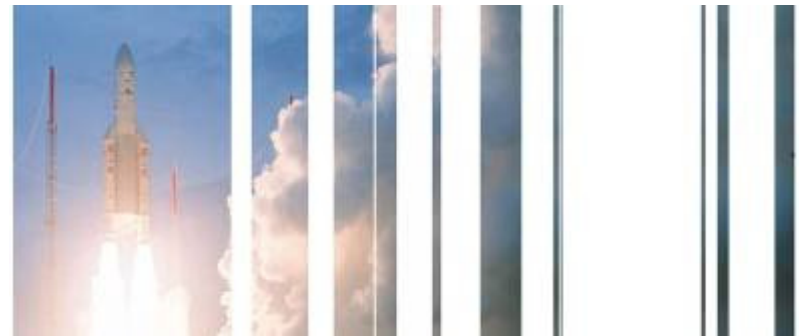
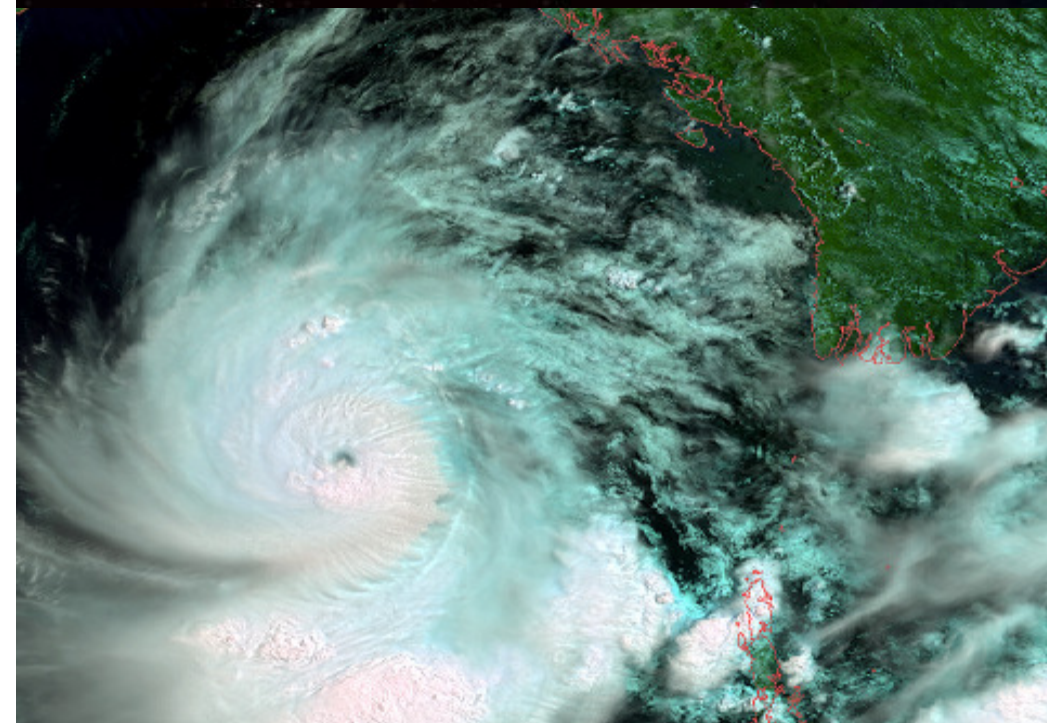
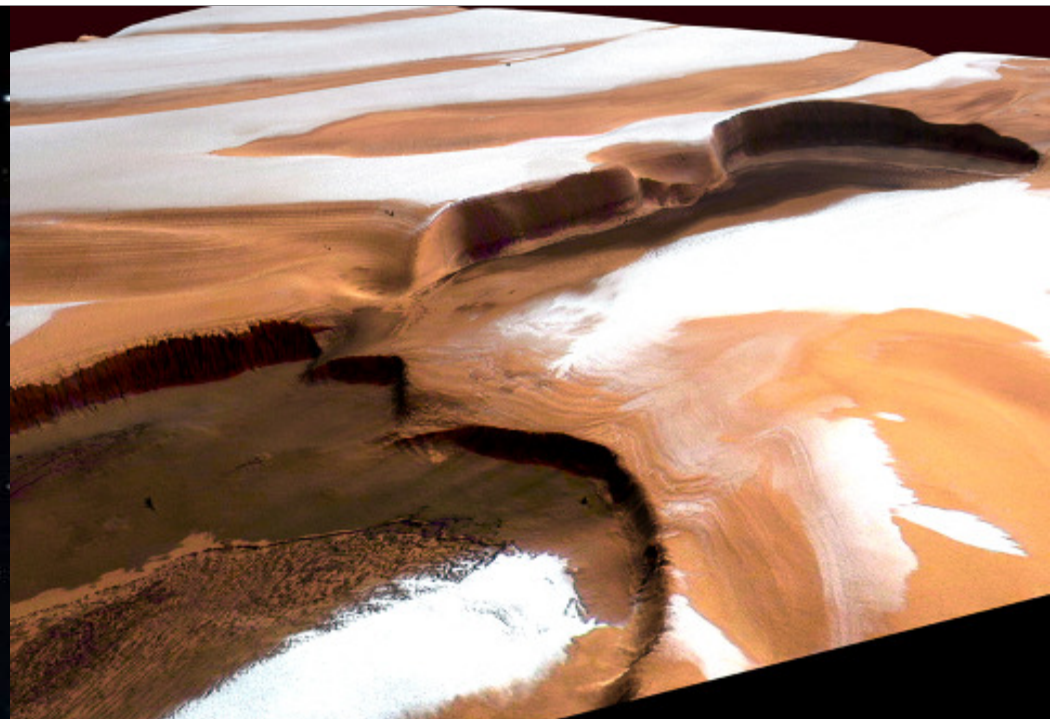


Technology Transfer Programme Office

Niels Eldering
ITM Poland
Poznan, 10/06/2010





Home work in Space



The lab in the sky



O³... Clean Testing in Space



Bradford Instruments... Ozonizer



the first
Ozonizer
coming
out of **space...**



 **O3-Ozonizer**[®]
Ozone Space Technology

(sterilizing with ozone)

Imagine...



Satellite Applications



iOpener... Join the Race!



Bliin... your Life!



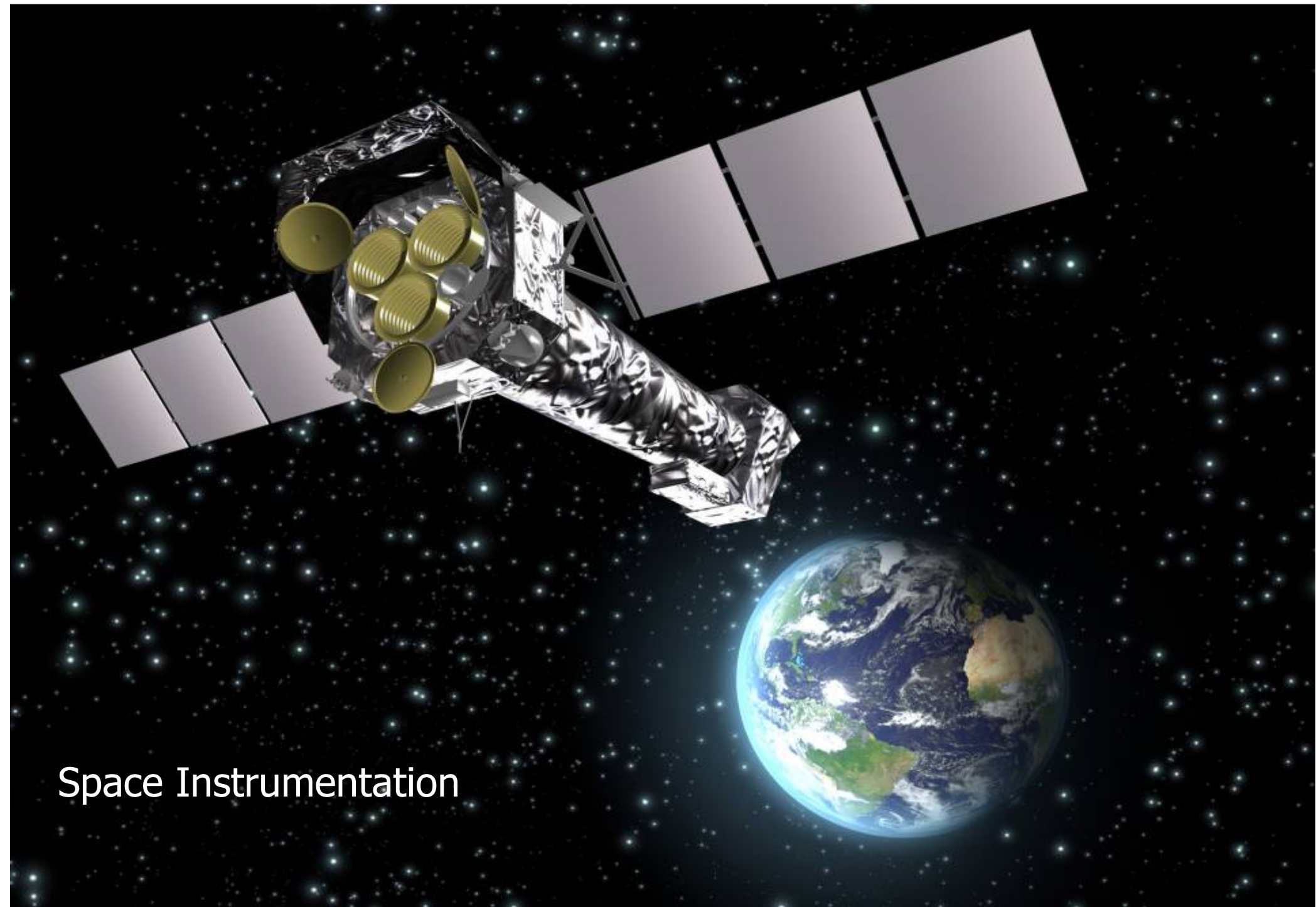
TrainGrid... Monitoring performance



The TrainGrid logo is located at the top left of the slide. It consists of a stylized orange and blue circular graphic followed by the word 'TRAINGRID' in blue. Below the logo is the tagline 'Wearable technology for body monitoring'. A yellow heartbeat line graphic extends from the right side of the logo across the top of the slide. The background of the slide is a collage of images: a woman running in the foreground, a group of people in a rowing team, and two people in a canoe. The text 'Monitoring your body:' is followed by three bullet points: '→Electrocardiogram, Temperature & Heart rate', '→3D body position & Geo-location (GPS)', and '→Bluetooth link & SD flash memory'.

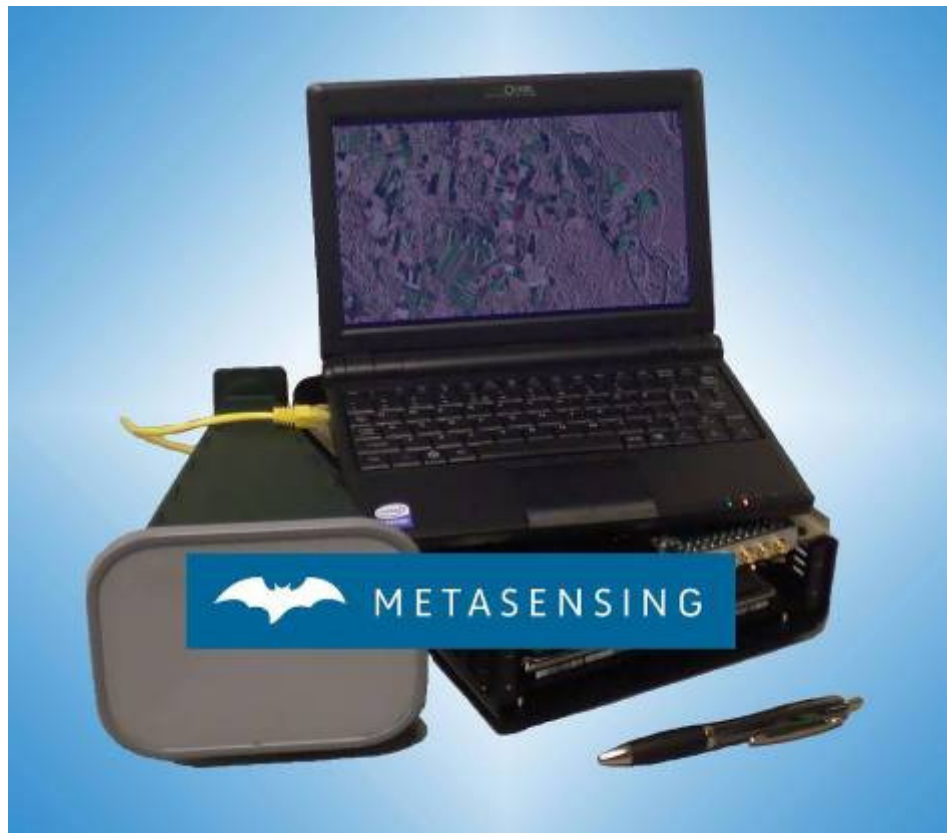
Mobzili..



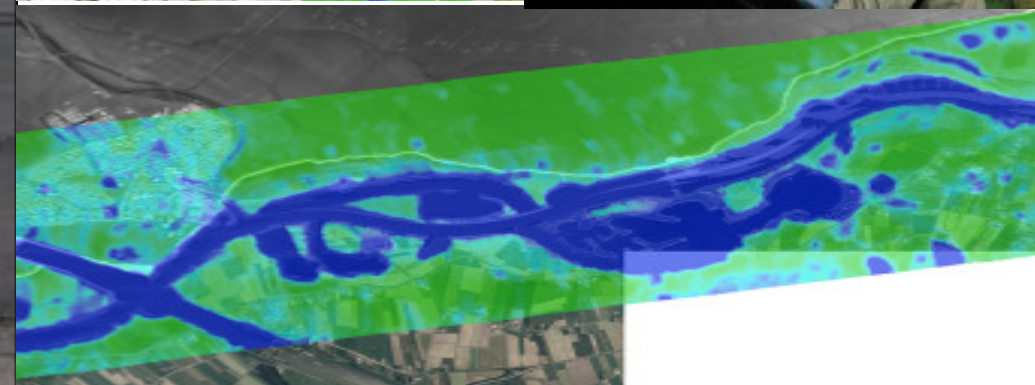
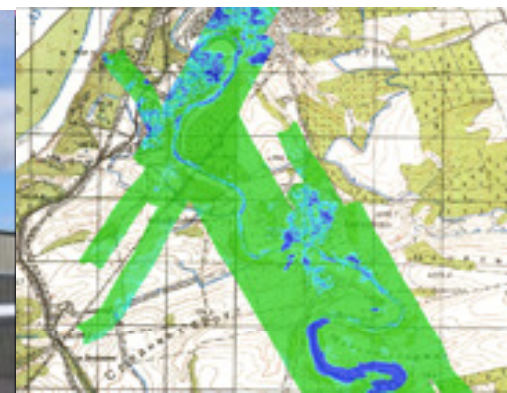


Space Instrumentation

MetaSensing... Measuring mm deformation



MIRAMAP...finds Water where you do not need it



ThruVision... Security products for a safer World

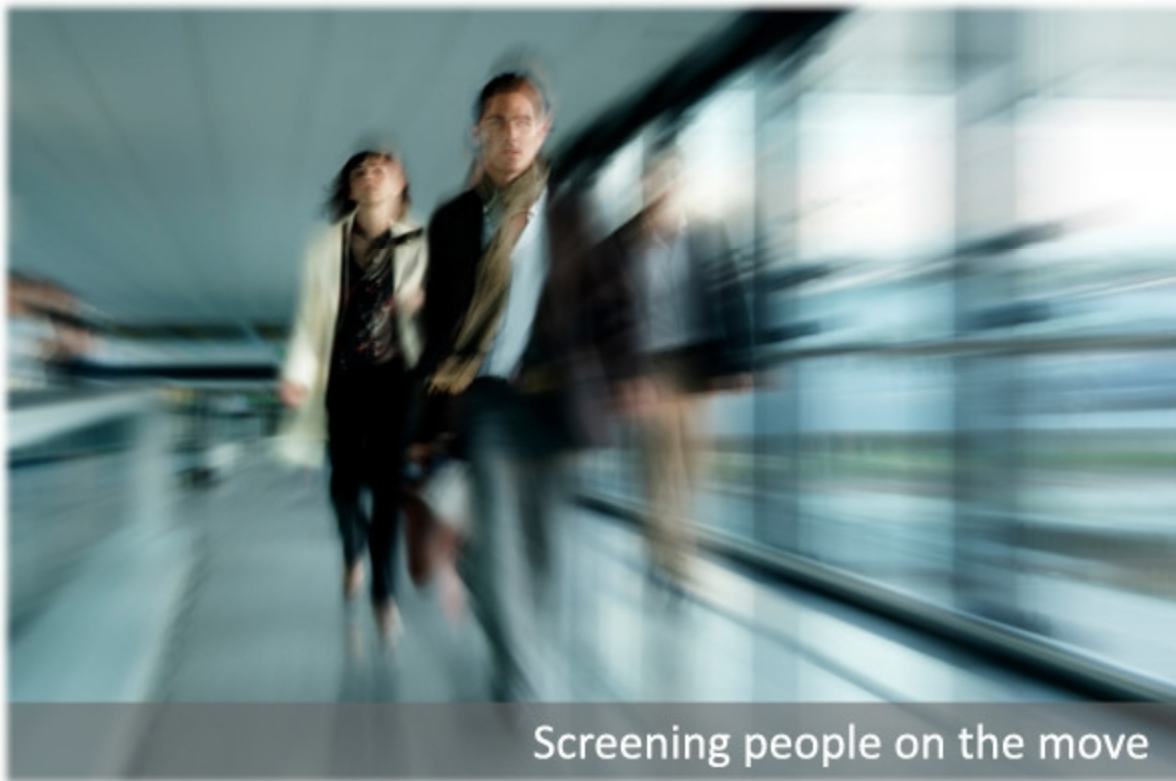


ThruVision™
Systems


People Screening

Safe Technology

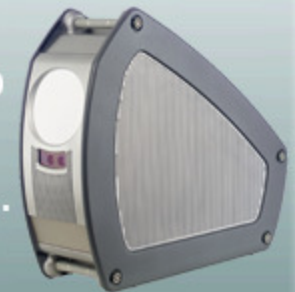
Our Products



Screening people on the move

Click to watch the 
report on
ThruVision Systems'
body scanning capabilities

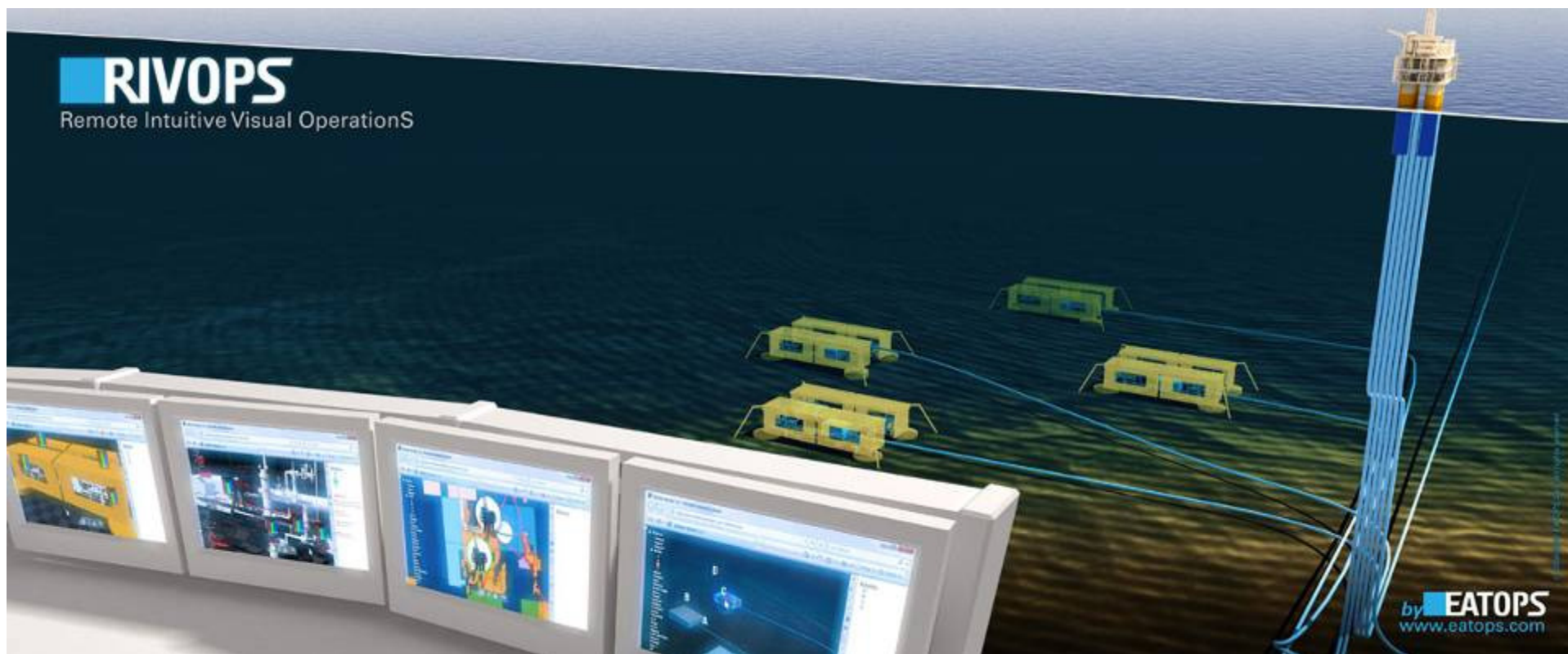
Click here to
learn about
the T4000...





Mission Control

EATOPS... Remote Intuitive Visual Operating



EstrellaSat... Fleet Managing of 650Ton Trucks



Space need:

- low weight
- strength and durability
- efficiency and reliability
- compactness
- temperature resistance
- radiation resistance
- corrosion resistance



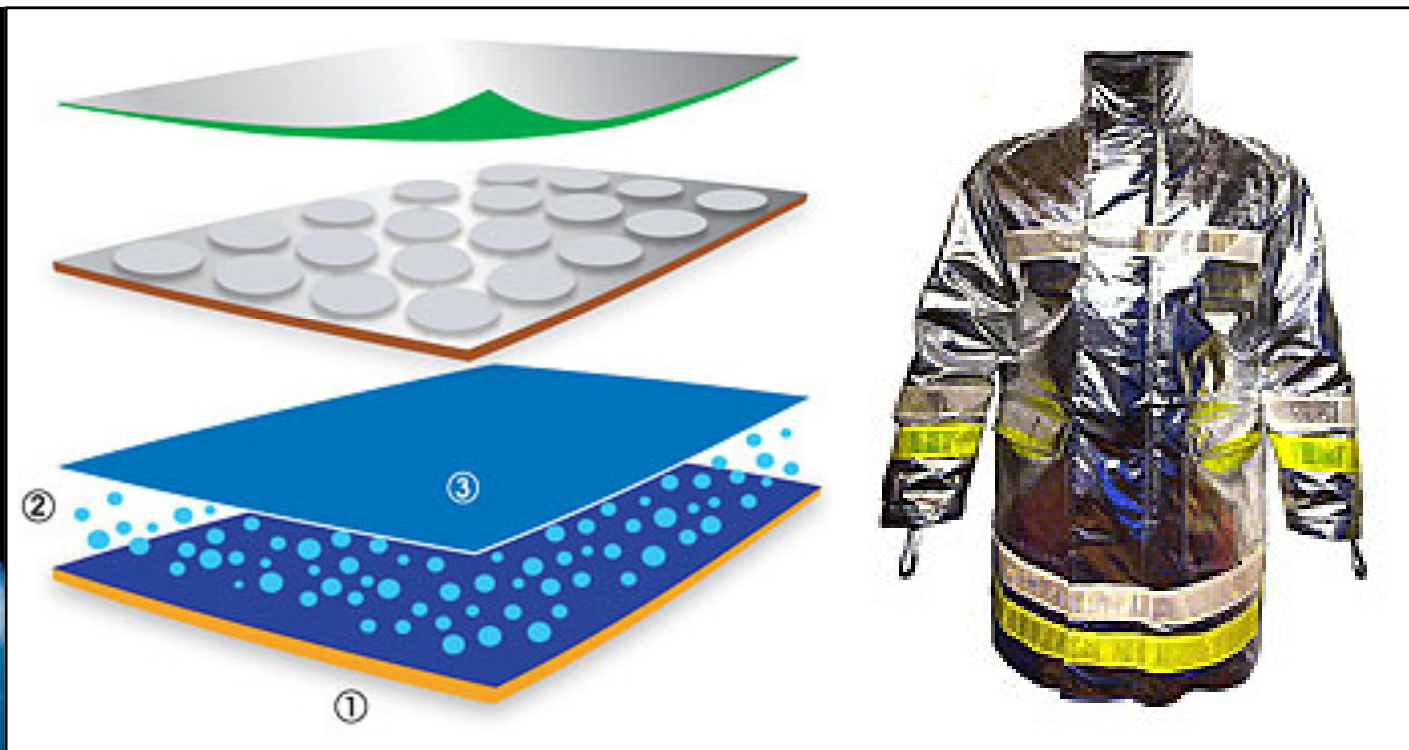
Brembo... Breaking lighter & greener



SMA's... Shaping the Future



Hydro*jacket... safeguarding fire fighters



FACTS & FIGURES

- Over 30 years of experience
- 18 Member States
- 7 establishments, 2043 staff
- 3 Billion Euros budget
- Over 60 satellites designed and tested
- 14 scientific satellites in operation
- Five types of launcher developed
- More than 180 launches made

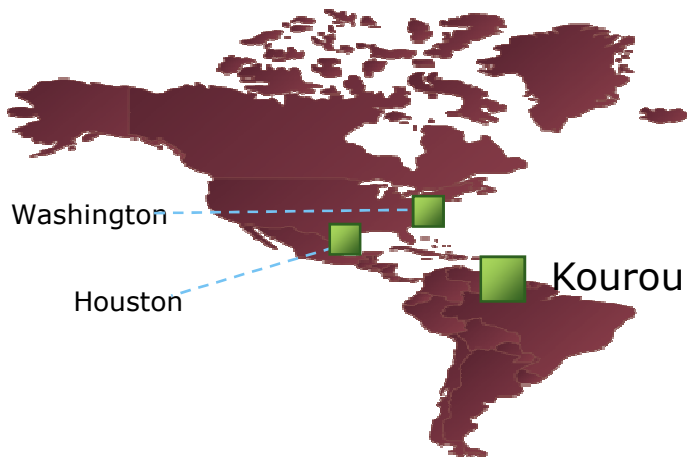
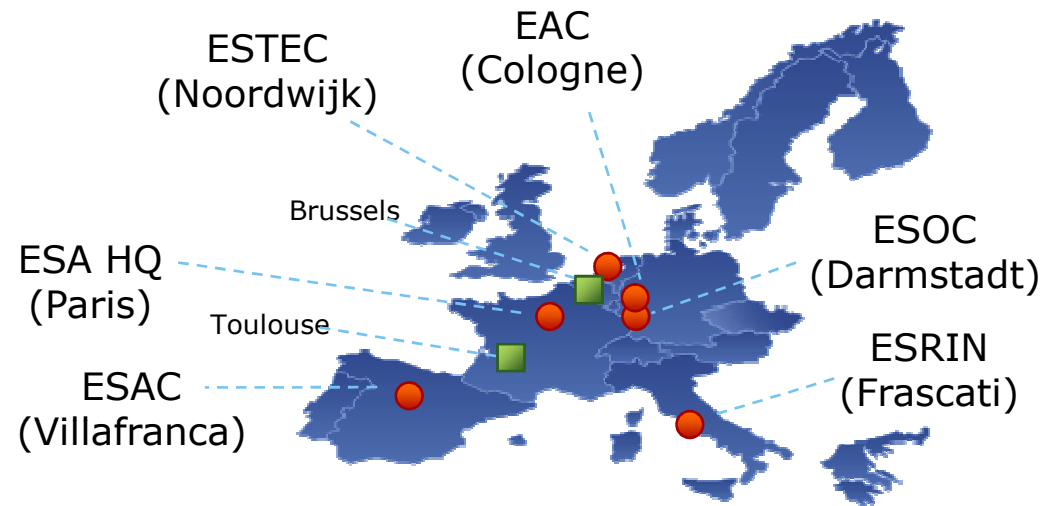


The European Space Agency



Establishments & Centres

Offices



ESA'S 'CATALYST' ROLE:

ESA is responsible for R&D of space projects. On completion of qualification, they are handed to outside entities for production and exploitation. Most of these entities emanated from ESA.

Launch services:
Arianespace

Navigation:
Galileo (with EU)

Telecomms:
Eutelsat and Inmarsat

Meteorology:
Eumetsat



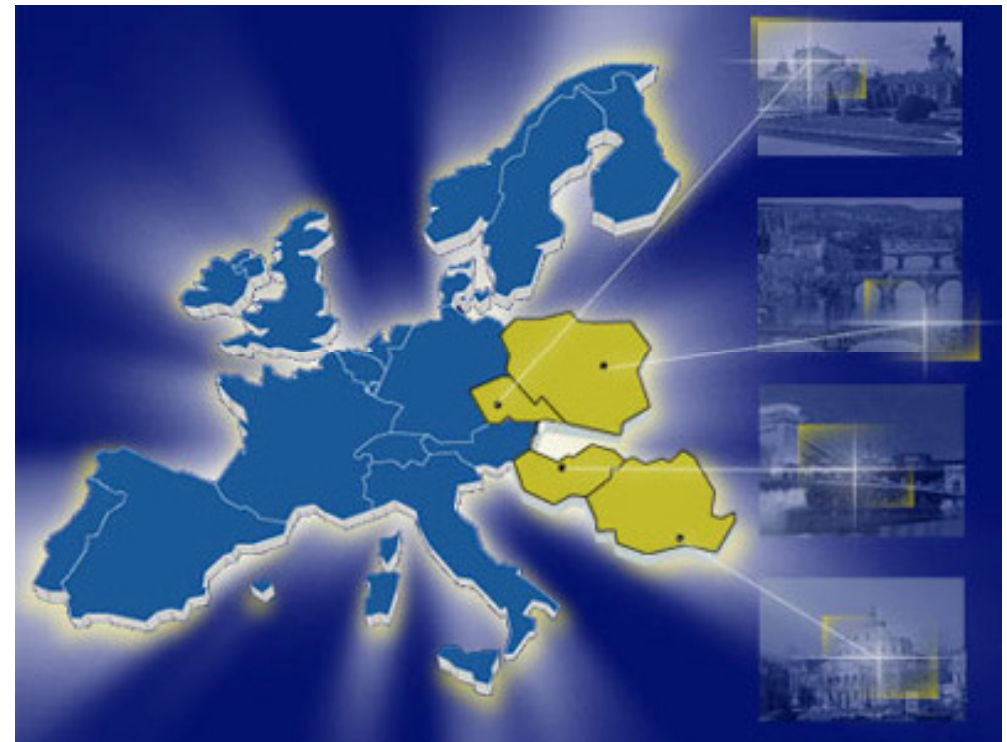
ESA'S SPACE POLICY



> Credits: Conseil de l'Union européenne - Service de Presse, 2009

Plan for European Cooperating States (PECS)

- Poland, Hungary and Romania
(Czech Republic became ESA member in 2008)
- 5 years PECS Charter to increase its knowledge of ESA & develop its space industry system
- End of 5-year period ESA will assess progress made & decide whether the country is ready to become full member of ESA or whether another 5-year plan should be drawn up.



Date Cooperating State (ECS) Agreement signed:

27 April 2007

Date PECS Charter signed:

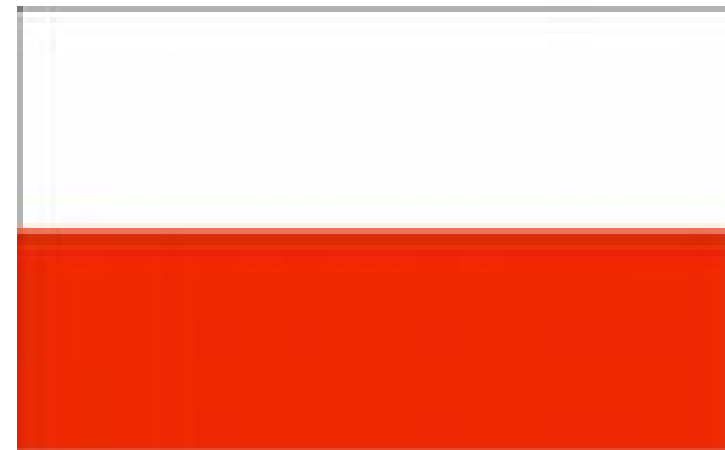
28 April 2008

Projects Under PECS agreement:

15 running projects

Participation breakdown:

Space Science (10%)
Earth Observation (27%)
Human Spaceflight (11%)
Satellite Navigation (8%)
Satellite Communication (7%)
Technology (27%)



ESA TECHNOLOGY TRANSFER PROGRAMME OFFICE

Mission Statement

The main mission of the ESA Technology Transfer Programme (TTP) is to facilitate the use of space technology and space systems for non-space applications and to further demonstrate the benefit of the European Space Programme to the European citizens.

The Technology Transfer Programme Office (TTPO) is responsible for defining the overall approach and strategy for the transfer of space technologies and systems, including the incubation of start up companies and its funding.

TTPO Lines of Business



Transfer of Technology, Services and Applications

Support

ESA Technology Transfer

Open Call for feasibility
studies

National Technology
Transfer Initiatives
(NTTI)

Technology Transfer
Network (TTN)

Broker network managed by
MST Aerospace GmbH

- Germany
- France
- Italy
- Spain
- UK
- ...

- The Netherlands
- Belgium
- Denmark
- Sweden
- Norway
- Finland
- United Kingdom
- Ireland
- Portugal

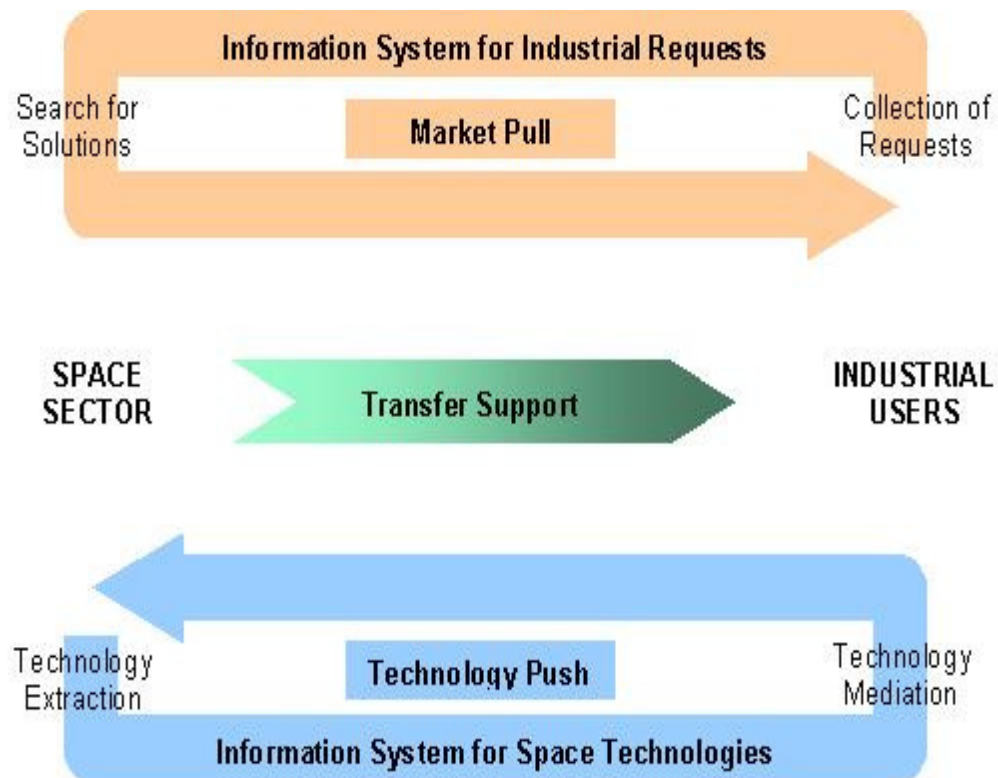
Also transfer support of

*ESA IPR
Industry IPR*

Market Demand Driven



www.technology-forum.com



NTTI's & Brokers being the local contact point for TTP projects in the country

Matchmaking



> Space Match 2009, Noordwijk, Netherlands

TTPO Lines of Business



Transfer of Technology, Services and Applications

ESA Technology Transfer

Open Call for feasibility studies

Technology Transfer Network (TTN)

Broker network managed by MST Aerospace GmbH

- Germany
- France
- Italy
- Spain
- UK
- ...

National Technology Transfer Initiatives (NTTI)

- The Netherlands
- Belgium
- Denmark
- Sweden
- Norway
- Finland
- United Kingdom
- Ireland
- Portugal

Support

ESA Business Incubation

- ESTEC (NL)
- ESOC (D)
- ESRIN (I)
- Oberpfaffenhofen (D)
- *ESA Harwell*

European Space Incubators Network (ESINET)

Also transfer support of

*ESA IPR
Industry IPR*

*European Commission (ENCADRE, KIS4SAT, e.o.)
Enterprise Europe Network EEN (+250)
ESA Bidders: Large industry, SMEs & Universities(>13000)
National Space Agencies
European Satellite Navigation Competition (ESNC)*

ESA Business Incubation Centres



> Noordwijk, Netherlands



> Darmstadt, Germany



> Rome, Italy



> Oberpfaffenhofen, Germany

ESA Business Incubation Centres



**business
incubation
centre**
Noordwijk
managed by BViT

> **Noordwijk, Netherlands**



**business
incubation
centre**
Darmstadt
managed by cesah

> **Darmstadt, Germany**



**business
incubation
centre**
Rome
managed by bidazio

> **Rome, Italy**



**business
incubation
centre**
Oberpfaffenhofen
managed by AZO

> **Oberpfaffenhofen, Germany**

Partnerships: e.g. ESA BIC Noordwijk



> Noordwijk, Netherlands

Partnerships: e.g. ESA BIC Oberpfaffenhofen



The image displays five logos arranged in a grid-like fashion within a black-bordered box. In the top-left corner is the ESA logo, featuring a stylized blue 'e' with a white dot and the lowercase letters 'esa' in blue. To its right is the coat of arms of the state of Bavaria, which is a golden shield with a red chief and a blue and white checkered pattern, supported by two golden lions. In the middle-left is the logo for ANWENDUNGSZENTRUM Oberpfaffenhofen, consisting of a blue speech bubble with three white dots and the text 'ANWENDUNGSZENTRUM' above 'Oberpfaffenhofen'. In the middle-right is the logo for DLR (Deutsches Zentrum für Luft- und Raumfahrt e.V.), featuring a stylized grey star and the text 'DLR Deutsches Zentrum für Luft- und Raumfahrt e.V. in der Helmholtz-Gemeinschaft'. In the bottom-center is the logo for Kreissparkasse München Starnberg, featuring a red 'S' with a white dot and the text 'Kreissparkasse München Starnberg'.

> Oberpfaffenhofen, Germany

- **Cost-advantages**

An incubator offers cost-advantages by sharing facilities and overheads.

- **Switching Centre**

An incubator acts as a switching centre, linking people & resources together.

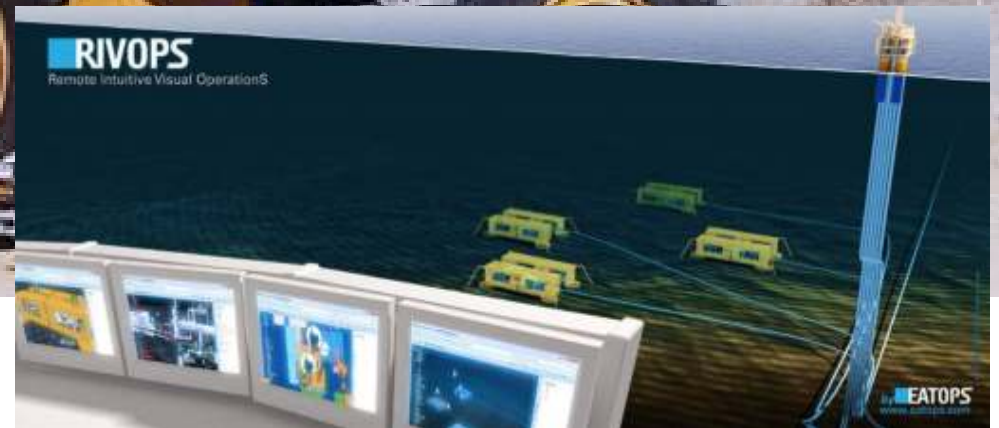
- **Accelerating**

By clustering access to support functions the incubatees do not need to “shop around”, accelerating the start-up process.

- **Cross-fertilization**

An incubator is a place where cross-fertilization among incubatees is stimulated.





GRADUATION:

- ✓ Team, skills, business routines
- ✓ Business plan & investment proposition
- ✓ 1st product / integration in distribution chain

INCUBATION SUPPORT:

- ✓ Access to expertise
- ✓ Access to services
- ✓ Access to entrepreneurial community
- ✓ Access to international partnerships
- ✓ Access to spark-funding

START:

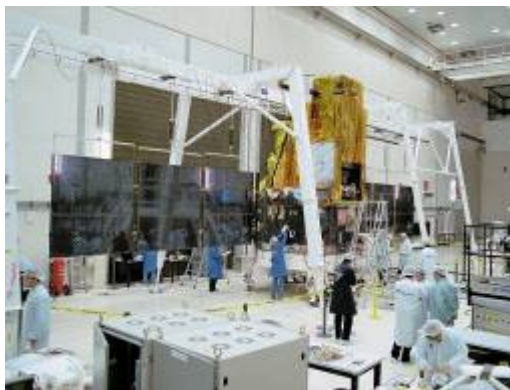
- ✓ Entrepreneur
- ✓ Business idea
- ✓ Technology (*depending on TRL*)



> August 14 2008: Ariane 5 with Superbird-7 & AMC-21
Credits: ESA/CNES/Arianespace 2008

INCUBATION SUPPORT:

- Access to business support services
- Access to entrepreneurial community
- Unique High Tech Environment
 - Technical Expertise
 - Laboratories & Workshops
- International gateway to industry
- Spark-Funding



Joint Promotion on fairs



> Farnborough 2006, UK



> Hannover Messe 2010, Germany

ESA BIC supports >60 start-up companies



TTPO Lines of Business



Transfer of Technology, Services and Applications

Support

ESA Technology Transfer
Open Call for feasibility studies

National Technology Transfer Initiatives (NTTI)

ESA Business Incubation

- ESTEC (NL)
- ESOC (D)
- ESRIN (I)
- Oberpfaffenhofen (D)
- *ESA Harwell*

OSTF-Open Sky Technologies Fund
managed by Triangle Venture

Technology Transfer Network (TTN)
Broker network managed by MST Aerospace GmbH

- The Netherlands
- Belgium
- Denmark
- Sweden
- Norway
- Finland
- United Kingdom
- Ireland
- Portugal

European Space Incubators Network (ESINET)

ESA Investment forum
(2 per year)

- Germany
- France
- Italy
- Spain
- UK
- ...

Investment Readiness Training

Also transfer support of

ESA IPR
Industry IPR

European Commission (ENCADRE, KIS4SAT, e.o.)
Enterprise Europe Network EEN (+250)
ESA Bidders: Large industry, SMEs & Universities(>13000)
National Space Agencies
European Satellite Navigation Competition (ESNC)

EVCA, EBAN

ESA: Your Partner in Launching Business



> February 12, 2009: Ariane 5 flight V187 successful launch with the HOT BIRD™ 10, NSS-9 and Spirale payloads – Credits: ESA/CNES/Arianespace 2009

THANK YOU

Niels Eldering
Technology Transfer Officer
Niels.Eldering@esa.int