



EuWireless: Design of the European mobile network operator for research

Pedro Merino,
Universidad de Málaga

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More info at www.euwireless.eu and
info@euwireless.eu

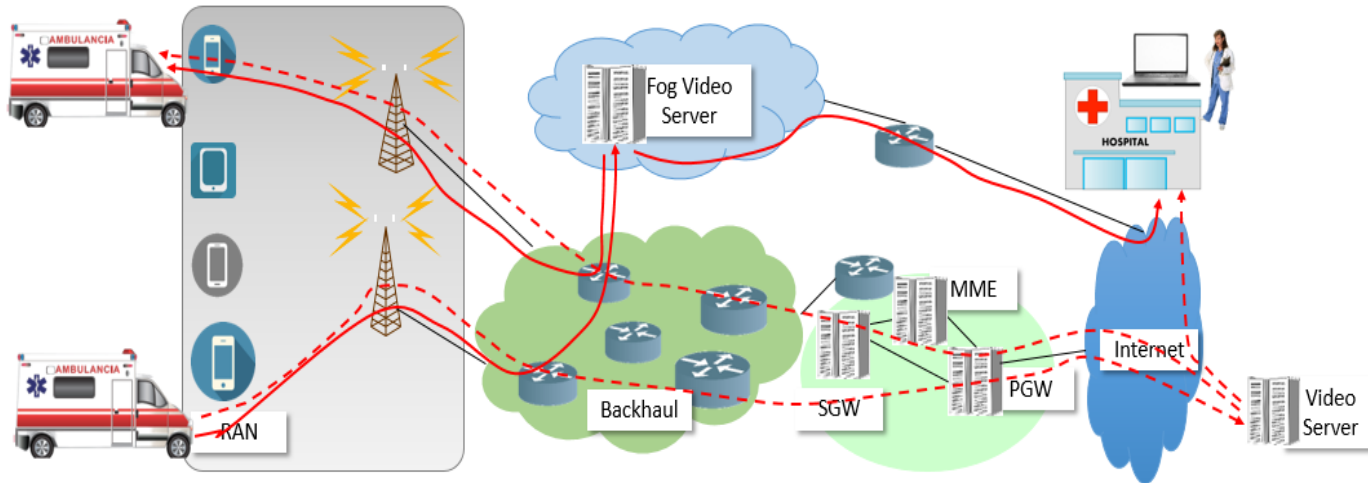
Overview of the talk



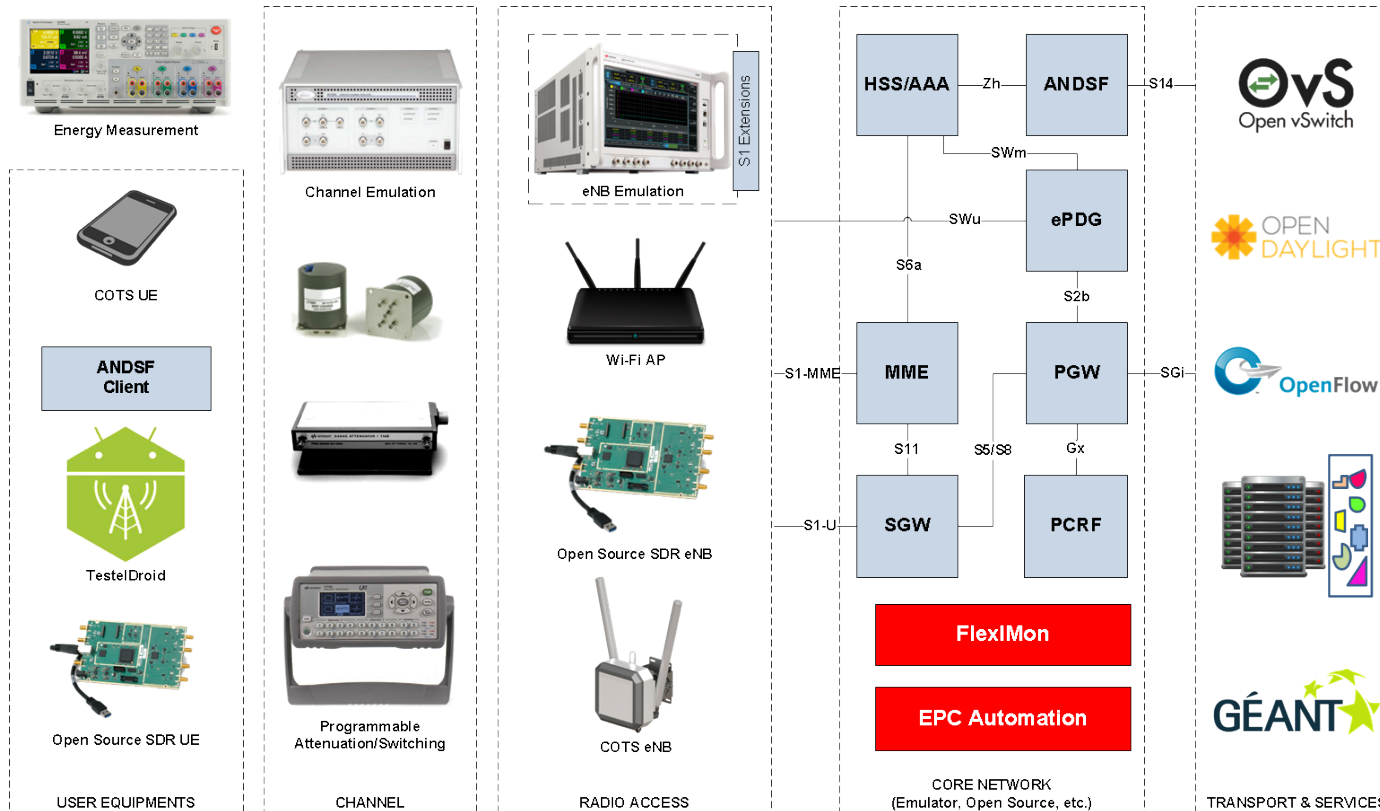
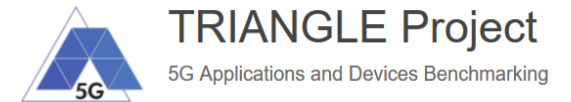
1. Motivation
2. Project objectives
3. Project concept
4. Some enabling technologies
5. Pilots with RedIris
6. Conclusions

Motivation

Researchers and SMEs require a controlled network for experimentation: scheduling, RLC modes, backhaul configuration, EPC deployment, MEC/FOG, Energy consumption, App level QoS optimization,...



Motivation: moving from simulation to Testbeds



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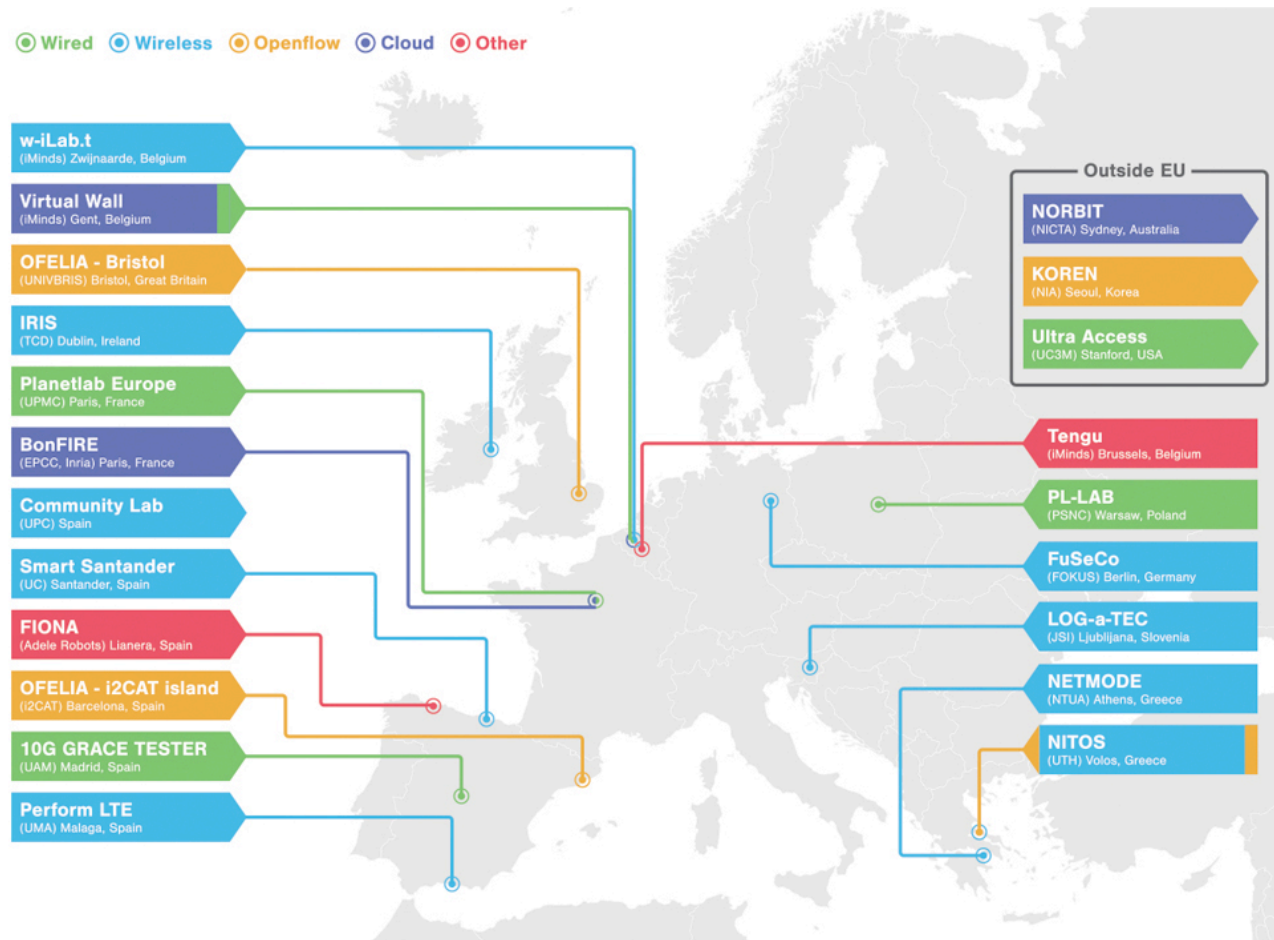


TRIANGLE Project
5G Applications and Devices Benchmarking

Q4Health



Motivation: most of the Testbeds are indoor without scaling to field deployments



Overview of the talk



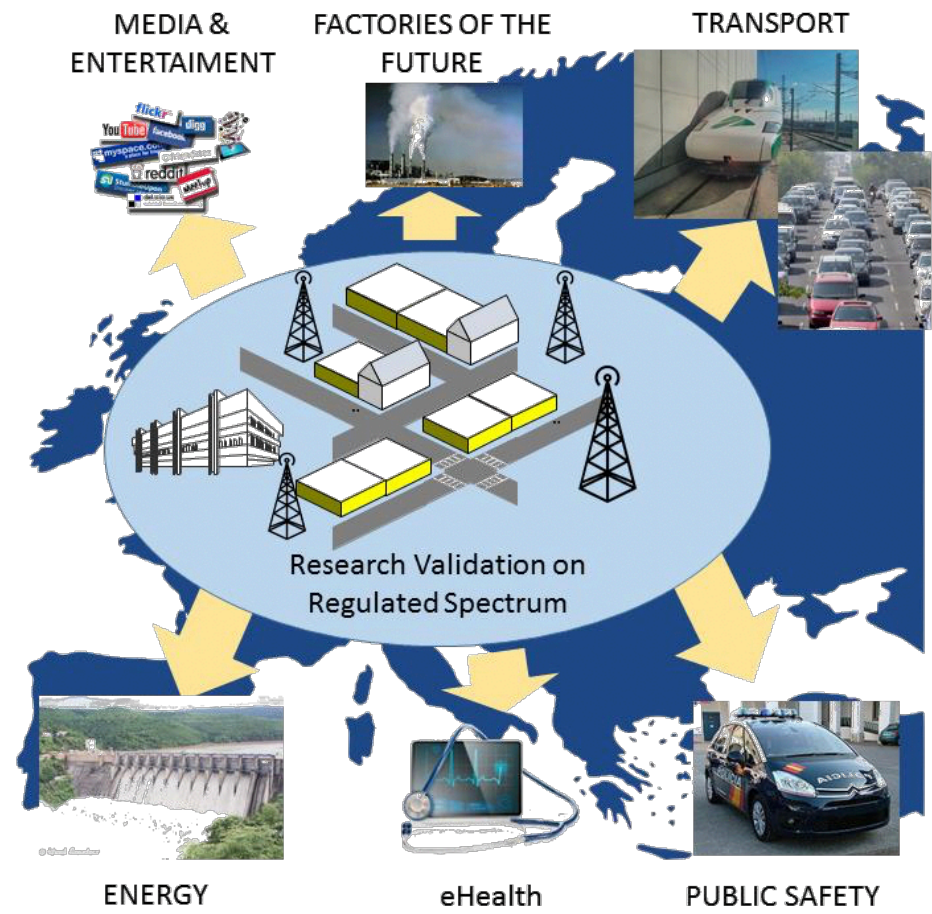
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EuWireless objectives



Design of the first pan-European infrastructure to support research in mobile communication networks using licensed spectrum

This is a Design Study → Further projects will address the implementation



EuWireless objectives



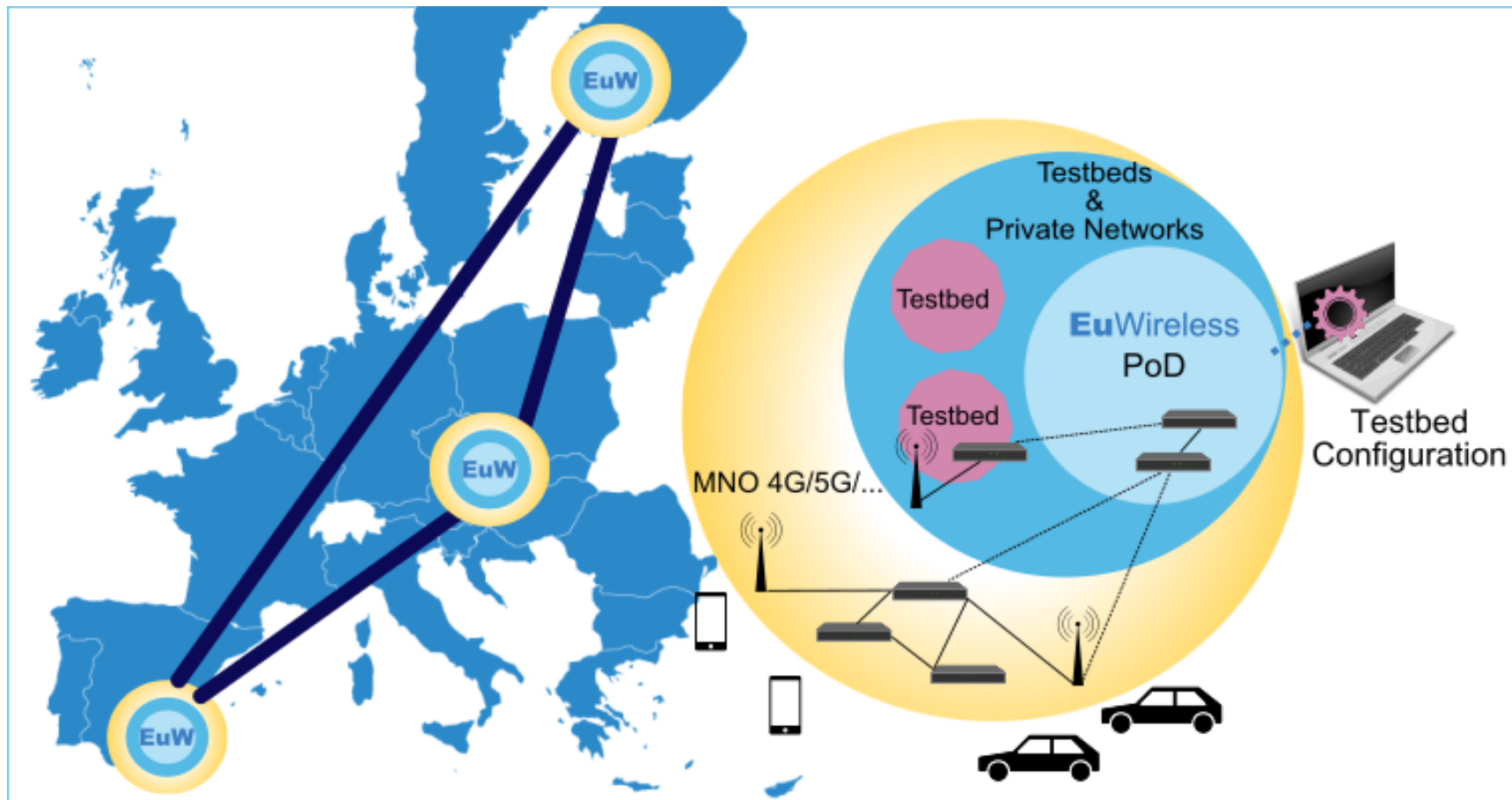
1. To identify requirements and barriers to support large scale research on mobile networks using regulated spectrum
2. To design technical solutions for a shared pan-European research mobile network
3. To design the implementation strategy and the governance model of the new infrastructure
4. To make all the potential stakeholders aware of the outputs of the project

Overview of the talk

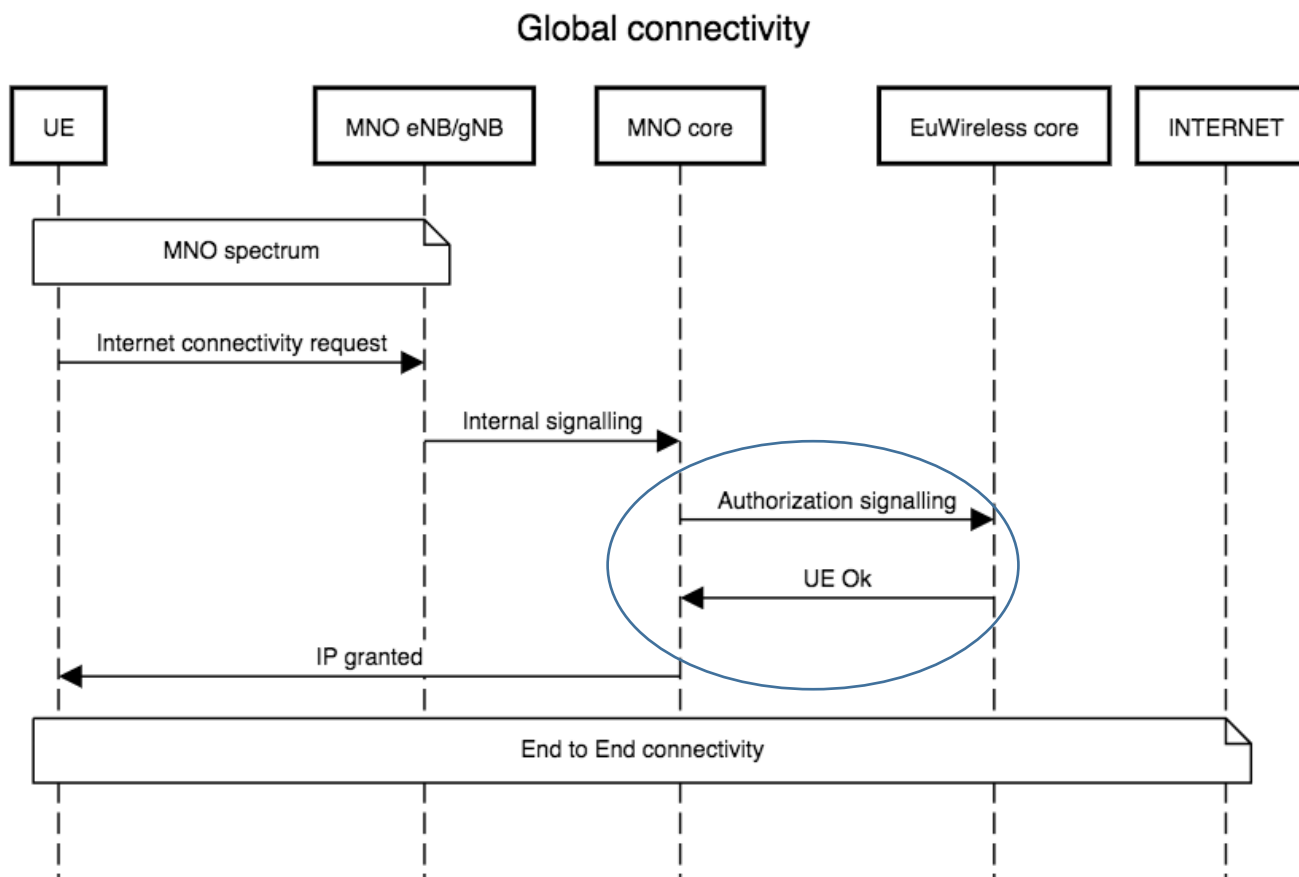


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EuWireless concept



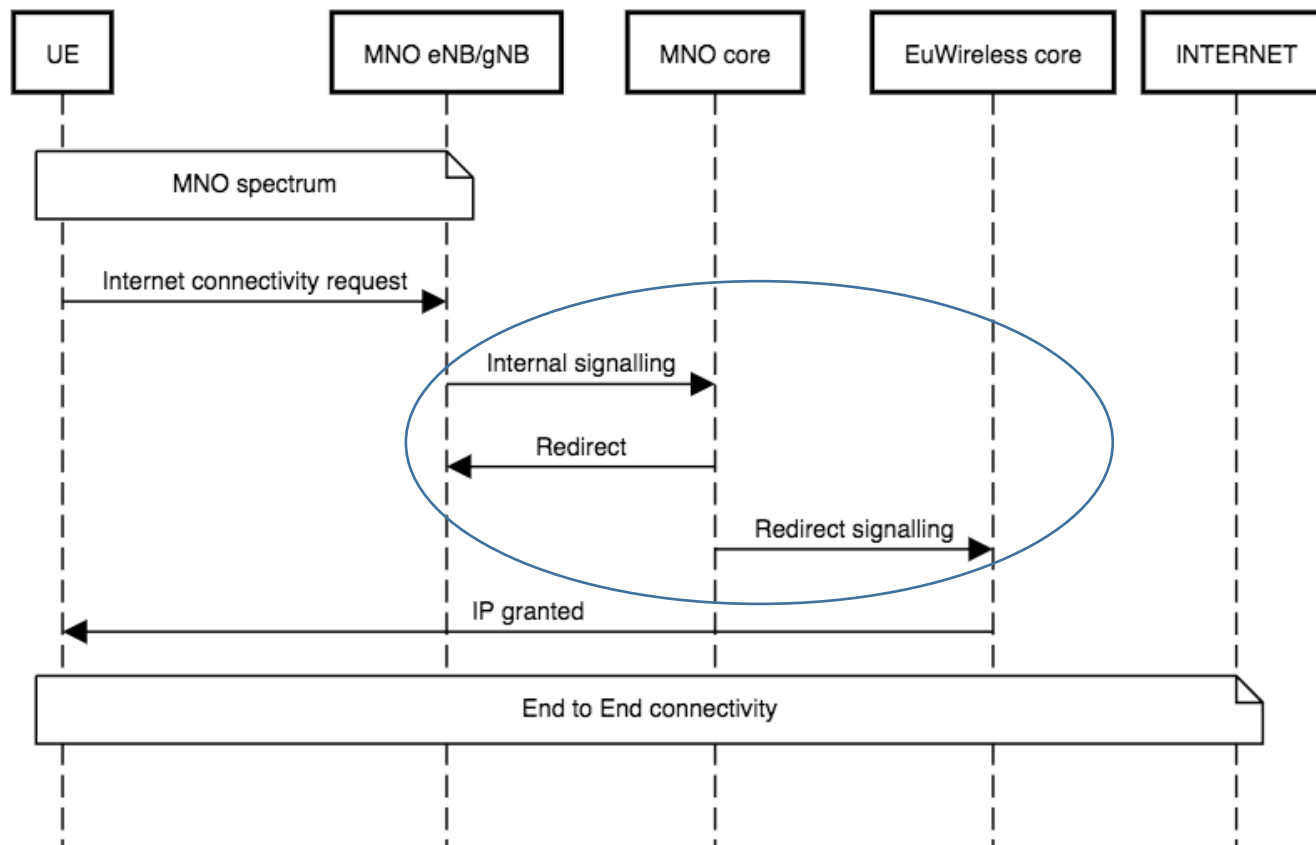
EuWireless scenarios



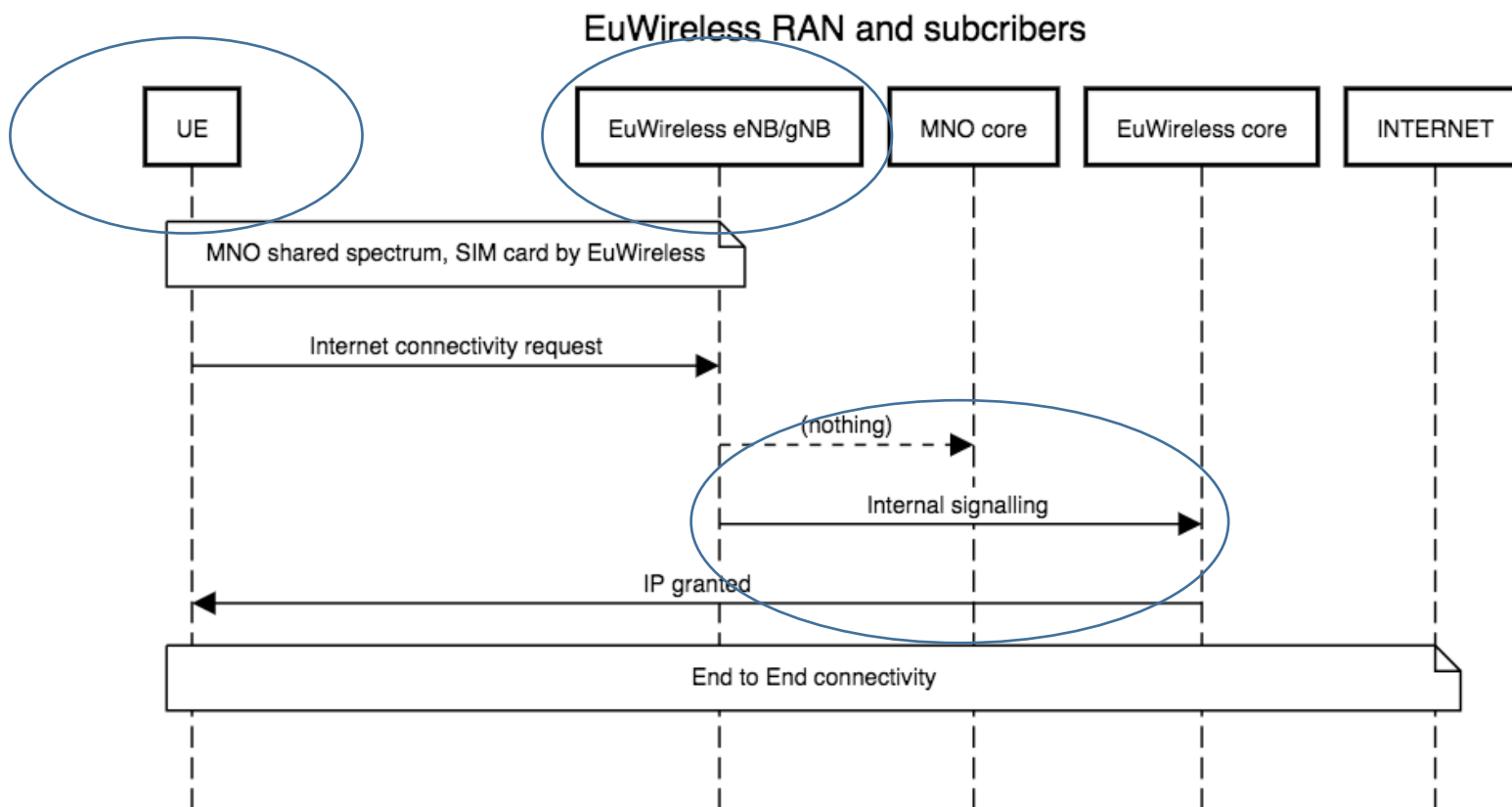
EuWireless scenarios



Network selection



EuWireless scenarios



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Some enabling technologies



- Virtualization technologies (vEPC, 5G Core, ..)
- Network slicing
- Spectrum sharing
- Network sharing (MOCN, MORAN, DECOR, ..)
- Orchestration technologies (MANO, ..)
- APIs AESE (Architecture Enhancements for Service Capability Exposure)
- Technologies for security and authentication (Eduroam+SIM)

Overview of the talk



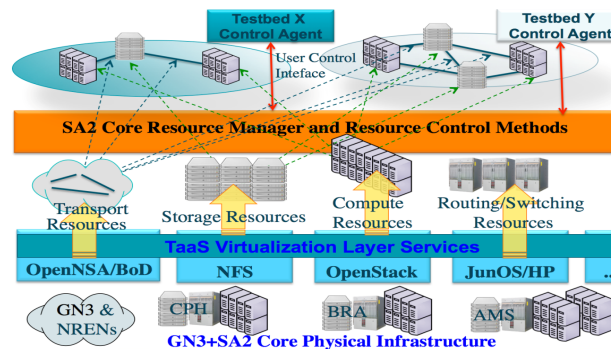
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Pilots with RedIris / Géant: Support to 3 use cases / prototypes



1) Extend UMA testbed to the Campus

2) Extend Géant testbed Service with LTE support



3) Apply to V2X testing

First EuWireless deployment in Málaga



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Conclusions



- The ambition of EuWireless is beyond related proposals
 - SciWinet (USA): “administrative protocol” to connect and disconnect eNBs in TDD free frequencies
 - 5G TN (Finland), Eurecom: ad-hoc deployments in licenced spectrum
 - 5G facilities in ICT-17: connecting platforms as “islands” to demonstrate 5G features, not focused on full pan-European research
- Planning, building and operation for the next 10-15 years require the support from Géant and NRENs, already involved in the project !!

Contact



info@euwireless.eu

<https://euwireless.eu>

Pedro Merino Gómez

E.T.S.I. Informática/E.T.S.I. de Telecomunicación
y Edificio de Investigación Ada Byron

Universidad de Málaga

pedro@lcc.uma.es

Tel. 952132752, 951952958





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