



## ULOOP: User-centric Wireless Local Loop

Project Number: 257418

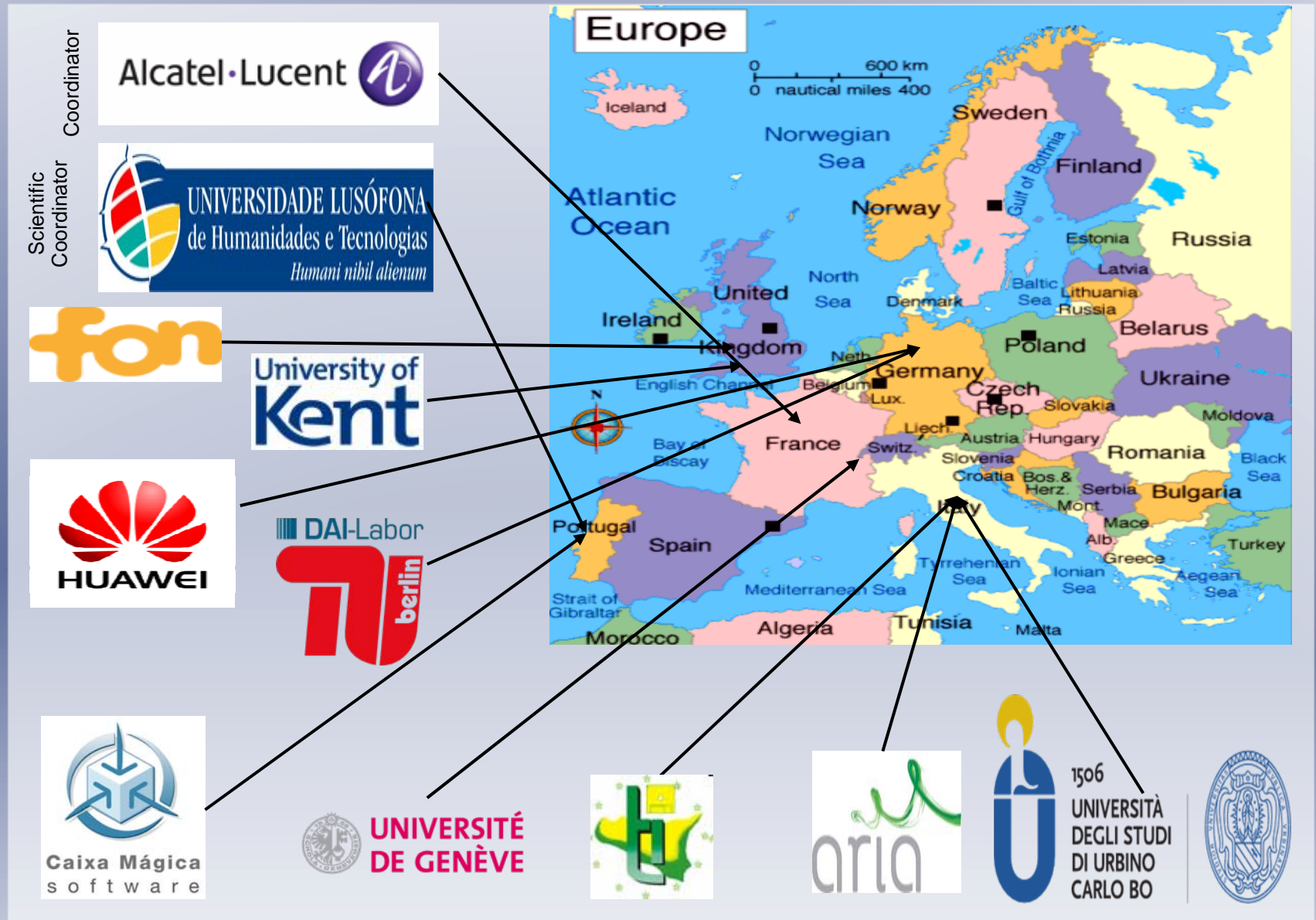
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### ULOOP Consortium

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Duesseldorf GmbH (DE), ARIA S.p.A (IT), Caixa Mágica Software (PT), FON Wireless Ltd  
(UK), Technische Universität Berlin (DE), University of Kent (UK), Université de Genève (CH),  
Teleinform S.p.A. (IT), University of Urbino (IT).*



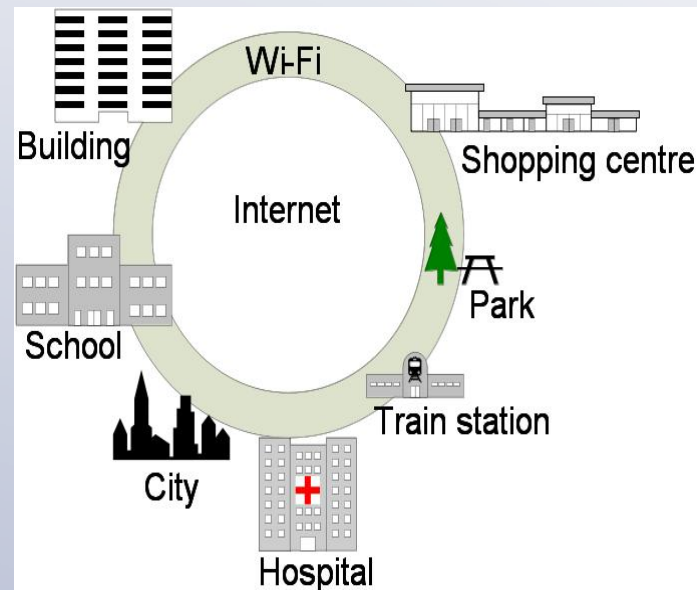
# ULOOP Consortium



# ULOOP Overview

## Motivation

- Wi-Fi as the de-facto Internet access technology
  - Final hop to the user is in its majority wireless
- User-centric wireless architectures on the rise
  - Low-cost wireless architectures
  - Sharing due to incentives
- New opportunities for access stakeholders
  - Global mobility and portability
  - New business models
- New opportunities for the end-user
  - Wider roaming
  - Socially-driven behavior



## Project Details

- STREP, FP7 call 5, objective 1.1.1
- **Keywords:** Dynamic spectrum management; cooperative networking; low-cost wireless architectures; user-centric
- **Partners:** Alcatel-Lucent BellLabs (FR, Coordinator); University Lusófona (PT, scientific coordinator); Huawei (DE); ARIA (IT); Teleinform (IT); FON (UK); Caixa Mágica Software (PT); University of Kent (UK); University of Urbino (IT); University of Genève (CH); Technical University of Berlin (DE)

## Main Expected Results

- Low-cost wireless local-loop architecture
- User-centric business models, sustainability
- Analysis of the impact on telecommunications legislation
- Large-scale pilot, for wide demonstration

# ULOOP: Concept, Vision, Objectives, and Innovation

## Concept & Vision

- To assist the robust and autonomic proliferation of user-centric wireless architectures
  - Complementary to the access
  - User-friendly
  - Dynamic trust management
- Network operation cost reduction by relying on communication opportunities (e.g. sharing of Internet access and relaying resources)
  - Provided by end-users
  - In cooperation with access operators.
- Community-driven services and business models
  - Analysis of the expected impact on telecommunications markets and legislation
- An increase in spectrum and energy efficiency in managing wireless communications

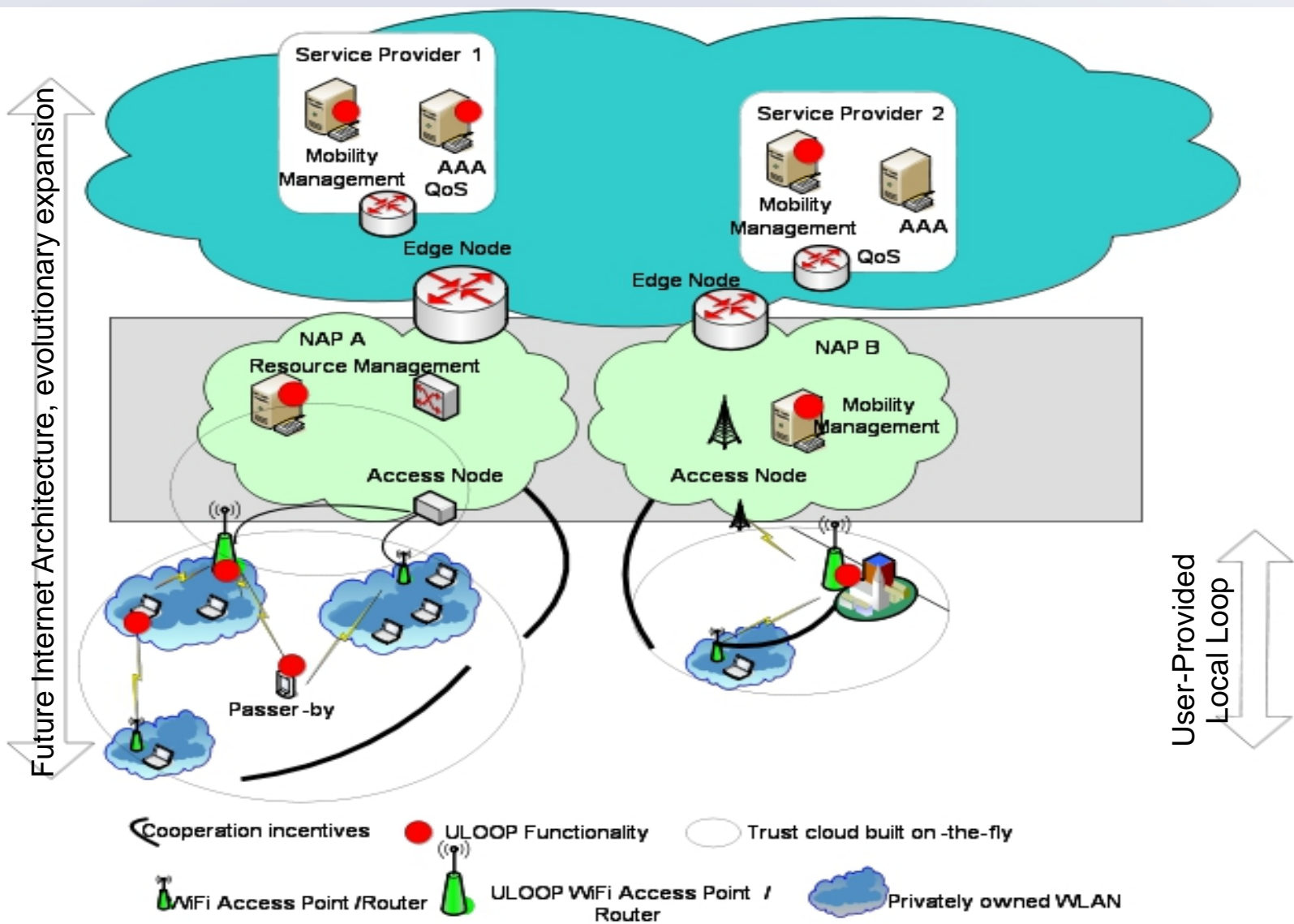
## Main Objectives

- Develop and validate identified core mechanisms that aid in the formation of a generic user-centric, low-cost, energy-efficient wireless local-loop
- Develop and validate integration into legacy networks
- Analyse the economic viability and impact on telecommunications legislation of the concepts developed

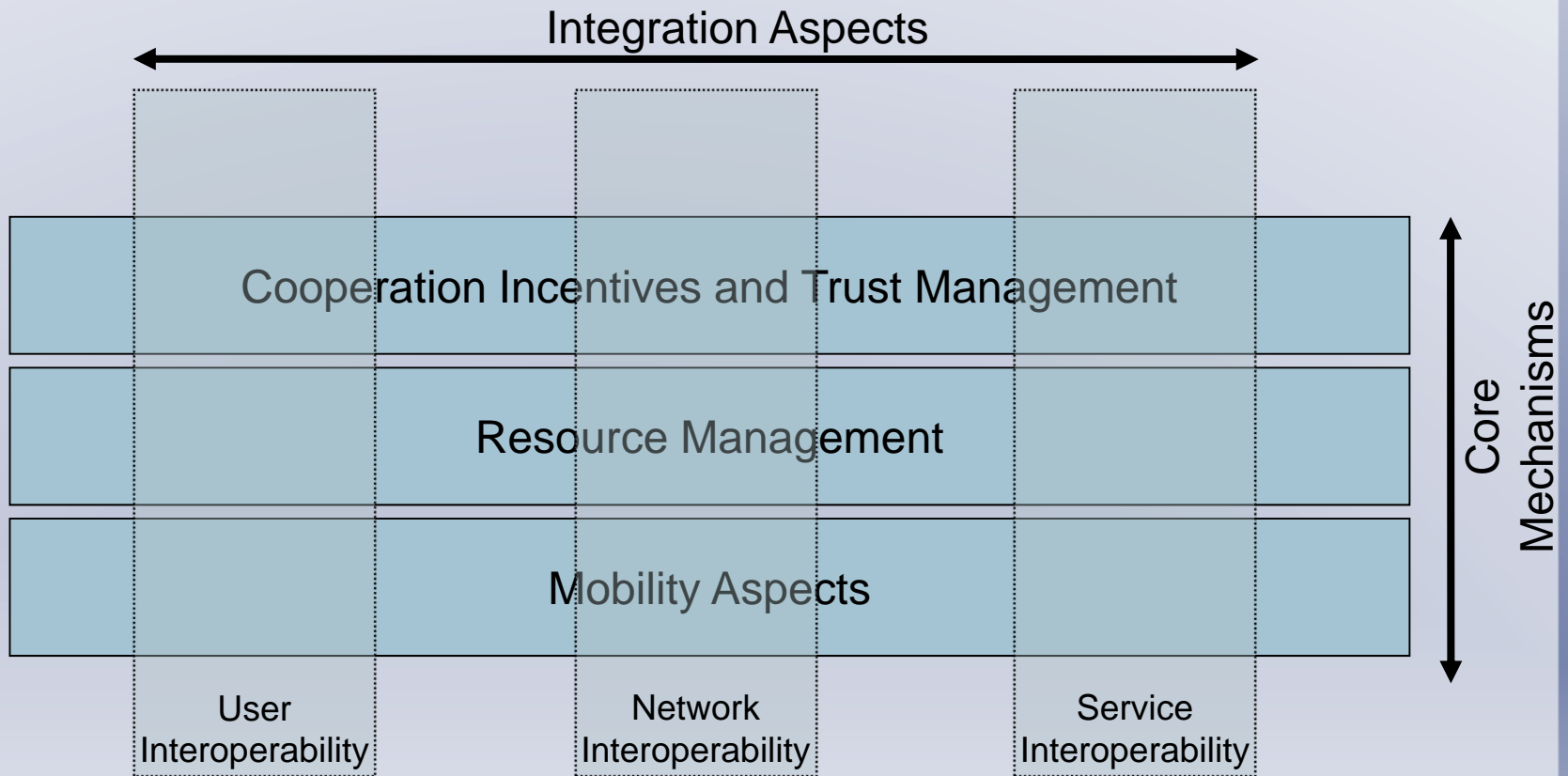
## Key Innovation Items

- User as a key component of networking services in future Internet architectures.
  - Regulation implications, new services and business opportunities
- Contributes to a better definition of network neutrality and of future Internet wholesale models.
- Explores cooperative diversity based on OSI Layer 2 and OSI Layer 3 mechanisms
- Combines user-centricity both from the access and from the end-user perspective.
- Trust management as a main aspect to sustain on-the-fly wireless local-loops.

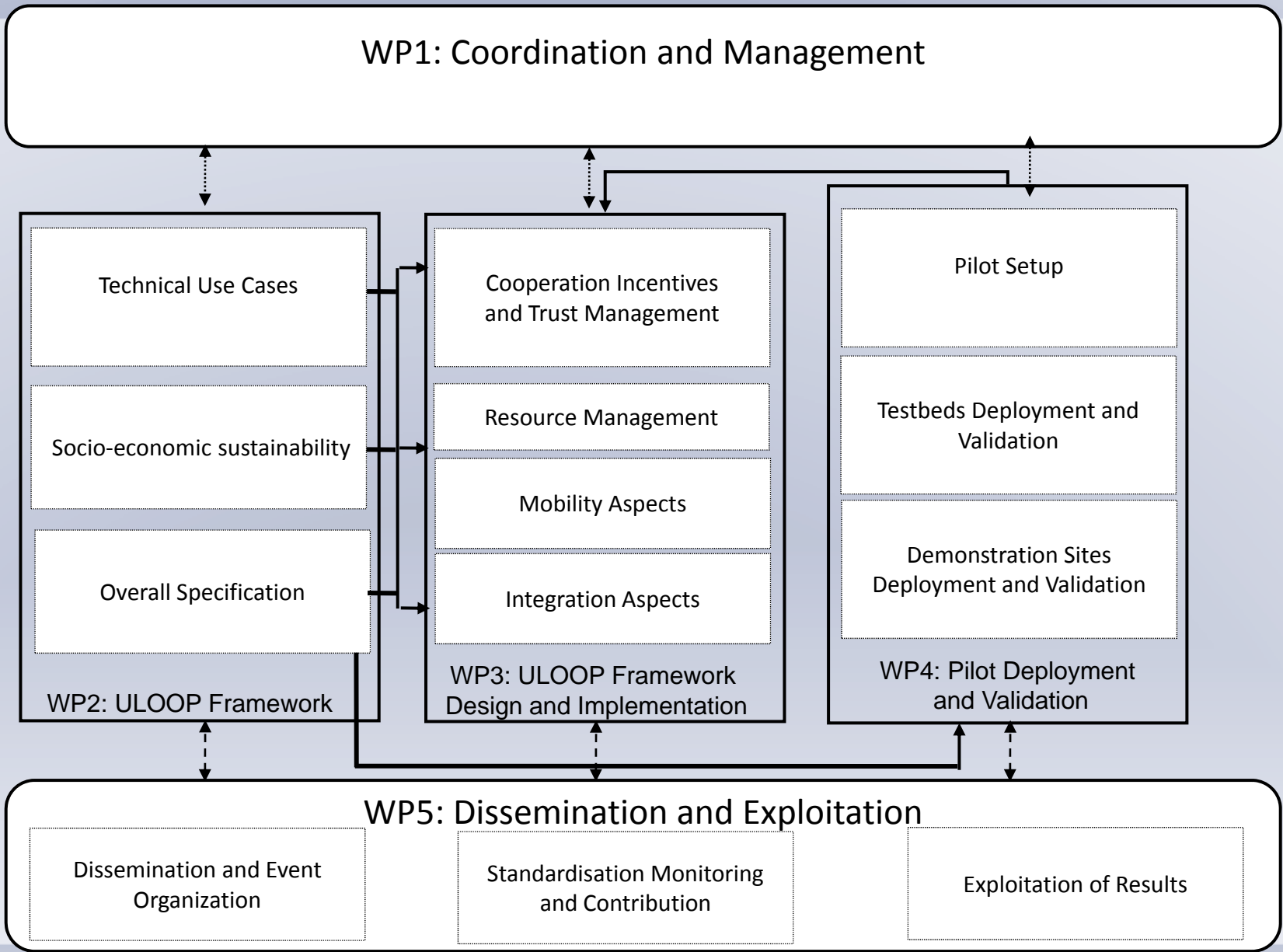
# ULOOP: Functionality, Boundaries



# ULOOP: Technical Approach



# ULOOP: Technical Approach



# ULOOP: Pilot and Testbeds



# ULOOP: Contacts

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