

Marco LUISE, CNIT @ University of Pisa GTTI for the Future - Florence, May 14, 2013







#### **Network of Excellence**

"The Networks of Excellence (NoE) funding scheme is designed for research organisations willing to combine and functionally integrate in a durable way a substantial part of their activities and capacities in a given field, with a view to creating in this field a European virtual centre of



research"



### **Excellence within Excellence**







- > NEWCOM : 2004-2007, 60 partners
- > NEWCOM++ : 2008-2010, 17 partners
- NEWCOM# : 2012-2014, 14 partners
- Overall financing by the European Commission close to 16 Million Euro
- Overall effort of 3400 person-month







## **NEWCOM# Objectives**

- To produce medium to long term results in the area of design and performance evaluation of wireless networks;
- To strengthen the integration of partners' research activities and agendas, both at the theoretical and experimental levels;
- To foster Industry-Academia cooperation and, by doing so, make academic research closer to industrial interests;
- To train a new generation of researchers in the field of wireless communications with solid theoretical and experimental skills;
- To contribute to the long-term sustainability of the NoE by creating a permanent environment for cooperative research: the EuWIn lab







### FACTS and FIGURES

- Total NoE duration: 36 months
- > 14 partners from 14 different countries
- 16 Work Packages organized in 4 Tracks
  - 3 WPs on theoretical research (234 pm's)
  - 3WPs on the EuWIn (187 pm's)
  - 6 WPs on dissemination and training (141 pm's)
  - 3 WPs on management and NoE sustainability (34 pm's)
- Overall effort: 596 person-months
- ➤ Total Cost: 5.551 M€
- EC contribution: 2.846 M€
- > 16 Affiliate companies
- (More than) 300 researchers involved







## **NEWCOM# Partners**

Belgium

- **1 CNIT** Italy (Coordinator)
- 2 AALBORG UNIVERSITET Denmark
- 3 BILKENT UNIVERSITESI Turkey
- 4 **CNRS** Paris France
- **CTTC** Castelldefels Spain
- 6 IASA Athens Greece
- 7 INOV Lisbon Portugal
- 8 POZNAN UNIVERSITY OF TECHNOLO W Polant
- 9 TECHNION Tel Aviv Israel
- 10 TECHNISCHE UNIVERSITAET DRESDEN Germany
- 11 UNIVERSITY OF CAMBRIDGE UK
- 12 UNIVERSITE CATHOLIQUE DE LOUVAIN
- **13 OULUN YLIOPISTO Finland**
- 14 TECHNISCHE UNIVERSITAET WIEN WAUSTING





## The Four N# TRACKS

- TRACK 1 Theoretical Research Issues (3 WPs)
- TRACK 2 EuWIn: The European Lab of Wireless Communications for the Future Internet (3 WPs)
- > TRACK 3 Training, Dissemination and Human Capital (6 WPs)
- TRACK 4 Management (3 WPs)

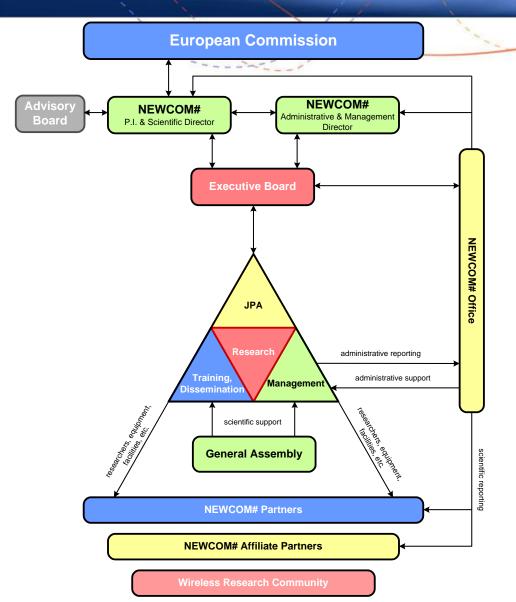








# GOVERNANCE









#### **Research Themes**

#### Track 1 (theoretical)

- Performance Limits of Communication Networks (including channel codes, relaying, and resource allocation)
- Opportunistic and Cooperative Communications (including delay-tolerant networks, mobile clouds, cooperative sensing)
- Energy- and Bandwidth-Efficient Communications and Networking (including low-power terminals and network optimization)

#### Track 2 (experimental)

- Radio interfaces for next-generation wireless systems
- Networking technologies for the Internet of Things (IoT) with mobile clouds
- Flexible communication terminals and networks









#### Track 3 (dissemination and training)

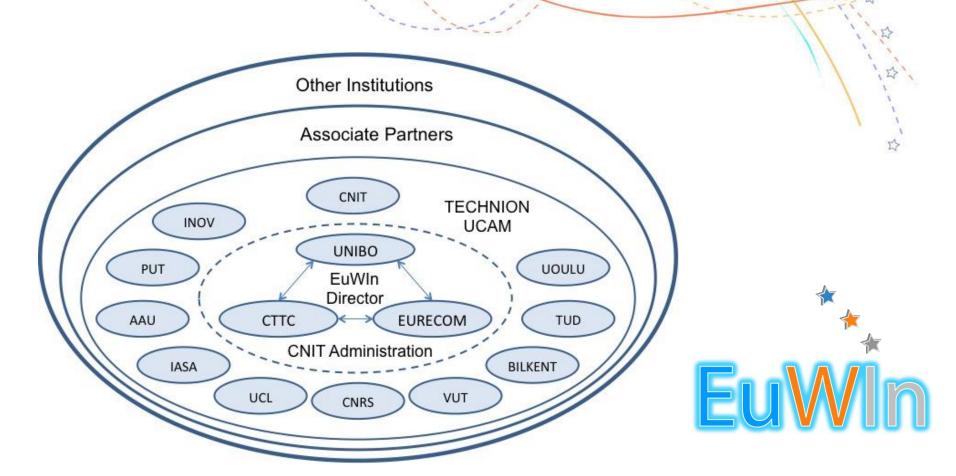
- Annual NEWCOM# conference, workshops and special sessions
- Education and Training: schools and workshops
- Journal special issues, books and book chapters
- Industry liaison and dissemination
- Development and valorization of human capital
- The NEWCOM# Portal and related Web Presence Tools







## The EuWIn Lab













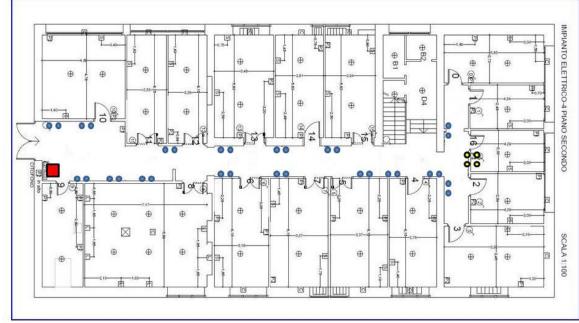


## EuWIn @ CNIT-Bologna



**FLEXTOP** node







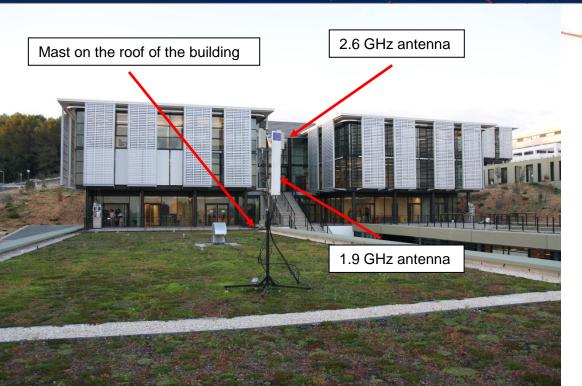
**FLEXTOP Gateway** 

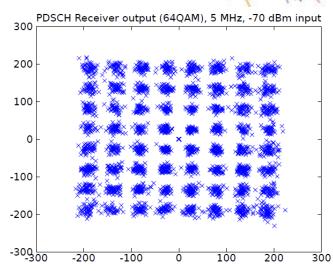


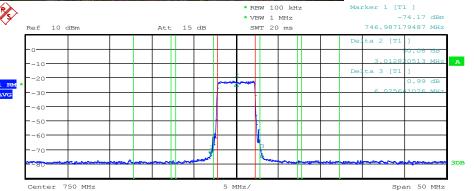




# EuWin @ EURECOM\*













## EuWIn @ CTTC



SDR®

Documentation Participate

Global Navigation Satellite System

#### Software Defined Receiver

The process of developing a GNSS software receiver



GNSS-SDR is an goen-source GN55 software receiver freely available to the research community. This project provides a common

framework for GNSS signal processing which can operate in a variety of computer platforms. This tool is intended to foster collaboration. costs in the field of GNSS receiver design and austomized use of GNSS signals.

A research & educational tool



be easily accessed and enelyzed to understand GNSS receiver technology, being very useful in the context of

white passing through the different modules. For researchers, it is a perfect tool for testing, comparing and benchmarking new algorithms, easily integrating them in a complete receiver.

How to collaborate in the project



GNSS-SDR offers a set of professional, efficient and easy-to-use tools that allow collaborative research in an effective way, GN33

feedback among users and developers and infrastructure for code development are of paramount importance. Learn more about how YOU can collaborate in the project and banefit from the community world

PARTICIPATE I

GET STARTED

FEATURED ARTICLES

LEARN MORE

**GET IN TOUCH** 

How GNSS-SDR works

General overview

Distribution lists









## NEWCOM# Legacy

## EURACON

is a non-profit registered association established to *facilitate* research and disseminate culture in the fields of communications and networking science and technology at the European level. The association is establishing national PoP in EU countries, and is liaising with similar entities at the National and International level (SEE, VDE, IEE, AICT/GTTI, FICTE, IEEE, ...) to come to a Continental harmonization of the different initiatives in the field.



