



FP7-REGPOT-2007-3 "AgroSense"

Presentation of Jozef Stefan Institute

Kick off Meeting

Novi Sad, June, 12th 2008

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Overview



- Jožef Stefan Institute presentation
 - Personnel
 - Research topics
 - Projects

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Jožef Stefan Institute (JSI)



- **Jožef Stefan Institute**

The leading Slovenian research organisation. It is responsible for a broad spectrum of basic and applied research in the fields of natural sciences and technology. The staff of around 800 specialize in research in physics, chemistry and biochemistry, electronics and information science, nuclear technology, energy utilization and environmental science.

- **Department of Communication Systems**

Head of dept.: Prof. dr. Gorazd Kandus

- 18 researchers

- ⇒ 12 PhDs,

- ⇒ 6 PhD students

- **Telecommunications Research Team**

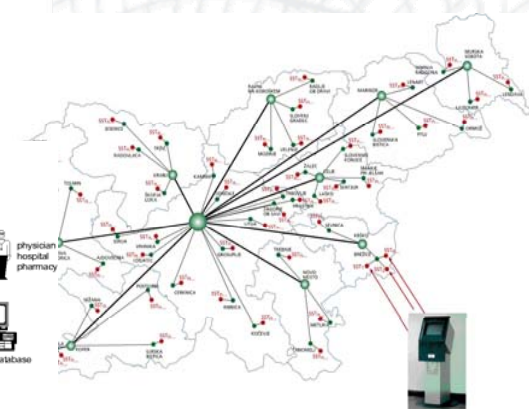
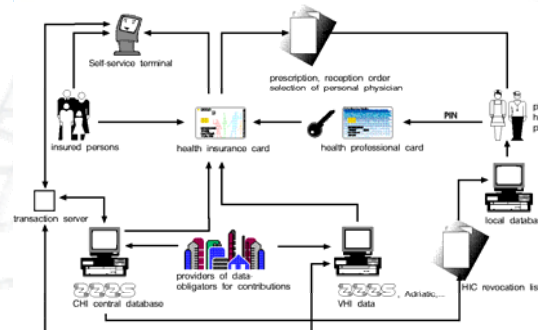
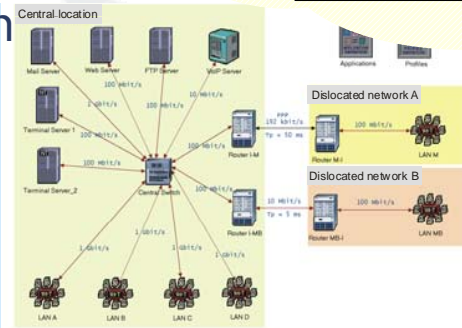
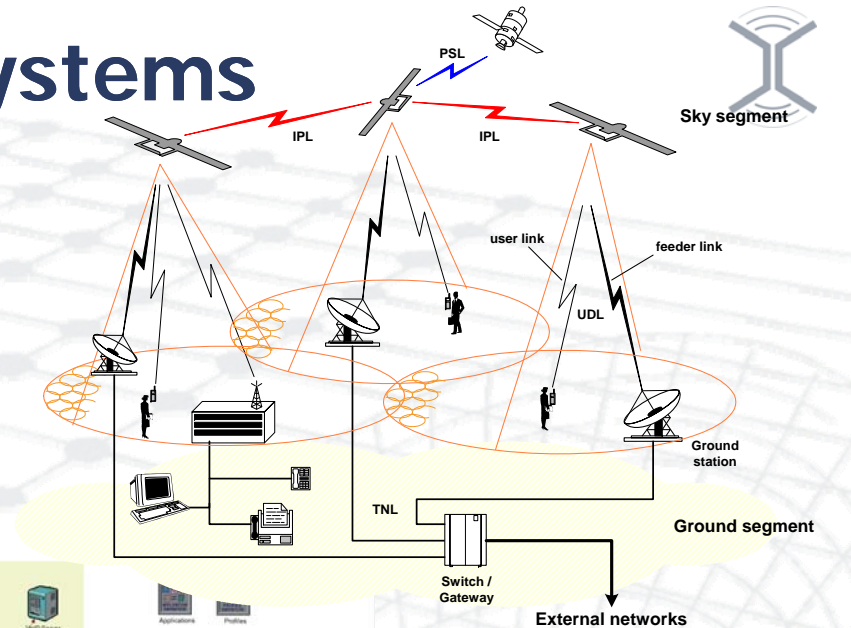
- 6 PhD senior researchers

- 5 PhD students – young researchers



Telecommunication systems

- Development and performance evaluation of telecommunication systems, networks and services
- Fixed and mobile wireless access based on terrestrial, satellite and aerial platform systems
- Adaptive coding and modulation in wireless communication systems
- Performance evaluation of communication systems, protocols, adaptive routing procedures and traffic engineering
- Interoperability and security in communication networks





Participation in international projects



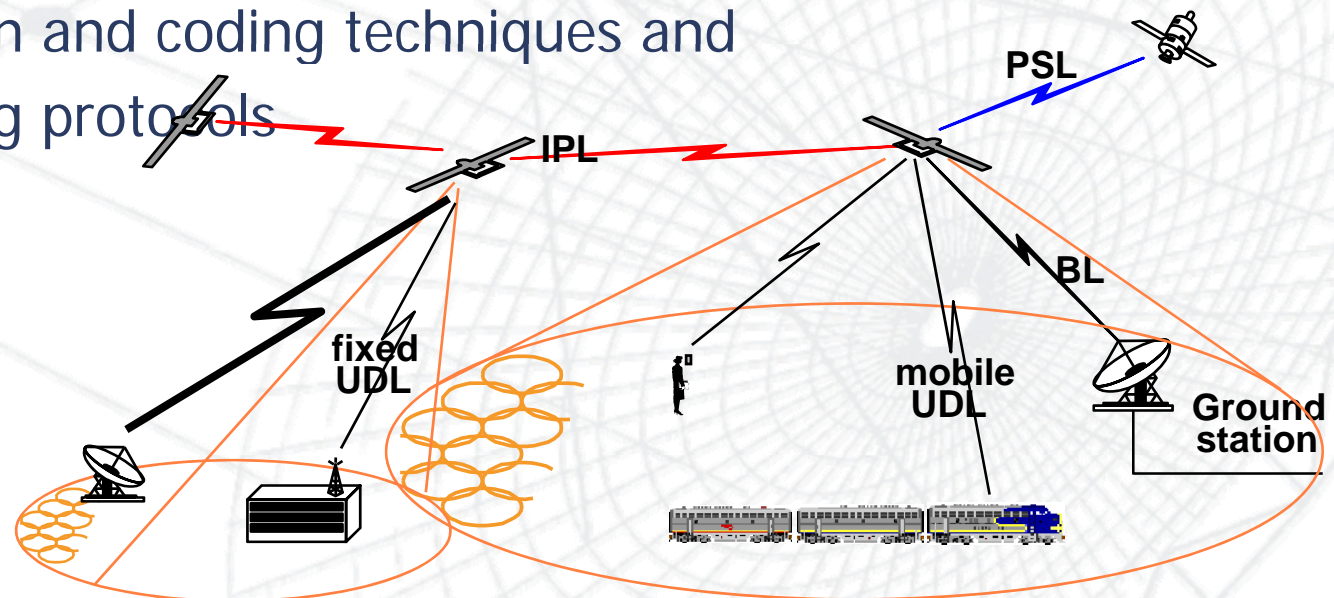
- 6th FP - IST
 - CAPANINA - Communications from Aerial Platform Networks delivering Broadband Communications for All (STREP)
 - SatNEx - Satellite Communications Network of Excellence (NoE)
 - Idealist34 - Participant Search Support for participants in IST Priority by European network of NCP for IST under the 6th Framework Programme (SSA)
- COST Actions
 - COST 290 - Traffic and QoS management in wireless multimedia networks
 - COST 297 - High Altitude Platforms for Communications and Other Services
 - COST 2100 - Pervasive Mobile & Ambient Wireless Communications



Selected international projects (i)



- 6th Framework Programme IST STREP project CAPANINA - Communications from Aerial Platform Networks delivering Broadband Communications for All
- JSI particularly involved in:
 - selection and adaptation of communication standards
 - investigation of diversity aspects,
 - modulation and coding techniques and
 - networking protocols



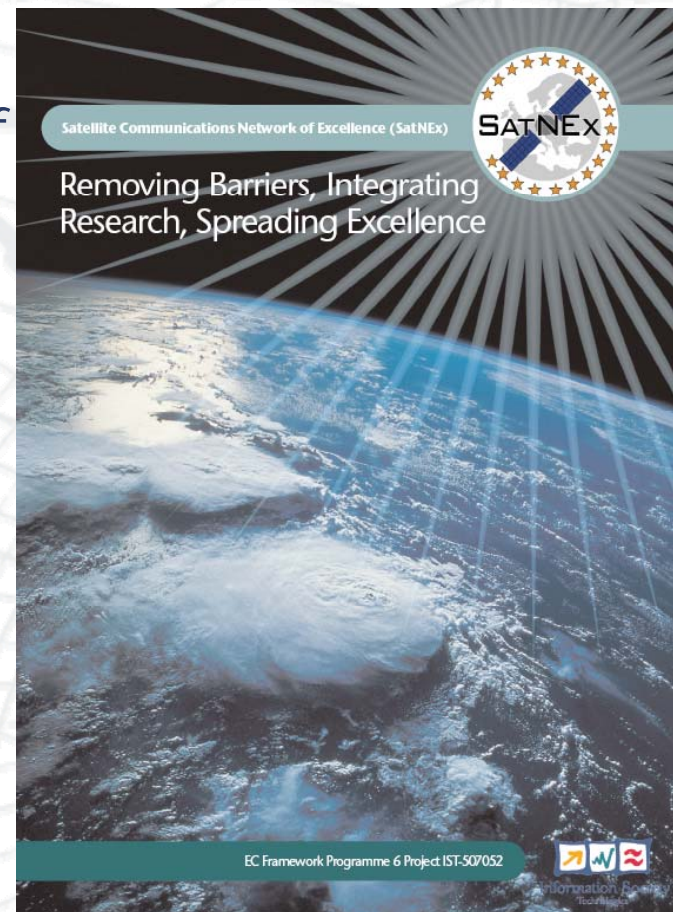
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Selected international projects (ii)



- 6th Framework Programme IST Network of Excellence SatNEx - Satellite Communications Network of Excellence
- JSI contributes in the areas of
 - modulation schemes and coding techniques
 - adaptive routing and traffic engineering
 - traffic modelling
 - high-altitude platform communications
 - internetworking



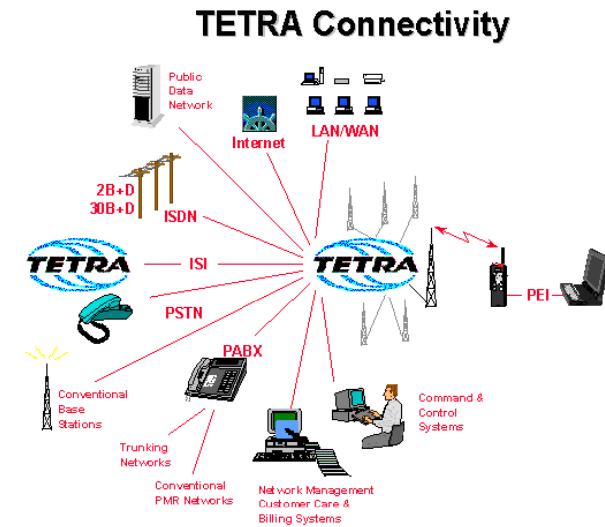
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Selected national projects



- TETRA pilot system deployment & development of applications (MoD)
 - Set-up of TETRA pilot system for civil protection and disaster relief
 - Data and video transmission in TETRA
 - GPS-based location determination of TETRA terminals / users
 - Interworking with paging system
 - WAP access to applications and data bases
 - Radio network planning tool for the investigation of the TETRA signal coverage

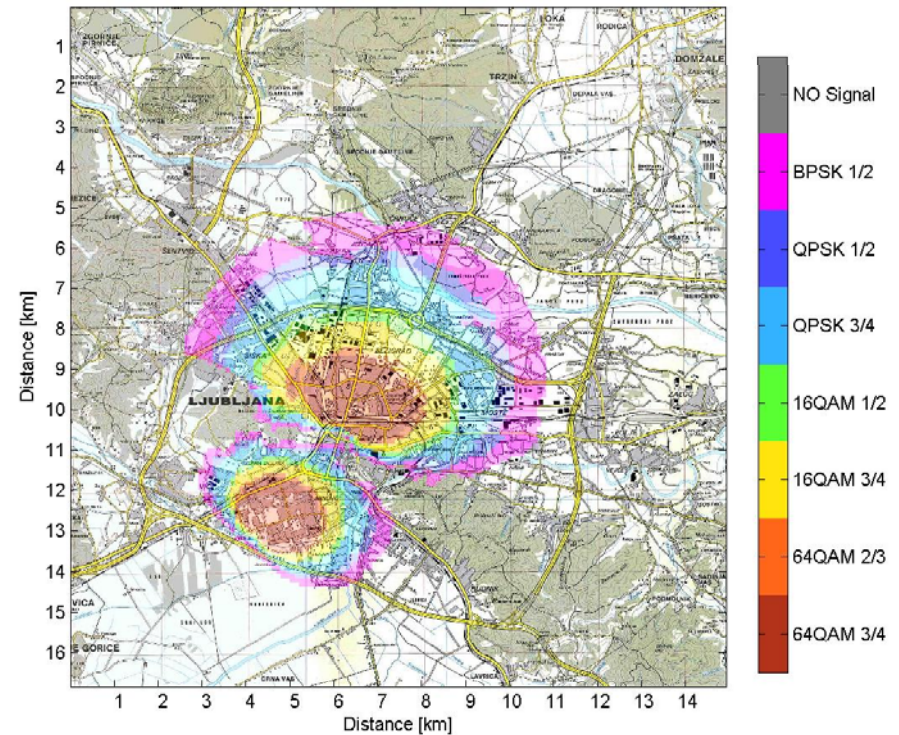
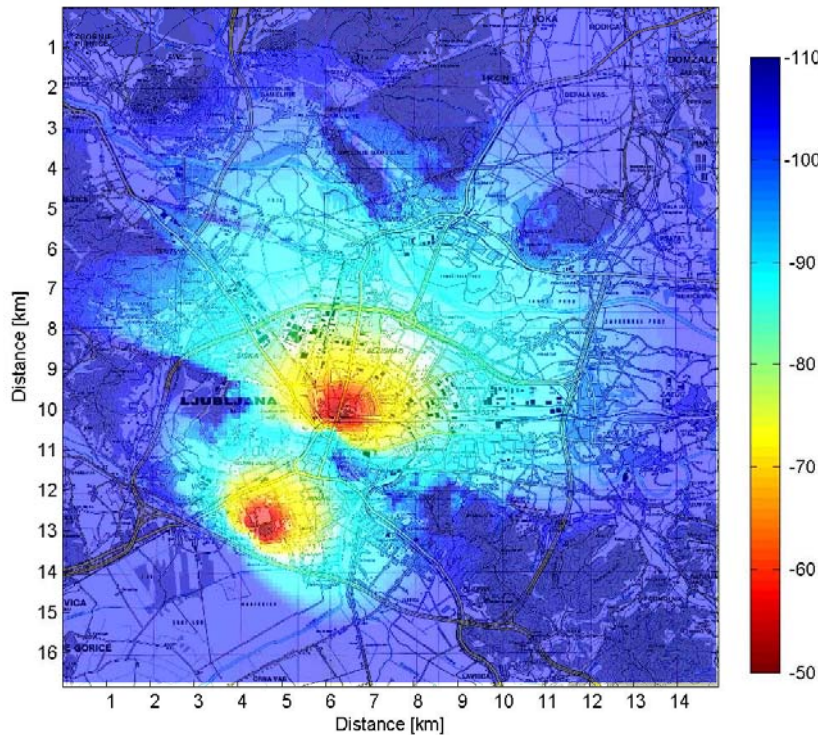




Industrial cooperation with Telsima Wireless



- Currently working on the development of BWA system based on WiMAX specifications
 - Radio network planning tool for the WiMAX signal coverage
 - System integration



WiMAX signal level at 3.5 GHz in dBm

Required WiMAX modulation/coding schemes for coverage

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Modelling and simulations in ICT



- Performance evaluation of adaptive modulation and coding techniques in wireless communication systems

