

# Short presentation of an expertise profile for the 5<sup>th</sup> call Space in FP7

Dr. Symeon Chatzinotas  
Interdisciplinary Centre for  
Security, Reliability and Trust (SnT)  
University of Luxembourg

# SnT



[securityandtrust.lu](http://securityandtrust.lu)

COSMOS FP7 Space Information Day  
19<sup>th</sup> July 2011, Riga, Latvia



# Draft Call Topics that we are interested in

## Space-based applications at the service of European Society (GMES)

### ➤ *Support to the coordinated provision of observation data*

- Research and development for In-situ component

## Strengthening the foundations of Space science and technology (SSF)

### ➤ *Research to support space science and exploration*

- Exploitation of space science and exploration data

### ➤ *Research to support space transportation and key technologies*

- Key technologies enabling observations in and from space
- Key technologies for in-space activities

## Cross-cutting activities

### ➤ *Studies and events in support of European Space Policy*

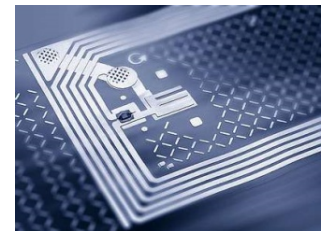
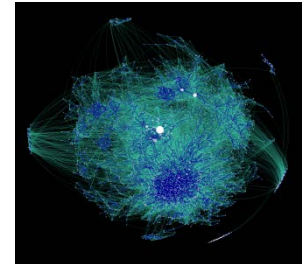
- Studies and events in support of European Space Policy
- Research agenda definitions and research activity road-maps for a European Research framework programme (workshop activities)
- New emerging research needs - reduction of vulnerability of space infrastructure

## Security, Reliability and Trust

- *Security and Trust* 1 of 4 priorities at University of Luxembourg
- SnT created in 2009
- Head count > 80, 12 faculty members
- Director: Prof. Björn Ottersten
- Interdisciplinary research approach to

*Secure, Reliable, and Trustworthy  
ICT Systems and Services*

- Platform for collaboration with industrial and governmental partners, EU & ESA projects



## Research Platforms

- **Enterprise Security**
  - Financial and banking industry (Ministry of Economy, BCEE, ABBL, CASES, FEDIL)
- **Services, Content and e-Government**
  - Service and content providers, government agencies (iTrust, RTL, BCE, LuxTrust)
- **Communication and Network Infrastructure**
  - Network providers and operators (SES, EPT, Telindus, IEE S.A., LuxConnect)



# Partnership Program

## Partners

Entreprise P&T

SES

Telindus

Ministry of Economy and Trade

iTrust

BCEE

IEE S.A.

Ville de Luxembourg

RedDog

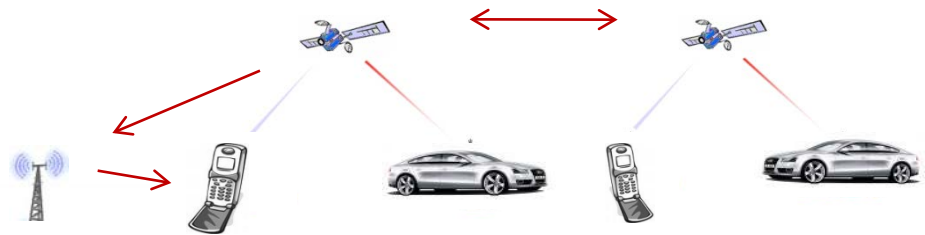
CETREL



## Partnership



1. Legal and Regulatory Challenges
2. Applications and Services
3. Satellite Hybrid Networks
4. Transmission and Reception Technologies



# Running Space Activities

- **MIMO HW Demonstrator - ESA**
  - Partners: EB, SES, Oulu Uni., SnT
- **Multibeam Ku band Flexible Payload- ESA**
  - Partners: Astrium, SES, SnT
- **LASP: Location Assurance Service Provider - ESA**
  - Partners: itrust, SnT
- **Mission Operations using Multi-Level Security - ESA**
  - Joint ESA & SnT PhD activity (NPI)
- **Cooperative/Cognitive Satellite Networks – National**
  - Partners: SES
- **Payload In Orbit Testing - National**

# Space-related Competencies

- **Satellite Communications**
  - Large amounts of data, Reliable downlink
- **Sensor Networks**
  - In-situ component, Data gathering
- **Delay Tolerant Networks**
  - Deep space observation
- **Secure Services**
  - Multi-level security, Location assurance



securityandtrust.lu

# SnT – Contacts

**Prof. Bjorn Ottersten**

**Dr. Symeon Chatzinotas**

6, rue Richard Coudenhove-Kalergi

L-1359 Luxembourg

Email: [snt@uni.lu](mailto:snt@uni.lu)

Web: <http://www.securityandtrust.lu>

