

# **6GARROW**

6G Ai-native integRated Ran-cOre netWorks

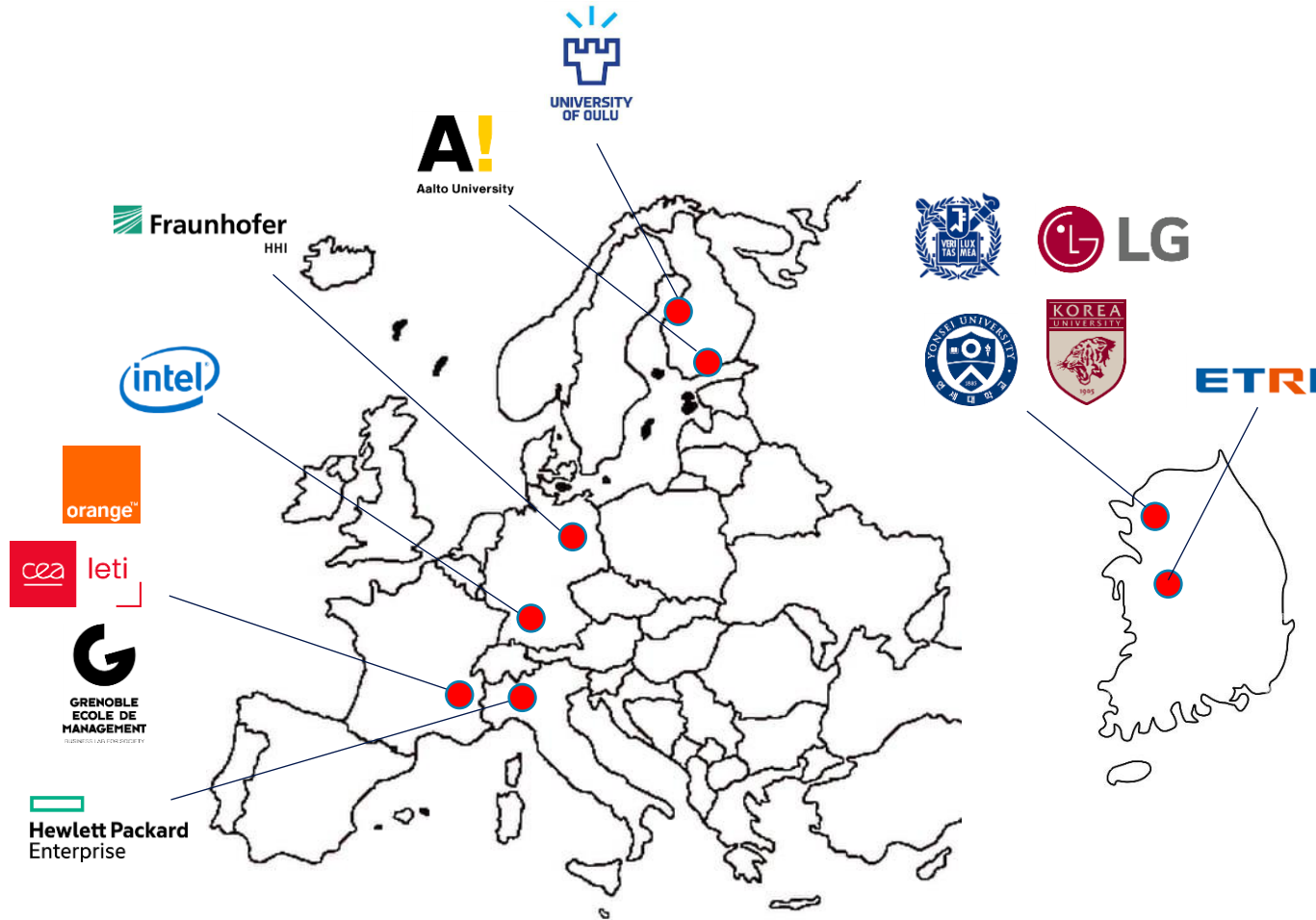
# 6G Ai-native integRated Ran-cOre netWorks



- WHO?
- WHY?
- WHAT? WHAT FOR?
- HOW?
- IMPACT

# WHO

# 6GARROW



## 13 partners including

- 5 from academia
- 3 research centers
- 4 from industry
- 1 business school

## EU-KR collaboration coordinated by



Dr. Emilio Calvanese Strinati



Prof. Seong-Lyun Kim

## Technical manager



Dr. Riku Jäntti

## Innovation manager



Dr Markus Mueck

6GSNS



Co-funded by  
the European Union

IITP

# WHY

## AI / ML in 5G today:

- Not yet fully native
- Addition / extension
- Separate entities

## Limited:

- Real-time optimization
- Real-time autonomous decisions
- New services

## WHY now:

- Algorithms, computing power, interfaces
- 6G standardization



**True AI-native networks**

# WHAT

- AI-enabled 6G networks
- Full continuum of the network
- Seamless connectivity

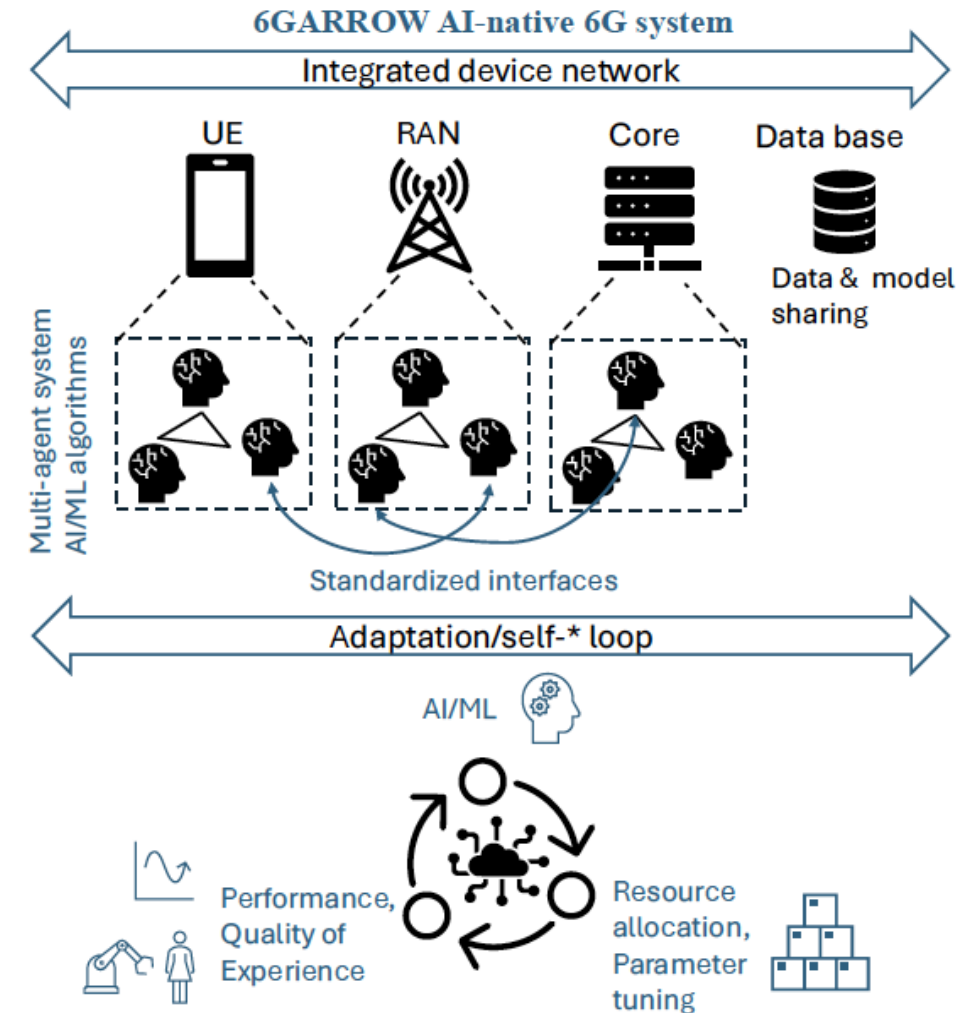
# WHAT FOR

- Autonomous adaptations
- Resource allocation
- Real-time decision
- Semantic and goal-oriented communications
- QoS
- Energy efficiency
- Innovative services / applications
- Encouraging new business

# HOW (1/3)

## Architecture

- AI/ML across the entire network
- Standardized interfaces
- Local AI/ML models
- Data collection mechanisms
- Data available



# HOW (2/3)

- **R&I area 1: Interfaces & signalling**
  - Federated, distributed learning
  - Semantic communications
- **R&I area 2: Device**
  - Terminal traffic
  - Energy Efficiency
  - Hardware Simplification
- **R&I area 3: RAN & Core**
  - Radio Resource Management
  - Energy Efficiency
  - Network Failure Recovery

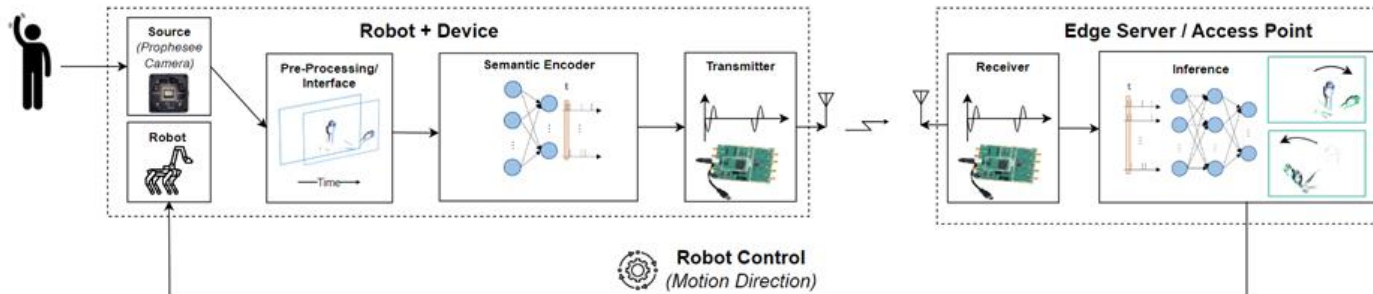
# HOW (3/3)

## Functional demonstrations

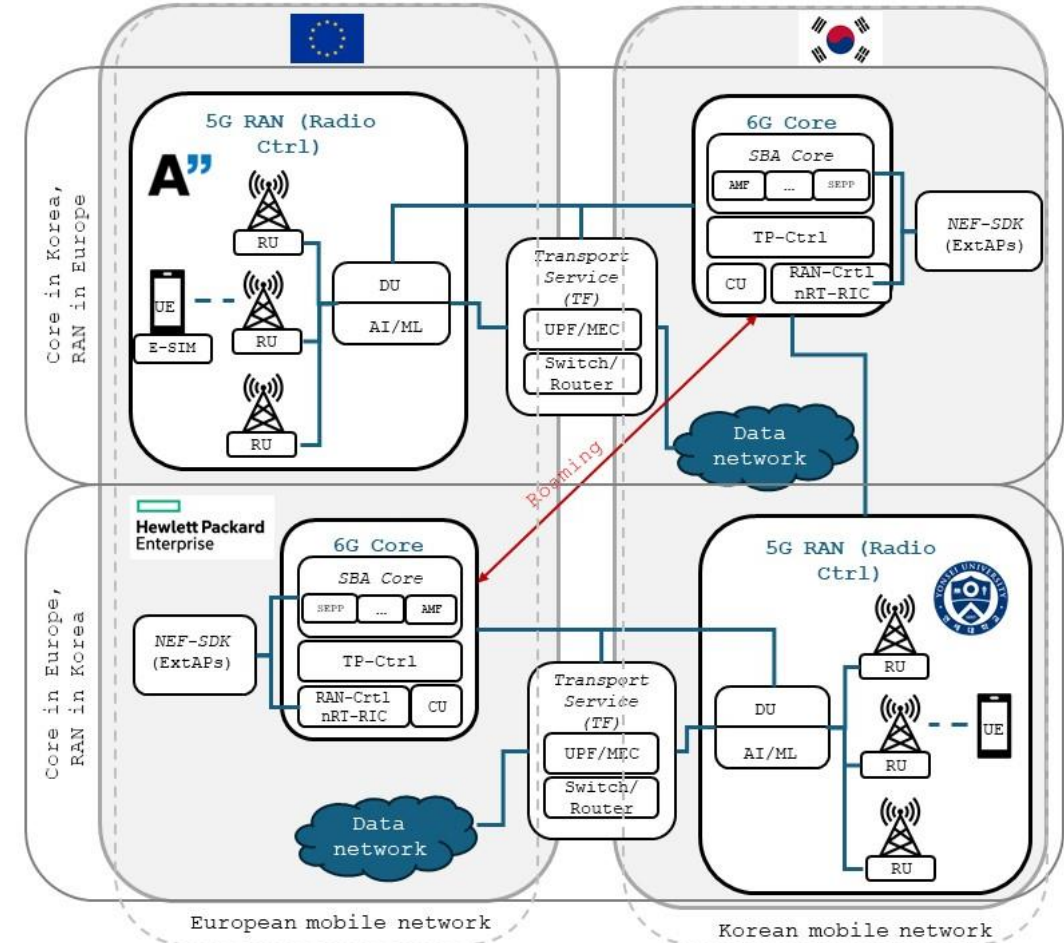
- Semantic
- Cross-domain intelligence
- Physical layer
- CSI and CQI compression

## Joint Proof of Concept

- AI functionalities integrated across all domains
- Cross-continental



6G ARROW





# IMPACT



- Up-take by industry
- European leadership
- Specialized services
- Green transition
- Innovative business models