

# GMES in Estonia

## Experiences, Competences, Activities - Towards User Forum

Anu Reinart, Tartu Observatory, Estonia



**workshop: GMES Services for Finnish Users**

**January 9th, 2013, Helsinki**

**Finnish Meteorological Institute, Finland**

# Structure for the Space Governance in Estonia

## **Space Policy Working Group - Advisory body, generation of ideas**

- Established by **Ministry of Education**  
09.03.2006

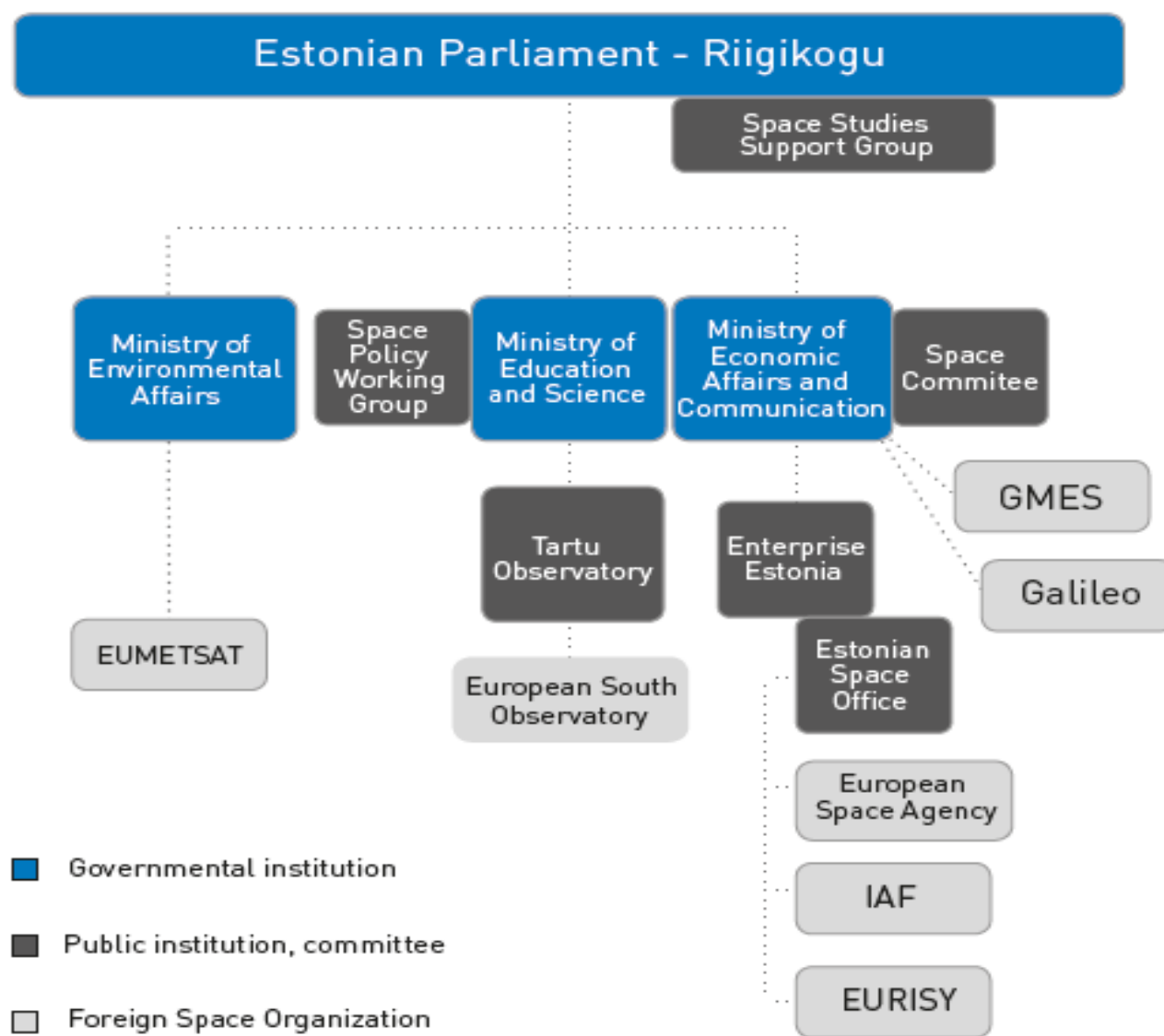
## **Space Committee -Government institution to coordinate policy, actions and funding**

- Established by **Ministry of Economic Affairs and Communications** , 04.05.2010

## **Remote Sensing Action Group**

- Group of Experts – 27.11.2012

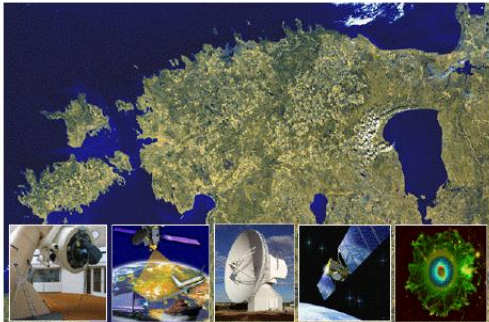
# Links and responsibilities of different partners



# Space strategy documents

SPACE RELATED R&D ACTIVITIES IN ESTONIA

TOWARDS **ESTONIAN SPACE  
POLICY AND STRATEGY**



EESTI KOSMOSEVALDKONNA  
STRATEEGIA 2011 – 2013

Kosmoserakenduste innovatsioonistrateegia kõrgtehnoloogiliste  
teenuste arendamiseks



Tallinn 2011

Eesti kosmosevaldkonna strateegia 2011-2013 rakenduskava

EESTI KOSMOSEVALDKONNA  
STRATEEGIA 2011 – 2013

RAKENDUSKAVA 2011-2013



Tallinn 2012

***Strategy is incorporated in the  
implementation plan of “Knowledge-  
based Estonia 2007-2013”***

# Priority fields:

Earth Observations

Communication and positioning

Space Science

## Public sector

- Awareness and training
- Procurement for innovation
- Roadmaps for priority fields

## Business

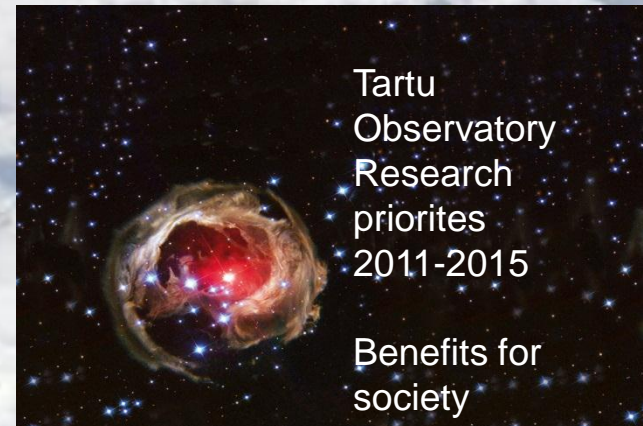
- Awareness and training
- Demo-centre for space applications
- Business competitions

## Academia

- Competence centres
- Infrastructure development
- Educational programmes

# Estonian Space Strategy sets GOALS for 2020

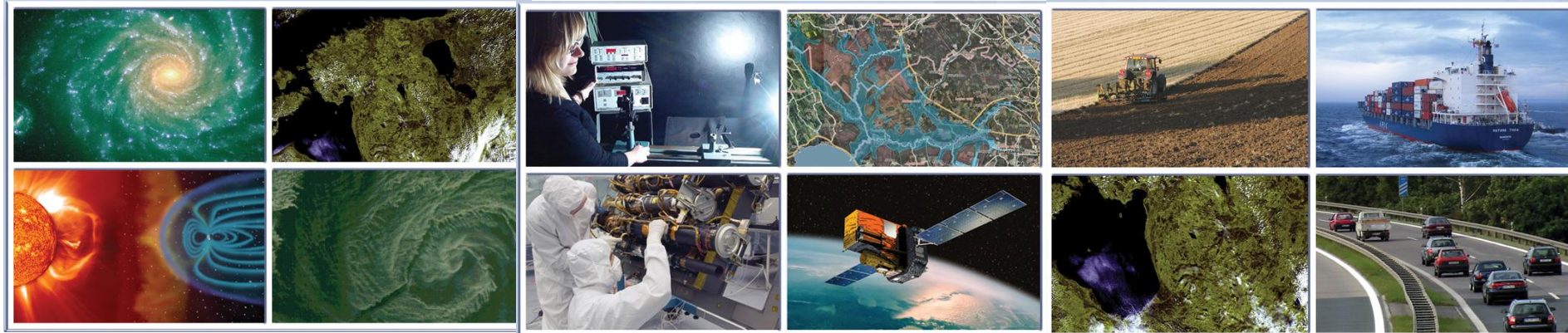
- systematic use of **satellite-based applications in the public sector**
- high interest in society in natural sciences and technology, ICT and business innovation;
- **integration of research institutes and businesses in value chains of European space industry;**
- active participation in the development of European space policy



# Research

# Applications

# Output to society



- Cosmology
- Stellar physics
- Earth observation
- Space technology
- environmental monitoring
- high-tech entrepreneurship
- optical calibration and radiometry
- specific hardware and software
- services for public
- expertise and consultancies
- popularisation of science
- education at school and university level

# Actions towards GMES governance

- Visibility study „ Use of Earth Observations by public sector“ 2011-2012 – report (Invent Baltic)
- Series of training and awareness events: forestry, agriculture, traffic , environment – 2013-2014, (Tallinn Technical University, Tartu Observatory)
- Increase Estonian involvement in International space networks- GEOKOSMOS 2012-2014(Tartu Observatory, Tallinn Technical University, Tartu University, Ministry of Environment)

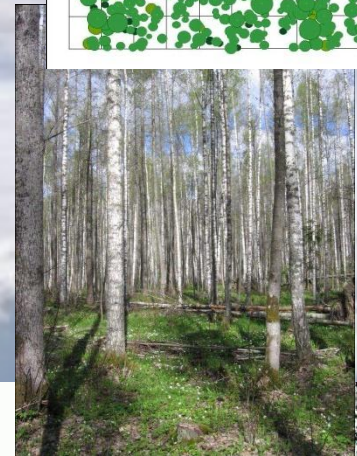
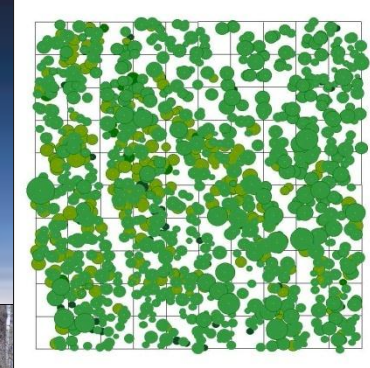
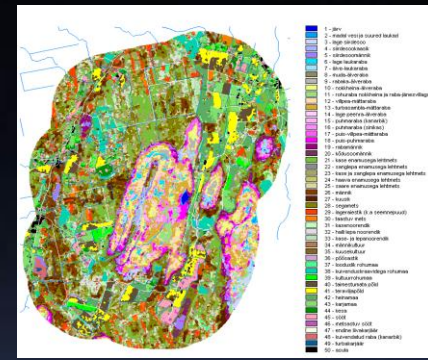
# Finances for the applications

National Research projects (target financing and grants)

Applied projects directly from public authorities ( Ministry of Environment, Defence, Internal affairs, Agriculture *etc*)

Research and development in cooperation with enterprises – *Enterprise Estonia*

International collaboration contracts and projects – FP7, ESA, EU Structural Fund



# Competences



Forest and land cover EO, agriculture, water and ozone in atmosphere, water, instrumentation for ground, airborne and nanosatellites, test and validation,



**Oceanography**, environment in harbors, ice and snow, oil pollutions, instrumentation and networks



**Biodiversity**, GIS, mapping, positioning  
Climate, weather, atmosphere,  
Education



**Forestry**, Agriculture, Hydrobiology  
Interactions- Atmosphere-Forest- Water

**Mapping**, SAR applications (forest, surface water), atmospheric gases  
CO<sub>2</sub>)Regio

**REGIO**

# Large international networks (1)

- EUROPEAN SPACE AGENCY- PECS
- INTERREG-IVA -**Spatial planning in archipelago waters by high spatial resolution remote sensing (HISPARES) 2010-2012**
- WaterS“Strategic partnership for improved basin-scale Water quality parameter retrieval from optical Signatures” 2010-2014
- SAFEWIN Safe Navigation in Dynamic Ice Conditions 2009-2013
- EstSpacE- Expose the Capacity of Estonian Space Research and Technology through High Quality Partnership in Europe 2008-2010

# Large international networks (2)

NordicBaltSat Support to new EU-Member States/Associated States (2010-2012)

Nordon- Nordic Network for Aquatic Remote Sensing (2009-2014)

**DORISnet under Call - Support Action Fostering downstream activities and links with regions” 2010-2013**

**MyOcean, MyOcean-2 Marine Core Service**

**Ventspils and Tartu cooperation in space**

**technologies related research and training (200**



• ***GLaSS- Global Lakes Sentinel services***

Relevant new infrastructure

# Estonian Environmental Observatory- in situ network

Biology and chemistry labs in TTU  
Space technology and optical calibration laboratories in TO )





# **GEOKOSMOS and DORIS\_Net Workshop on Earth Observation services for Estonian Users**

**January 10 2013,**

**Radisson Blu Hotel, Rävala Puiestee 3, Tallinn  
10143, ESTONIA**

## **ESTABLISHMENT OF ESTONIAN COPERNICUS USER FORUM**



Thanks  
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