

innovating communications

Networking Testbeds & Know-How for Smart Energy Grids, Transport and Mobility

A contribution to large scale demos and trials

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CTTC in a nutshell

- Expertise: **OSI Layers 1..3**
 - Wireless/Optical/Satellite Networks
- **6** labs:
 - IP networking, Optical networking, HW eng, Radio/wireless, RF design, Anechoic chamber
- **5** testbeds – experimentation !!
- Over **60** R&D projects since 2001
 - **35** active research projects
- **+ 820** publications 2001 – 2009
 - In **2009**: 14 books/book chapters, 48 articles in int'l journals, 122 conference papers.



- Staff: **93**
 - Permanent: **30** PhDs and **26** engineers
 - **2** Post-doc, **17** Pre-doc, **7** Associate researchers
 - Administrative personnel: **11**
- Budget: **5.5 M€** (2009)

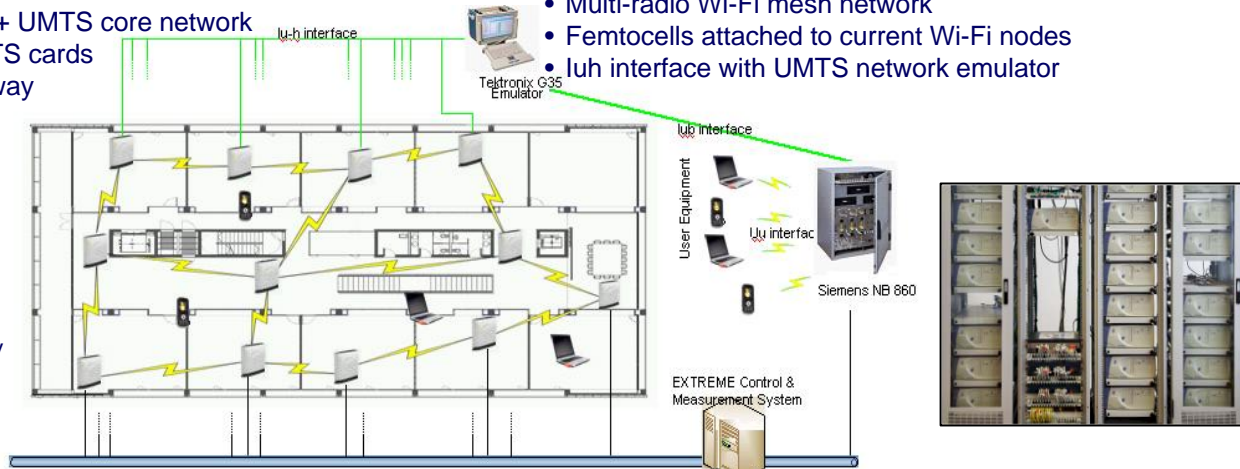
Networking testbeds for FI-PPP

Cellular network:

- Real Node B
- Emulated RNC + UMTS core network
- 20 HSDPA/UMTS cards
- Emulated Gateway

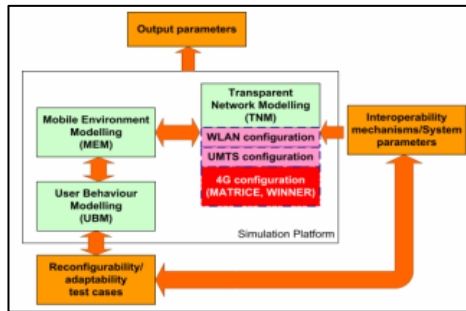
Mesh network:

- Multi-radio Wi-Fi mesh network
- Femtocells attached to current Wi-Fi nodes
- Iuh interface with UMTS network emulator



EXTREME

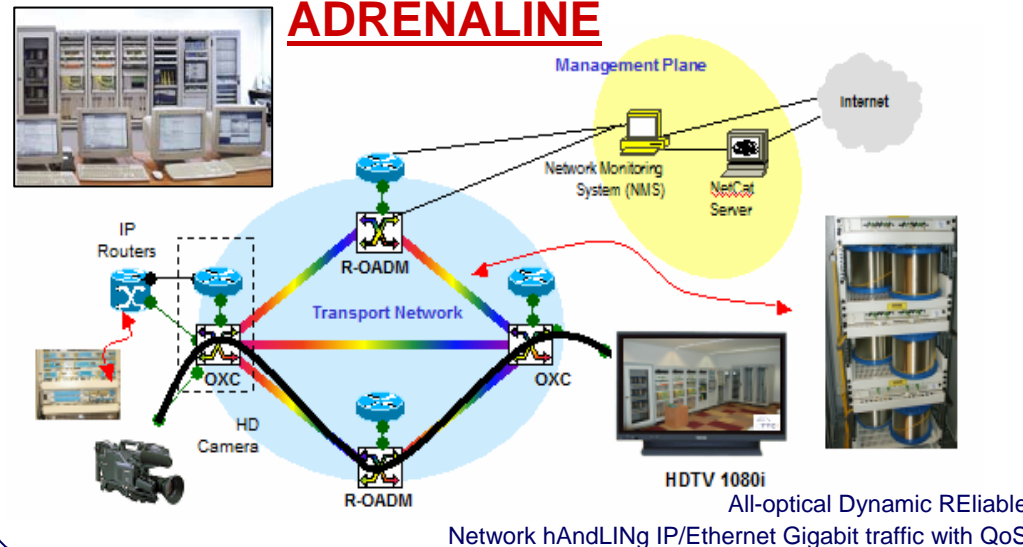
EXperimental Testbed for Research Enabling Mobility Enhancements



DEMOCLES

Dynamic Resource Management for Advanced Multiple Carrier System Platform

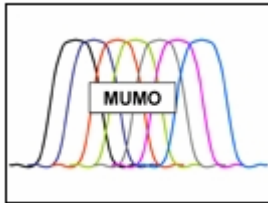
ADRENALINE



All-optical Dynamic REliable Network hAndLING IP/Ethernet Gigabit traffic with QoS



Selected R&D projects and contracts

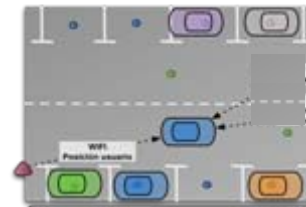


Multi-carrier system for power lines (2007-2008)

Smart Energy Grid



Active Management of Power Demand (2007-2010)



XALOC: Sensor Networks for the Management of Public Parking Spaces (2009-2010)



Cooperative and Cross-Layer Techniques for Wireless Sensor Networks (2006-2009)



Information Highways (2007-2009)



C2CP: Car-to-Car Pseudolite (2009)



M2M: Expanding LTE for Devices (2010-2013) under negotiation



Smart Multi-modal Transportation System (2007-2010)



Mobility and Ubiquity in Service Provisioning (2006-2008)



Scalable Tunable and Resilient Optical Networks Guaranteeing Extremely-High Speed Transport (2010-2012)

Smart Systems for Transport & Mobility



Broadband Evolved Femto Networks (2010-2012)





***THANKS FOR YOUR KIND
ATTENTION !***

QUESTIONS ?



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