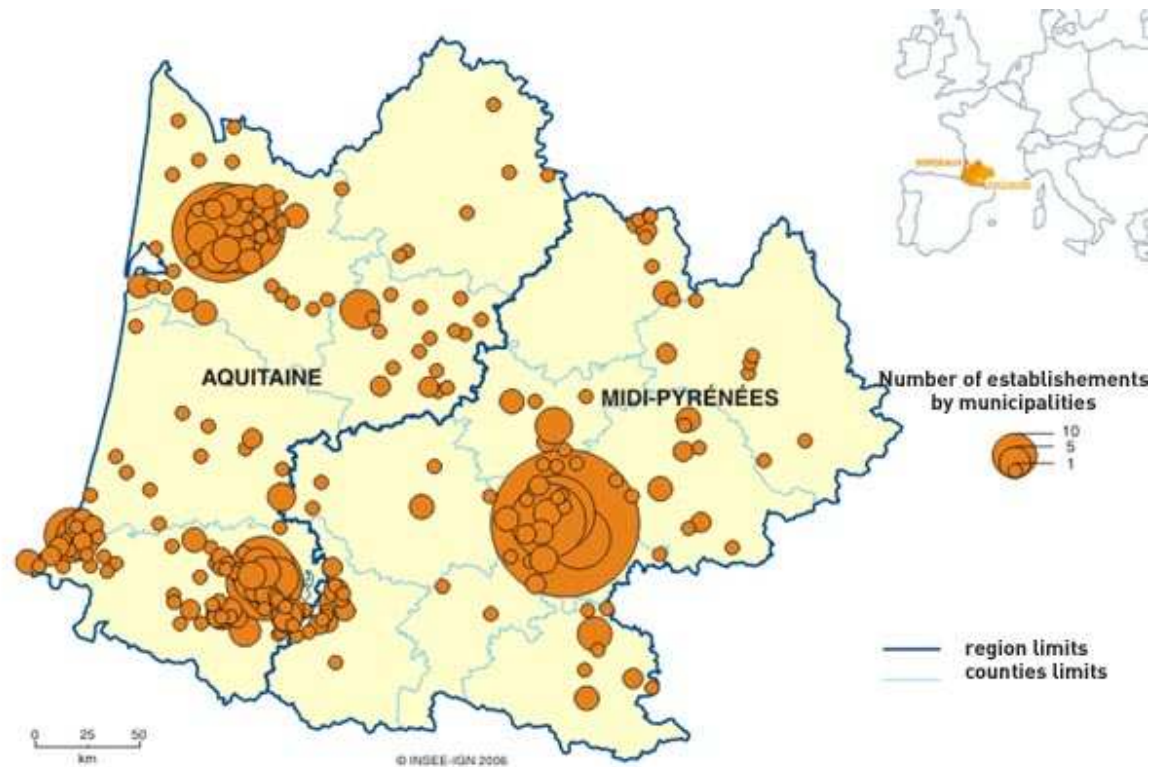


R&D for Aerospace in the « Midi-Pyrénées » (& « Aquitaine ») Regions



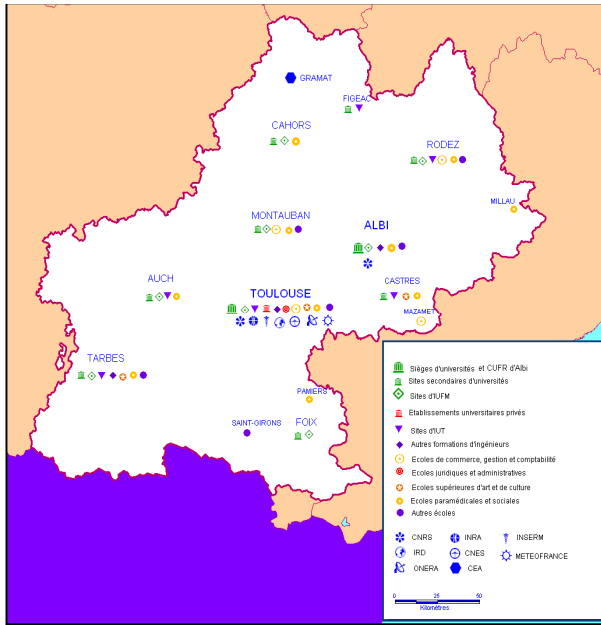
Source : Insee - aeronautics and space inquiry (2006)

Aeronautics, space and embedded systems:

= 114 300 direct jobs in these two Regions (Dec 2009, INSEE)

= 1/3 of overall French work force in Aerospace sector

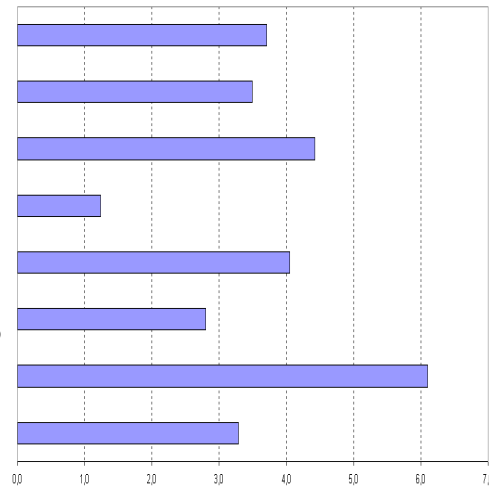
Creation of 13 000 jobs in 2005-2009



MIDI - PYRENEES

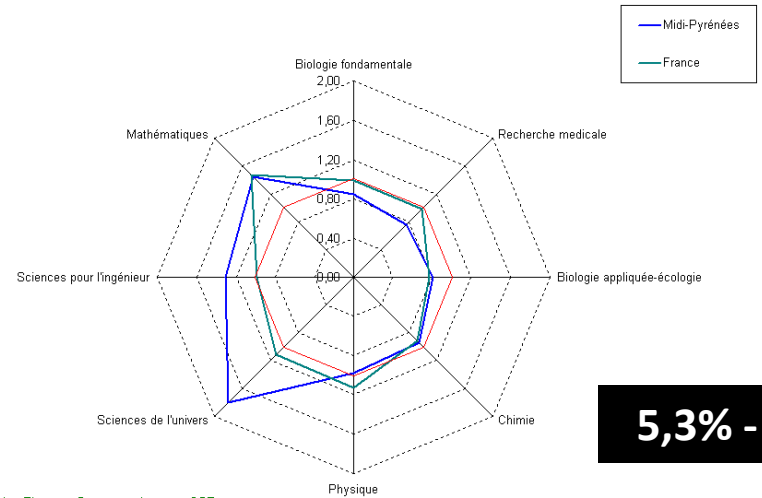
EUROPEAN PATENTS : National part (%)

All domains
 Consommation-BTP
 Mécanics-Transport
 Industrial Process
 Pharmacy-Biotech
 Chemistry & matériaux
 Instrumentation
 Electronics



Source : OST

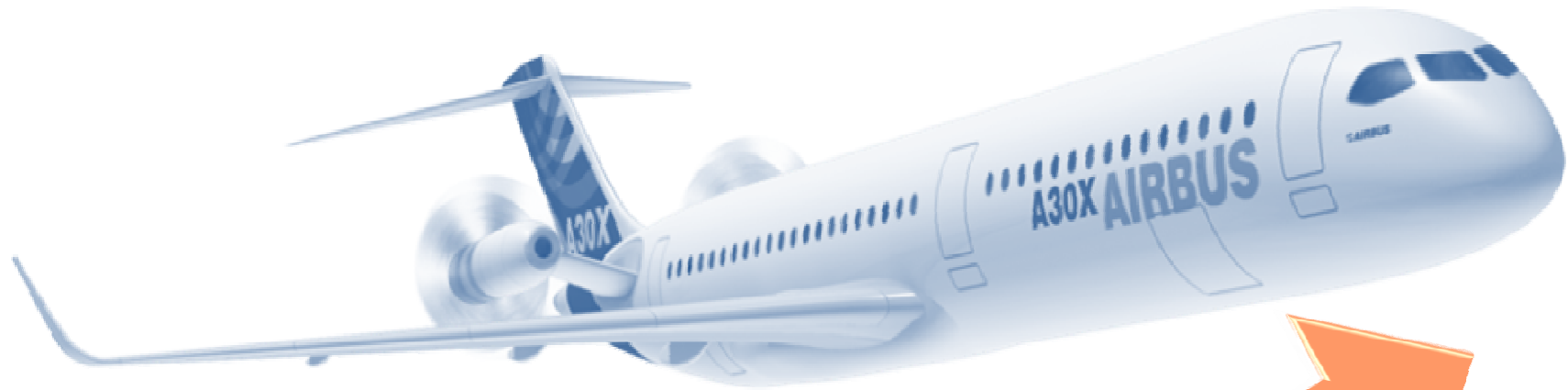
Main Indicators (Research & Academy)	%	rank
Inhabitants : 2,8 M	4,6	8°
PIB 78 G€	4,1	8°
DIRD : 3,1 G€	8	3°
DIRDA : 0,9 G€	6	5°
DIRDE : 2,2 G€	9	3°
Scientific employment : 25000	6,6	4°
Scientists : 16 300	7,5	
Public : 6400	6,9	
Private : 9900	8	
Students : 110 000	4,9	5°
Scientific productivity	5,3	4°



5,3% - 4°

Index of scientific specialization : % Publi in a disciplin / % Publi global

An expected market-pulled high economic growth



- ❑ Needs of more than 25 000 new airplanes (+ de 100 seats) for the next 20 years representing a global value of 3100 Billions \$ - source: AIAA
- ❑ 1 200 satellites to be launched from 2009 to 2018 representing 178 Billions \$ – source: Euroconsult
- ❑ Annual growth of 14% for the embedded systems market - source: Artemis

R&D FOR AEROSPACE :

A progressive and adaptative « ecosystem »

I. TECHNICAL READINESS LEVELS	
1	Basic Principles
2	Technology Concept & Application
3	Proof of concepts & critical functions
4	Validation in laboratory environment
5	Validation in relevant environment
6	System Prototypes in relevant environment
7	Demonstration in operational environment
8	System completed & qualified
9	System proved in mission operations

Conditions of success :

- Technical Breakthroughs**
- Large interdisciplinarity**
- Progressive increase of TRL**
- Well adapted funding processes**

II. « Cultural » Levels

1. Interdisciplinary research
2. Technological research
3. Development & Innovation
4. Production & marketing

III. Funding processes

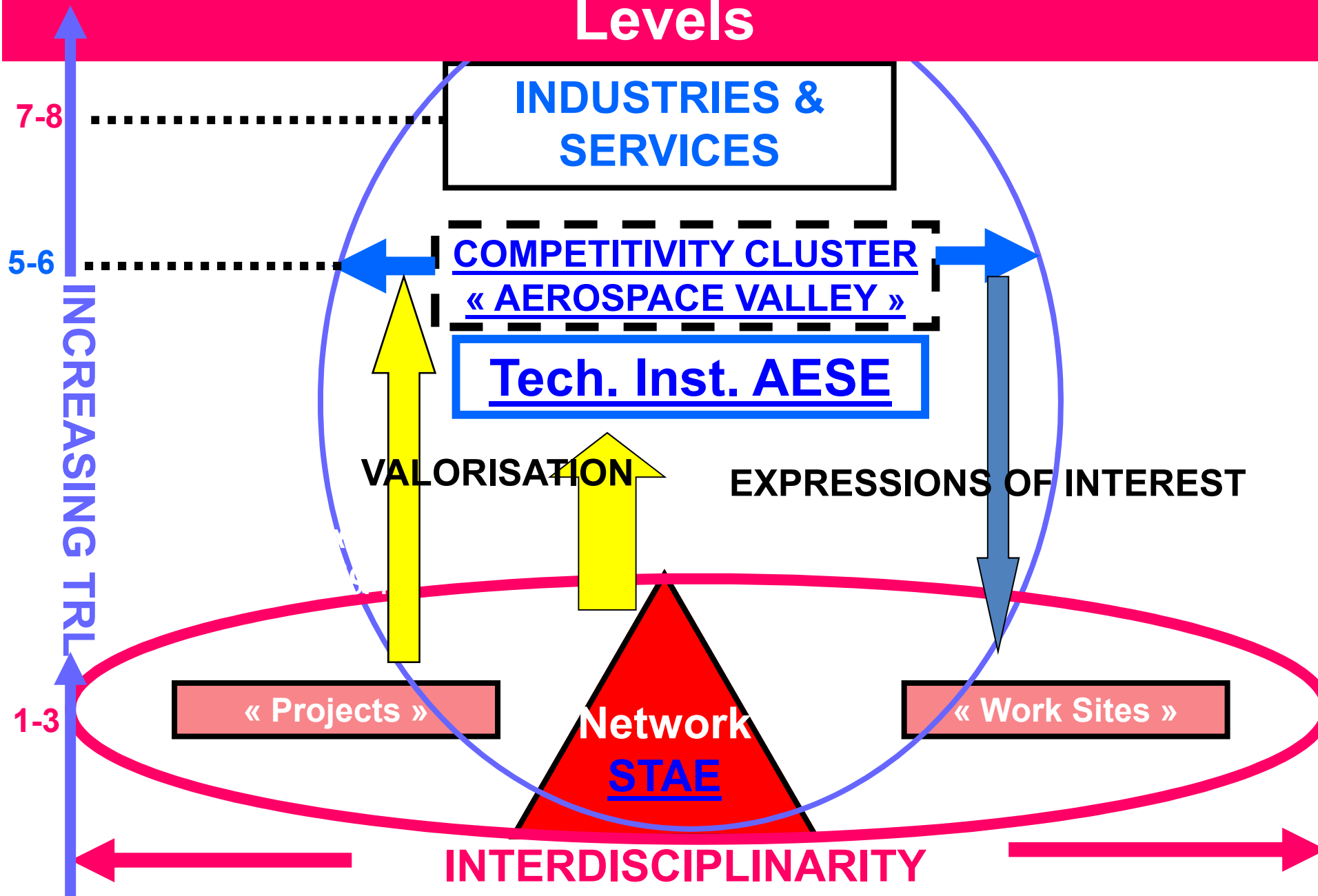
1. (10^0) Research Agency or Operator
2. (10^1) Mixed Public/Private funding
3. (10^2) Mixed Private/Public funding
4. (10^3) Industry or Service

THE AEROSPACE ECOSYSTEM

A 3-levels process

- **A THEMATIC RESEARCH NETWORK : RISKS AS A TOOL**
 - From Concept to Principles
 - From Principles to Methods
- **A TECHNICAL RESEARCH INSTITUTE: RISKS AS A DUTY**
 - From Methods to Demonstration
 - From demonstration to reproducibility
- **COMPETITIVITY CLUSTERS: INSURED RISKS**
 - From reproducibility to product
 - From product to market

Interdisciplinarity vs. Technical Readiness Levels



TOWARDS EUROPEAN INTEGRATION OF SPACE APPLICATIONS



NEREUS in a nutshell

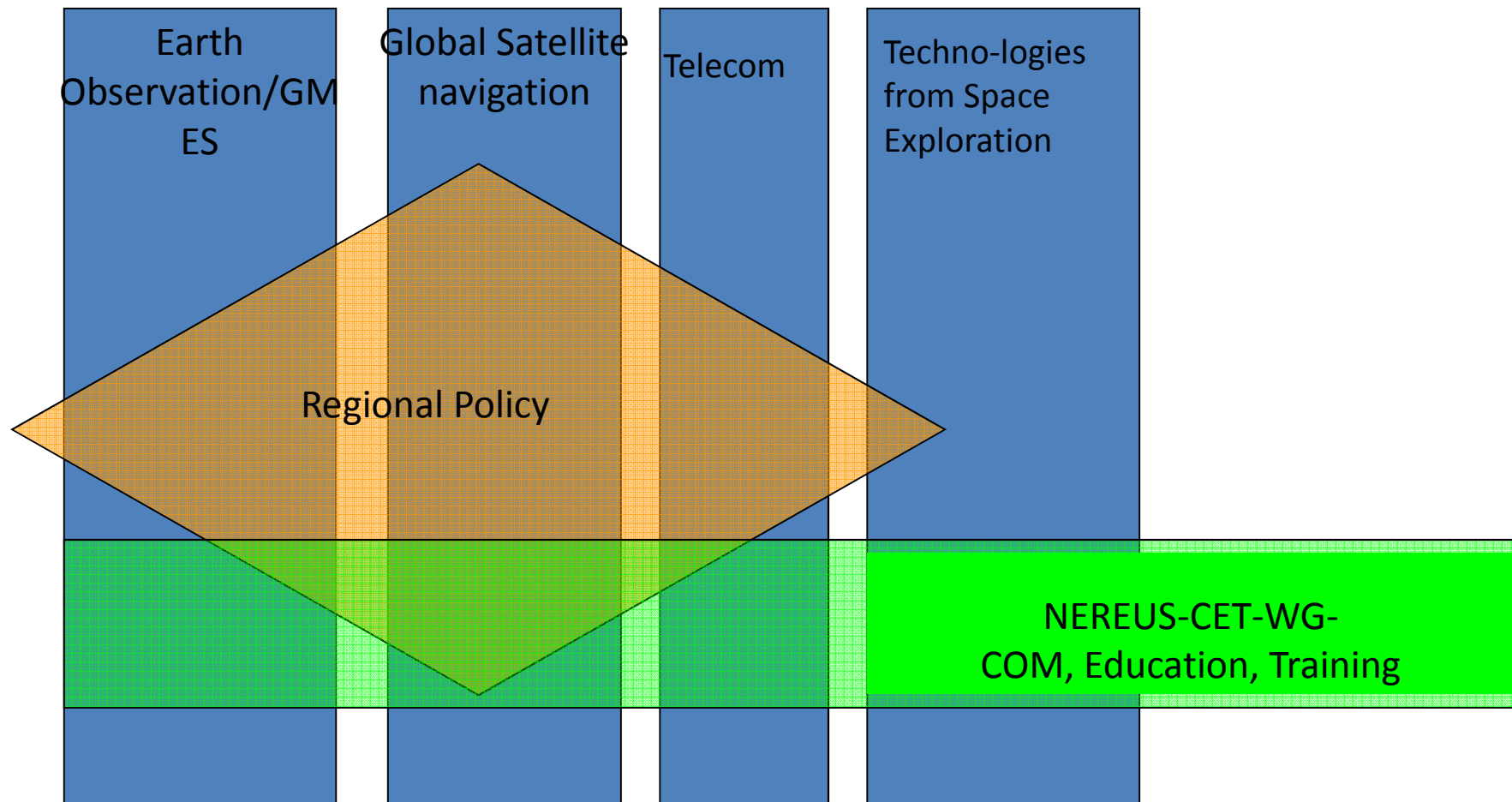
- Members: 26 European regions (Full Members) and 35 Associate Members
- Initiative by regions - Regions share the governance of the network
- Spreading the use and understanding of space technologies
- Emphasis of the network is on **USING** space technologies on **EARTH!**
 - **Earth Observation/GMES**
 - Global Satellite Navigation (GNSS) – Galileo EGNOS
 - Telecommunication
 - Technologies from Space Exploration

26 Full Members

Abruzzo (I)
Andalusia (Spain)
Apulia (I)
Aquitaine (F)
Azores (Portugal)
Baden-Württemberg (D)
Basilicata (I)
Bavaria (D)
Brandenburg (D)
Brittany (F)
Brussels Capital (B)
Castilla y Leon (Spain)
City of Vienna (AU)
East Midlands (UK)
Free Hanseatic City of Bremen (D)
Guyana (F)
Hesse (D)
Lombardy (Italy)
Madrid (Spain)
Mazovia (Poland)
Mecklenburg-Vorpommern (D)
Midi-Pyrenees (F)
Molise (Italy)
Piedmont (Italy)
Veneto (Italy)
Wallonia (B)



Core areas of collaboration





Political Dialogue 2011

- In anticipation of MFF-proposal of EC: NEREUS Position Paper on the next MFF for a competitive, sustainable and inclusive Europe (April 2011)
- NEREUS-Feed-back paper to working document of CoR (August 2011)
- Following MFF-proposal of EC: NEREUS Position Paper : Provisions for GMES in the Multiannual Financial Framework 2014-2020. (October 2011)



Work program 2012

- Political Dialogue
- NEREUS – a competent space player Reinforcing operational level of the network and supporting regional strategies
- NEREUS, a channel to and from the regions: Promoting space uses and awareness raising/



Promoting space uses in 2012

- Organising three WS dedicated to present examples/best-practices of space uses and projects in areas of high-relevance for regions
 - Maritime
 - Civil Emergencies
 - Agriculture
- Extending NEREUS-exhibition and bring it to the regions
- Efforts to grow “25-GMES-Uses” initiative
- Positioning NEREUS-material at regional level and EU-level, e.g. NEREUS-exhibition at TSS2012

For more information on NEREUS, please visit
our website:

<http://www.nereus-regions.eu/>

