PriMO-5G project: smart firefighting with immersive videos through 5G

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PriMO-5G presented to the President Moon Jae-In

- One of the main agenda items during the state visit to Finland and Sweden in June 2019

Source: https://news.v.daum.net/v/20190610222332610

Source: http://www.segye.com/newsView/20190616505898

PriMO-5G project goal and Objectives

- Goal
  - To demonstrate an *end to end 5G system providing immersive video services for moving objects*. This will be done by *cross-continental testbeds* that integrate radio access and core networks developed by different PriMO-5G project partners.

- Objectives
  - **Objective 1**: To demonstrate an end to end 5G system providing immersive video services for moving objects
  - **Objective 2**: To develop technologies of mmWave access, 5G core networks, and AI assisted communications fulfilling requirements for Objective 1
  - **Objective 3**: Input to 5G standardization and spectrum regulation activities

Source: https://primo-5g.eu/

PriMO-5G consortium

EUROPEAN PARTNERS

Aalto University
(Project Coordinator)

Cumucore

Ericsson AB

King's College London

KTH Royal Institute of Technology

National Instruments Dresden GmbH

KOREAN PARTNERS

Yonsei University
(Project Co-Coordinator)

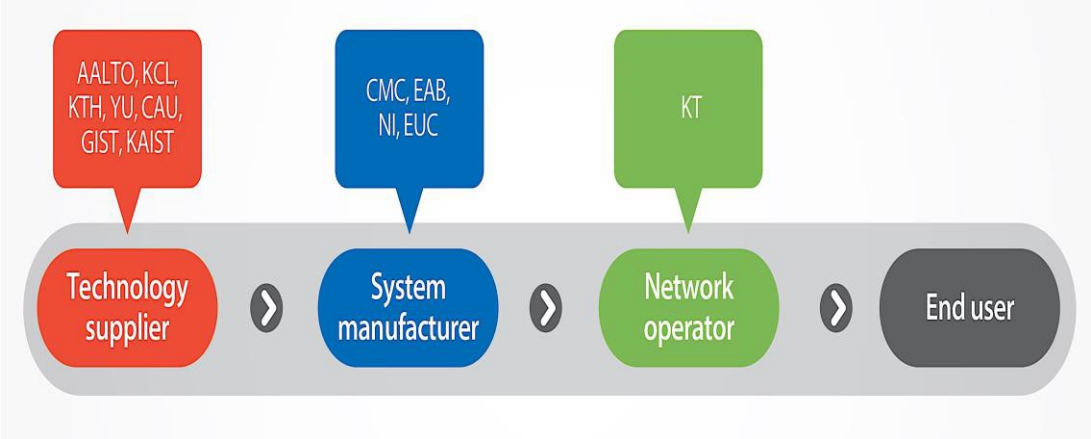
Korea Advanced Institute of Science and Technology

Gwangju Institute of Science and Technology

Chung-Ang University

KT Corporation

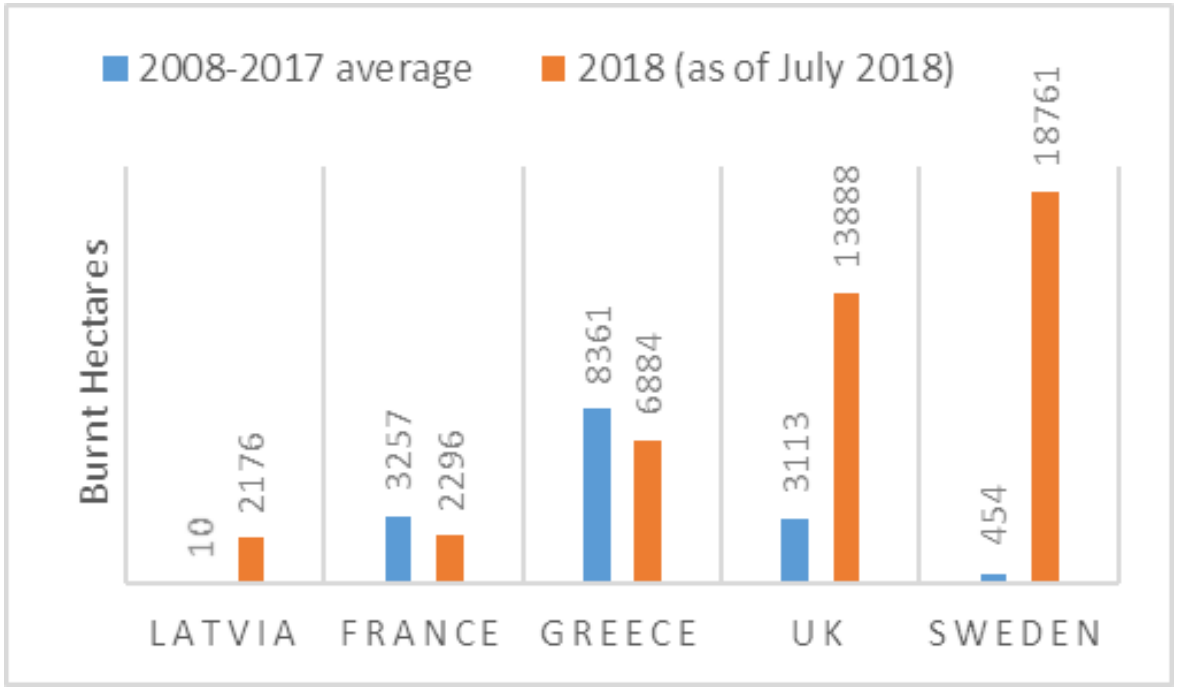
EUCAST



Value chain of 5G industry and the representation by PriMO-5G consortium

Fires are a growing challenge

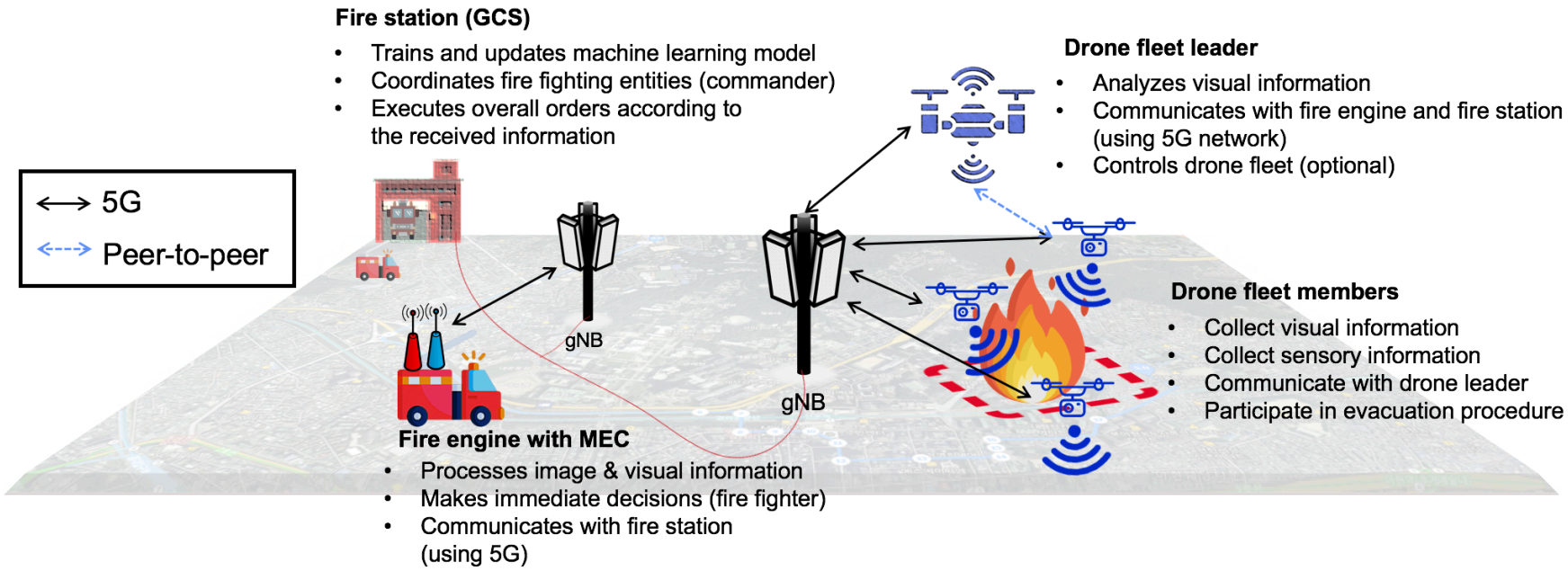
- Estimated burnt land hectares in European countries



Source: European Forest Fire Information System (EFFIS) of the European Commission Joint Research Centre, http://effis.jrc.ec.europa.eu

We envisage smart firefighting with 5G

- with drones and immersive video services



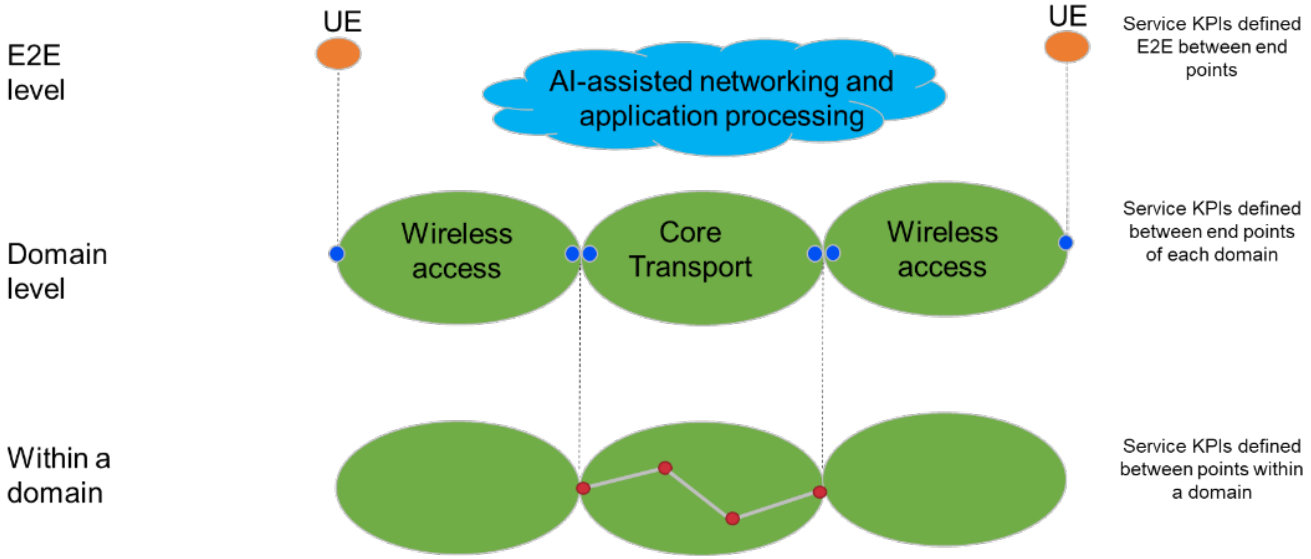
Source: PriMO-5G Deliverable D1.1, PriMO-5G Use Case Scenarios, https://primo-5g.eu/project-outcomes/deliverables/

Research challenges

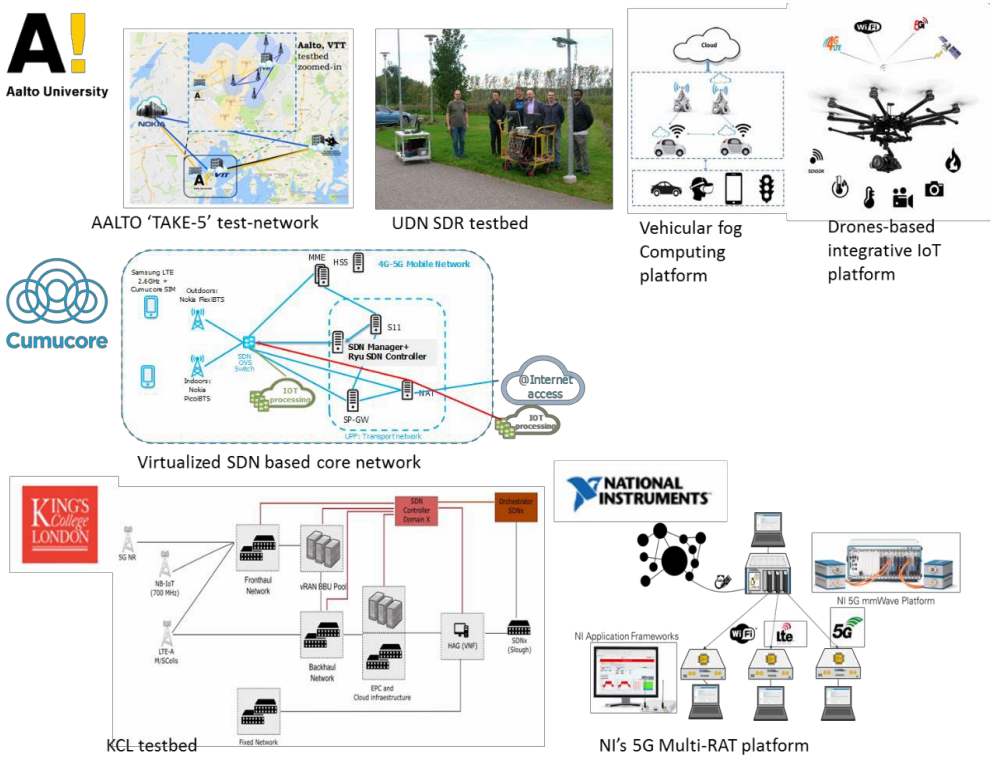
- Maintaining reliable high data-rate link in a dynamic environment
- Trade-offs between communication latency and computing power
- Network Slicing
- Dynamic Fleet Control and Task Type Assignment
- AI Assistance
- Regulation on radio spectrum and drone operation

What to be considered in defining KPIs?

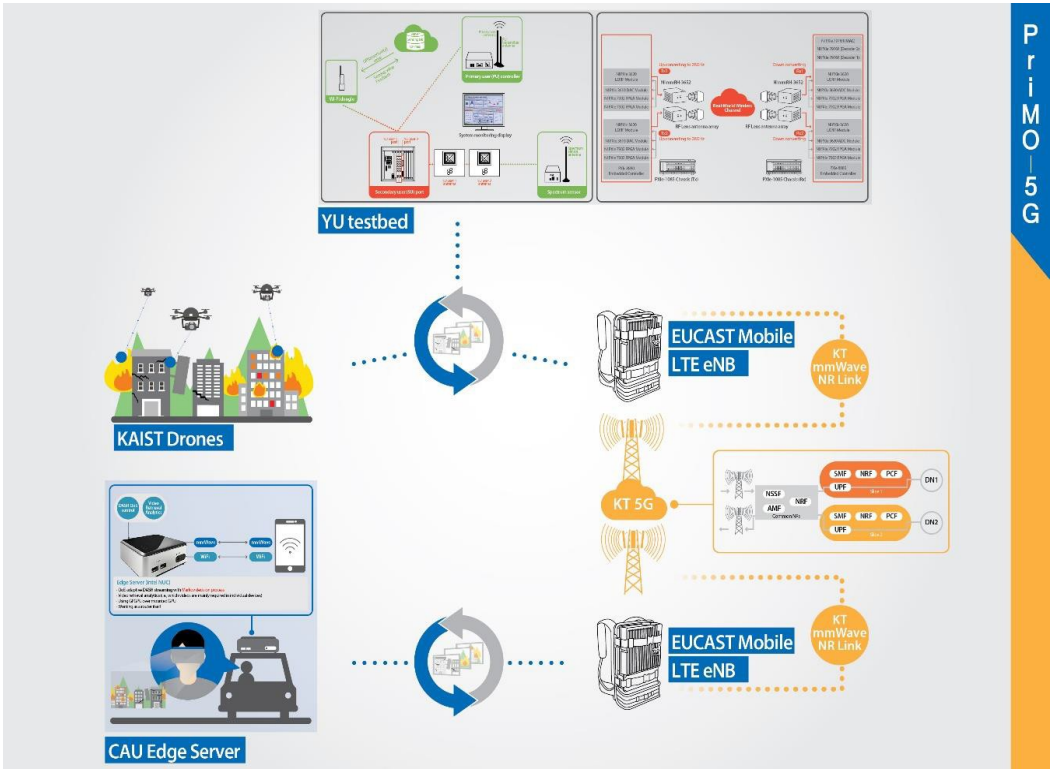
- Hierarchical nature of KPIs
- Trade-offs between communication latency and computing power



Testbed components



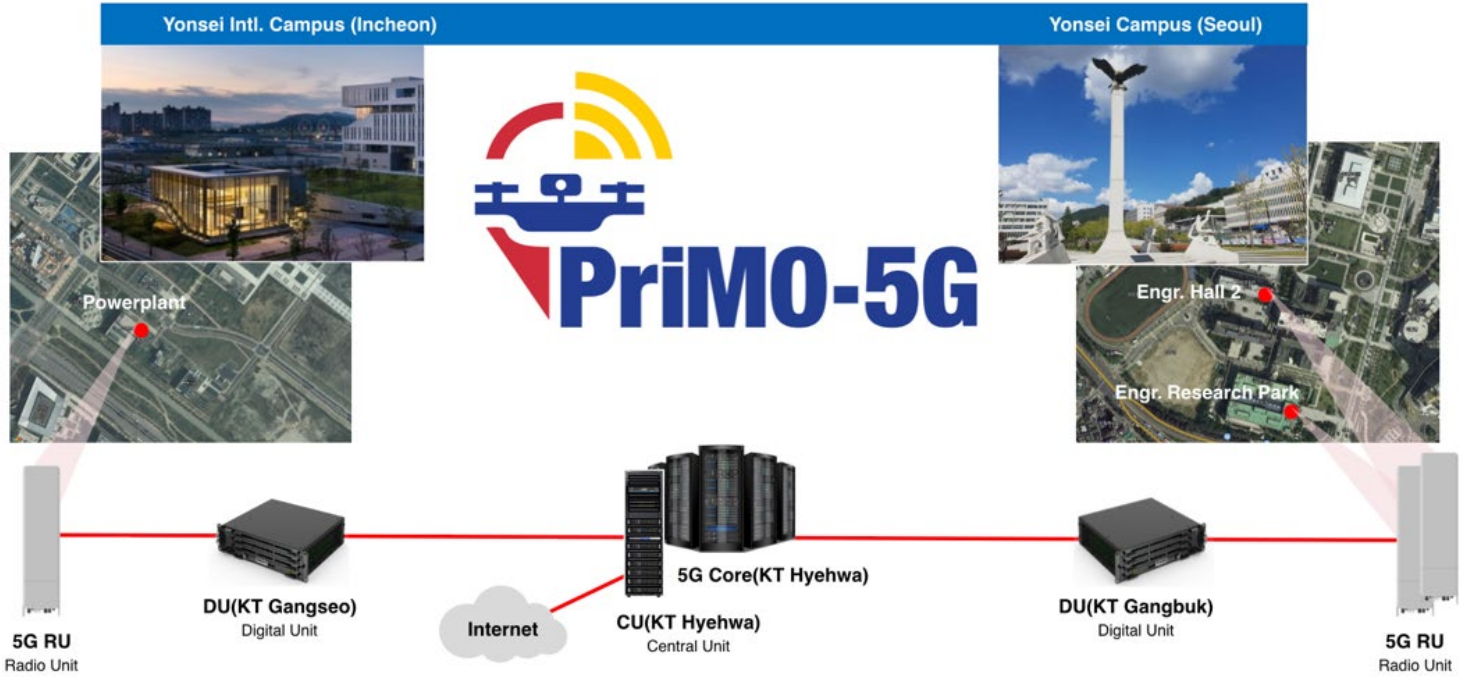
EU



Korea

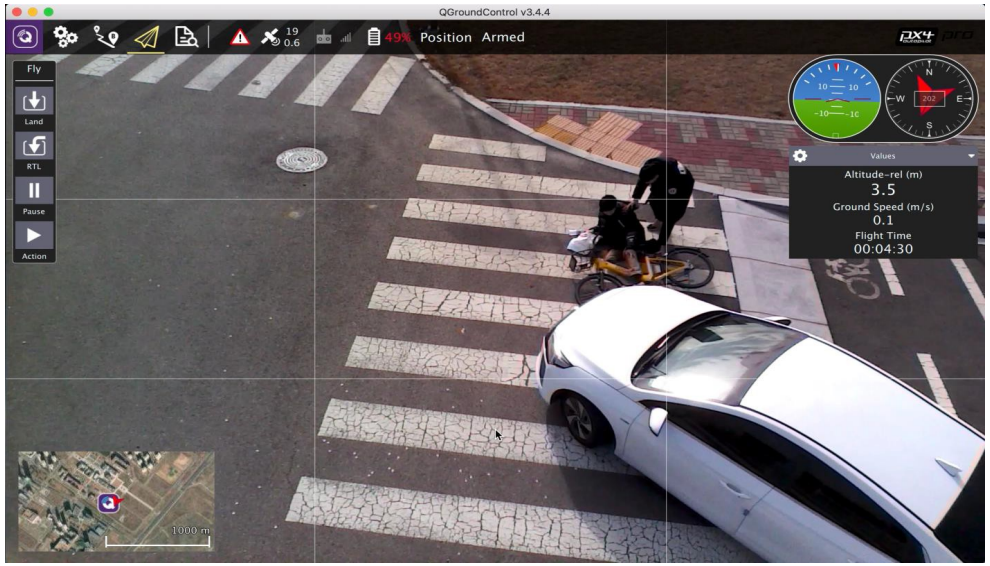
Demonstration activities

- 5G base station in Songdo & ground station in Seoul



Demonstration activities

- Autonomous UAV control system



5G

See more at

https://primo-5g.eu/ info@primo5g.com @PriMO5G

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PriMO-5G

VIRTUAL PRESENCE IN MOVING OBJECTS THROUGH 5G