€ - 4%)

- Belgian Budget for accompaniment programme 1,2 MEUR

- Duration: 2004-2009
Methodological Section: Selection of projects

- **In France**, between 5 and 10 PhD grants have been funded every year by the ORFEO accompaniment program.

- **In Belgium**, one call for proposals for doctoral or post-doctoral research

  - Budget per project: maximum **200,000 EUR**
  - Submission deadline: October 2005
  - Number of proposals: 9
Projects (1)

- **ASSIMIV**: Detection and description of geographic objects by means of multi-source data assimilation (Julien Radoux, UCL)

- **CHADE**: Change detection for updates of vector databases through multi-level region-based classification of VHR data (Alexandre Carleer and Emilie Hanson, ULB)

- **EMSOR**: Automatic Extraction of Man-Made Structures from VHR Optical and SAR Data for Change Detection (Vito Alberga and Dominique Derauw, RMA)

- **GEMITOR**: Multimodal Geo-referencing of 3D VHR Optical and X-Band SAR imagery (Antonella Belmonte and Dominique Derauw, ULG – CSL)
**Projects (2)**

- **SYNOPRA**: Synergy of very high resolution optical and radar data in forest mapping and inventory (Frieke Van Coillie and Jan Peters, UGent)

- **URMO3D**: A Hybrid approach for 3D city modeling from very high resolution satellite images (Dennis Devriendt and Rudy Goossens, UGent)

- **VAL3D**: publication of 2 articles (Marc Binard, ULG)
  Background of the SURFACE laboratory
  - 3D data
  - Synergy of EO data/other data with spatial references
Management of the local and regional environment:

Remote sensing research programmes

Similar thematic priorities

**ORFEO**
- Risks and Humanitarian aid
- Defence
- Sea and coastlines
- Hydrology
- Geology and Geophysics
- Cartography, Town and Country Planning
- Forestry
- Agriculture

**STEREO**
- Health and humanitarian aid
- Security and risk management
- Coastal zones
- Inland water and soil
- Urban and peri-urban areas,
- Cartography
- Forests and biodiversity,
- Agricultural areas,
- Global monitoring of vegetation and evolution of terrestrial ecosystems
### Common aspects with the STEREO programme (2)

#### Remote sensing research programmes

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<tr>
<th>ORFEO</th>
<th>STEREO</th>
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#### Call for proposal

Written evaluation by foreign experts followed by oral defense in front of a panel of experts

#### Project supervision

Projects supervised by a steering committee
Steering committee meeting each year

Annual activity report
Agenda of today’s meeting (1)

Presentations by CNES representatives

The PLEIADES programme: an overview

Benoit Boissin - PLEIADES Program Responsible

The ORFEO Accompaniment Programme: Preparation of the thematic use of the PLEIADES data

Sébastien Garrigues – Analyse and images products team
Involved in the Accompaniment programme

Manuel Grizonnet – Orfeo ToolBox team
Agenda of today’s meeting (2)

- PLEIADES and the hazards mapping (*Hervé Yesou* - SERTIT)

  SERTIT = Regional Service of Image Treatment and remote sensing

  Rapid mapping service
  Use of remote sensing data

  Production of rapid damage mapping for ESA
  Production of rapid damage mapping for CNES
  Production of damage mapping for the UN

*Hervé Yésou* is a key member of the SERTIT rapid mapping service
• Overview of research on PLEIADES at MATIS laboratory: Potential of PLEIADES images for mapping applications (Mélanie Durupt – IGN France)

MATIS laboratory = Component of NGI France

Goals: make research for the improvement of the production (and update) of database from basic images

**Mélanie Durupt** works at MATIS since 2004
specialised in Photogrammetry, image treatment and algorithm
14:00 PLEIADES and hazard mapping
(Hervé Yésou - SERTIT)

14:30 ASSIMIV: Updating land cover maps by GIS-driven classification of VHR images (Julien Radoux and Pierre Defourny - UCL)

15:00 Coffee break

15:30 CHADE: Change detection for updates of vector databases through multi-level region based classification of VHR data (Alexandre Carleer, Emilie Hanson and Eléonore Wolff - ULB)

16:00 Overview of research on PLEIADES at MATIS laboratory: Potential of PLEIADES images for mapping applications (Mélanie Durupt - IGN-France)

16:30 Closure of the workshop
We wish you a pleasant meeting