



# CELTIC-NEXT

## Innovate UK Summer

### Briefing

20<sup>th</sup> August 2019, London



## Dependable Connectivity as a Service

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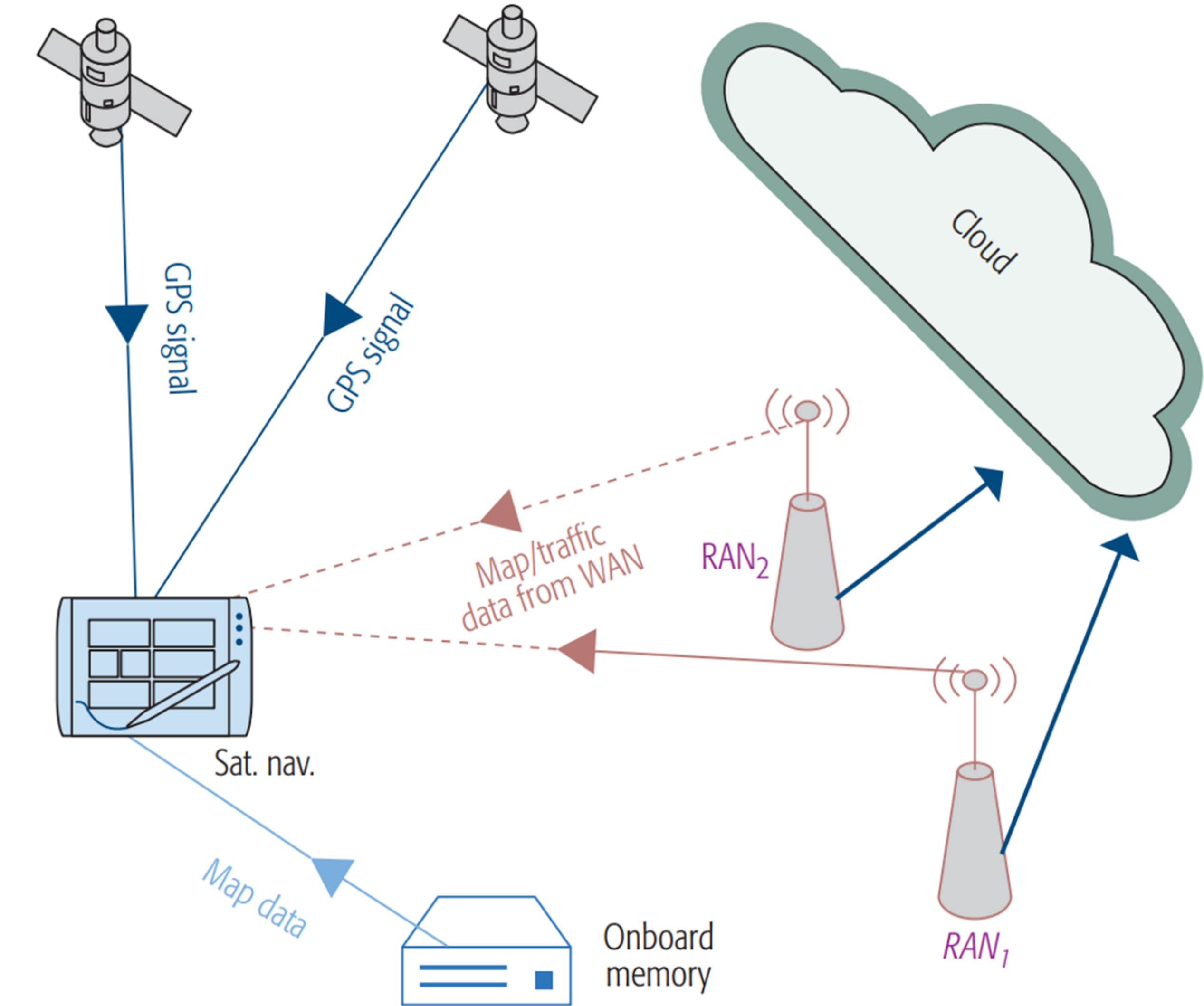
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# Network Resources

- Dependability is subject to timely, reliable and secure exchange of information
- Smart combination of resources in various network entities improves dependability
- Added values comes from exploiting otherwise unused resources
- DaaS provides an Ecosystem and is an Enabler



# Organisation Profile

- Top-ten (7<sup>th</sup>) in the UK ranking among computing science departments
- A world-class teaching and research hub for computer science and communications systems
- Multi-million research funding from EU and EPSRC
- +100 academic staffs
- +150 PhD and Postdocs



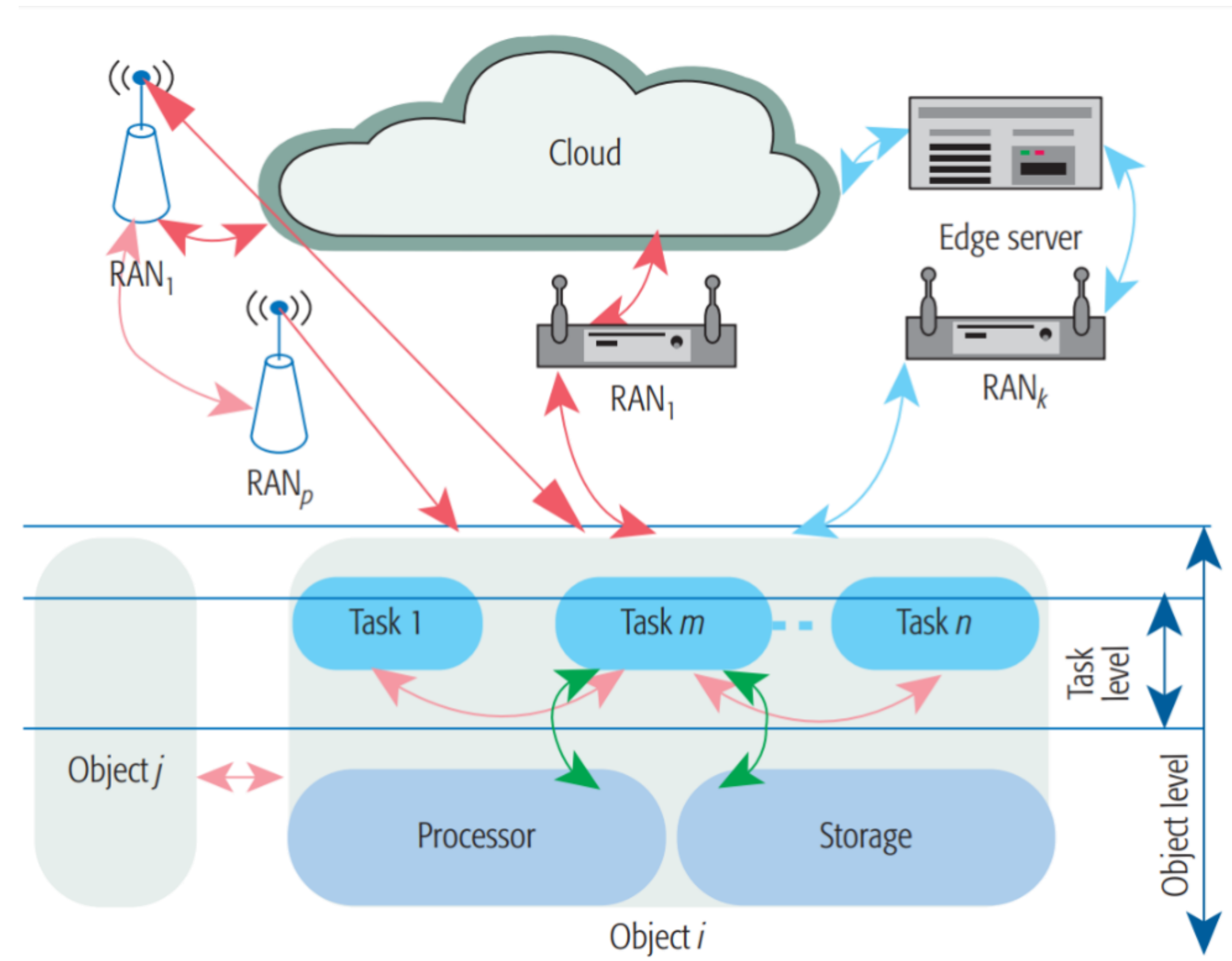
# Dependability of Communications

- Dependability is subject to timely, reliable and secure exchange of information
- Major Enabler for mission-critical systems:
  - Industry 4.0, E-Health, Mass-surveillance, Autonomous cars/robots, Smart cities

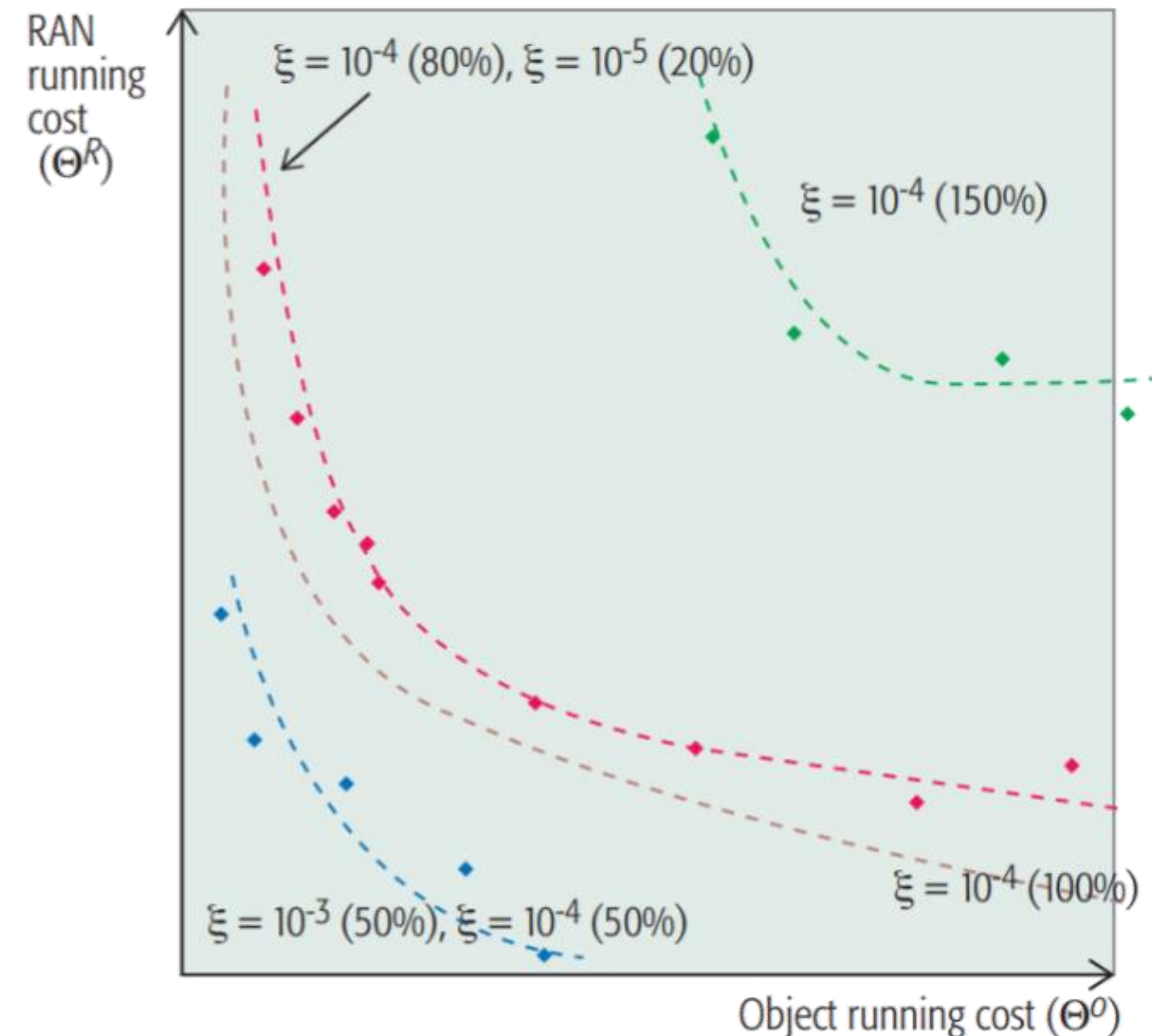
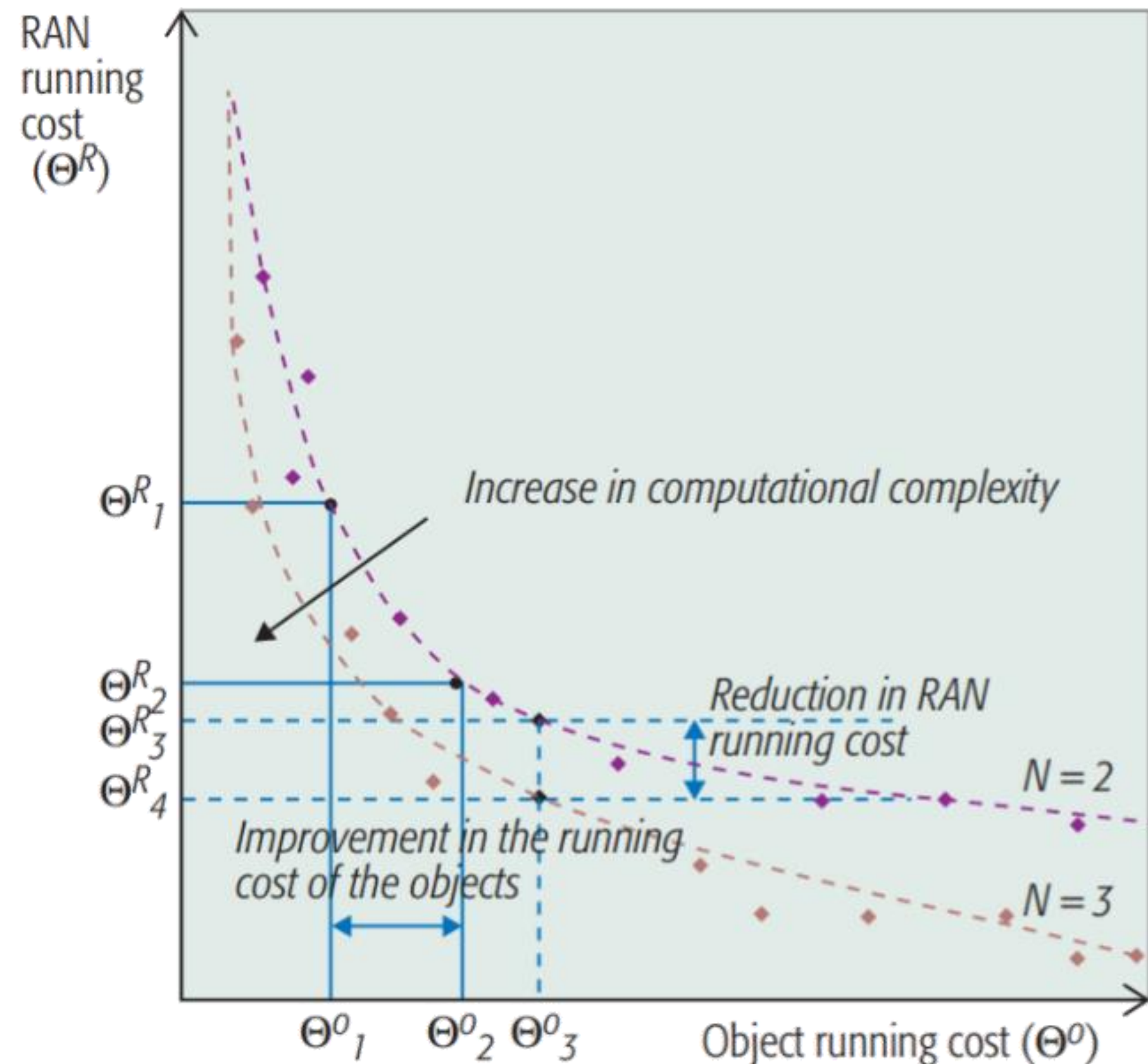


# Dependable Connectivity (DeC)

- DeC is **collective system capability** to provide task's required information
- Multi-level cooperation required among
  - **Tasks, objects, and RANs** as well as **on-board processing**, etc.
  - Aggregation of the available data on-board or at MEC
- DeC is a **task-centric and multi-faceted measure** and can be provided through different combination of resources



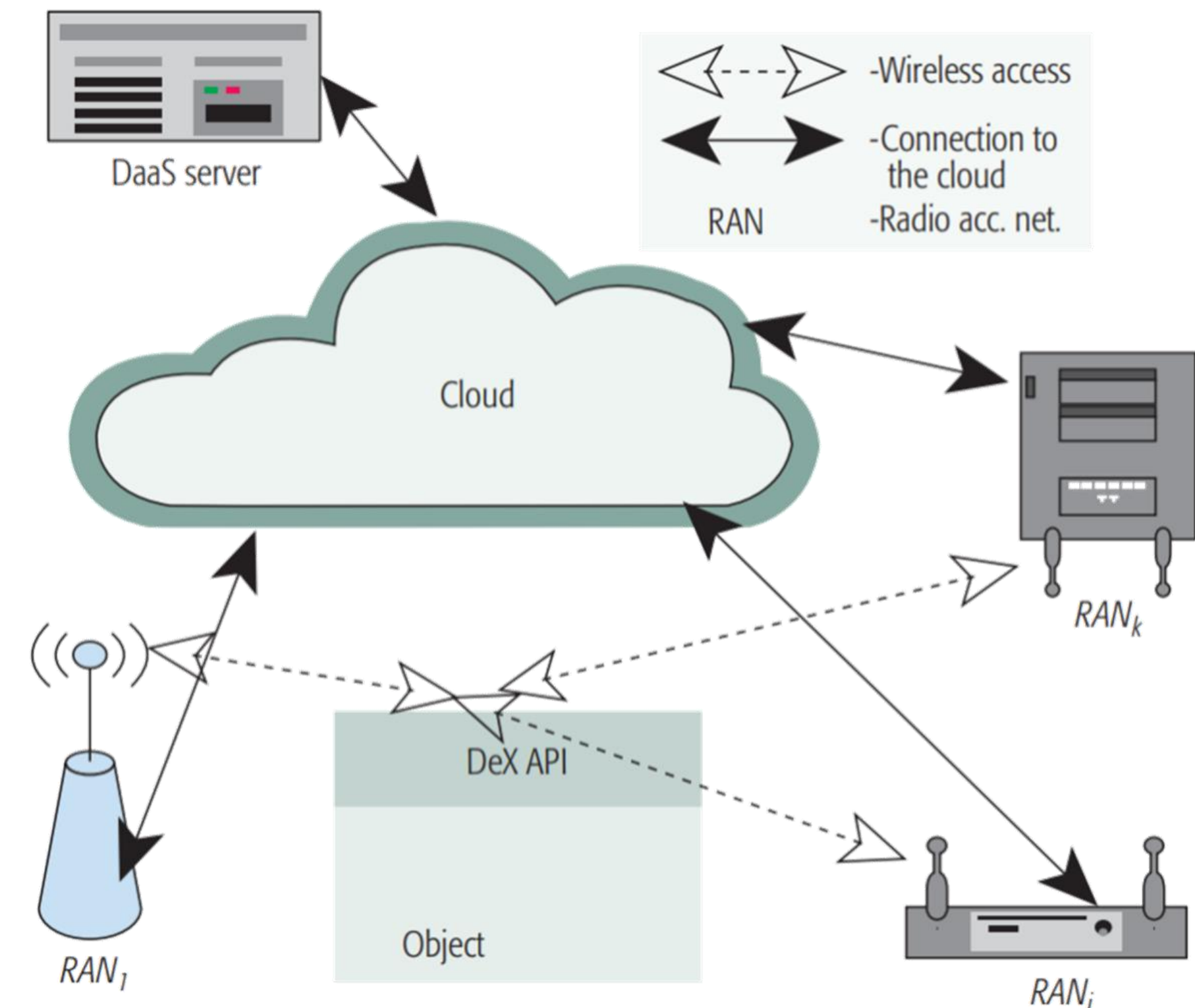
# Heterogeneity, Dynamism, and Multiple Objectives



- Each entity maximizes its own objective while network resources are limited
- Multi-Objective optimization with multiple degrees of freedom and trade-offs

# Dependable Connectivity as a Service: DaaS

- WP1: Architecture Design and Concept development
- WP2: System Design
- WP3: Algorithm Design and Machine Learning
- WP4: Modeling and Analysis
- WP5: Implementation and Conformity
- WP6: Coordination and Delivery



# Partners



## Work Packages

- WP1: Architecture Design and Concept development
- WP2: System Design
- WP3: Algorithm Design and Machine Learning
- WP4: Modeling and Analysis
- WP5: Implementation and Conformity
- WP6: Coordination and Delivery

## Partners Solicited

- **Wireless Network Technology**
  - Lancaster University, UK
  - Manchester University, UK
- **Software Platforms**
  - Paremus, Ltd., UK
- **Mobile Edge Networks and Cloud/Fog Computing**
- **Machine Learning and Algorithms**
- **Optimization and Modelling**
- **Project Coordination and Management**
- **Testbed and Implementation**



## Contact Info

For more information and for interest to participate please contact:

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# Join the follow-up Telco

## 12 September 10-10.30 CET

**Meeting number:** 954 275 024

**Meeting password:** BnJqzAvTLink

**Join the Meeting:**

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