THIS PROJECT IS PART OF THE 5G PUBLIC AND PRIVATE PARTNERSHIP

5G PPP   WWW.5G-PPP.EU

DEDICAT 6G

Horizon 2020
European Union Funding
for Research & Innovation

Dynamic coverage Extension and Distributed Intelligence for human Centric Applications with assured security, privacy, and Trust: from 5G to 6G
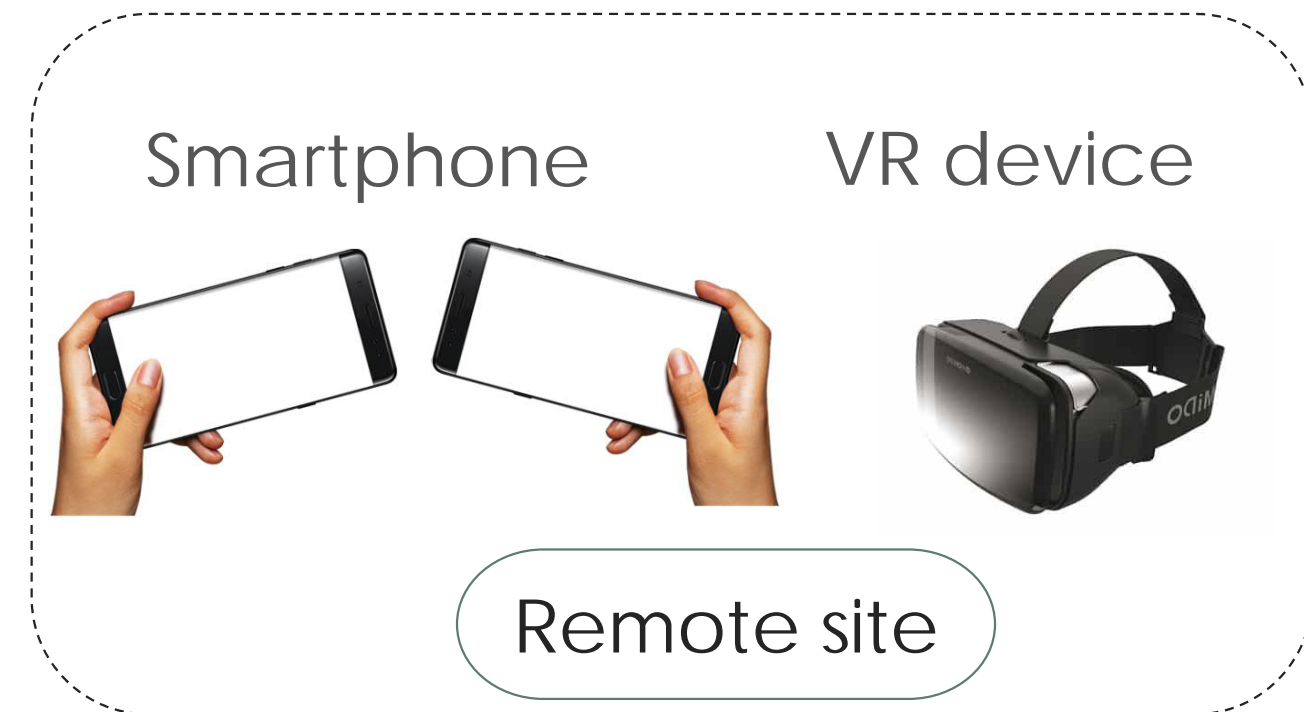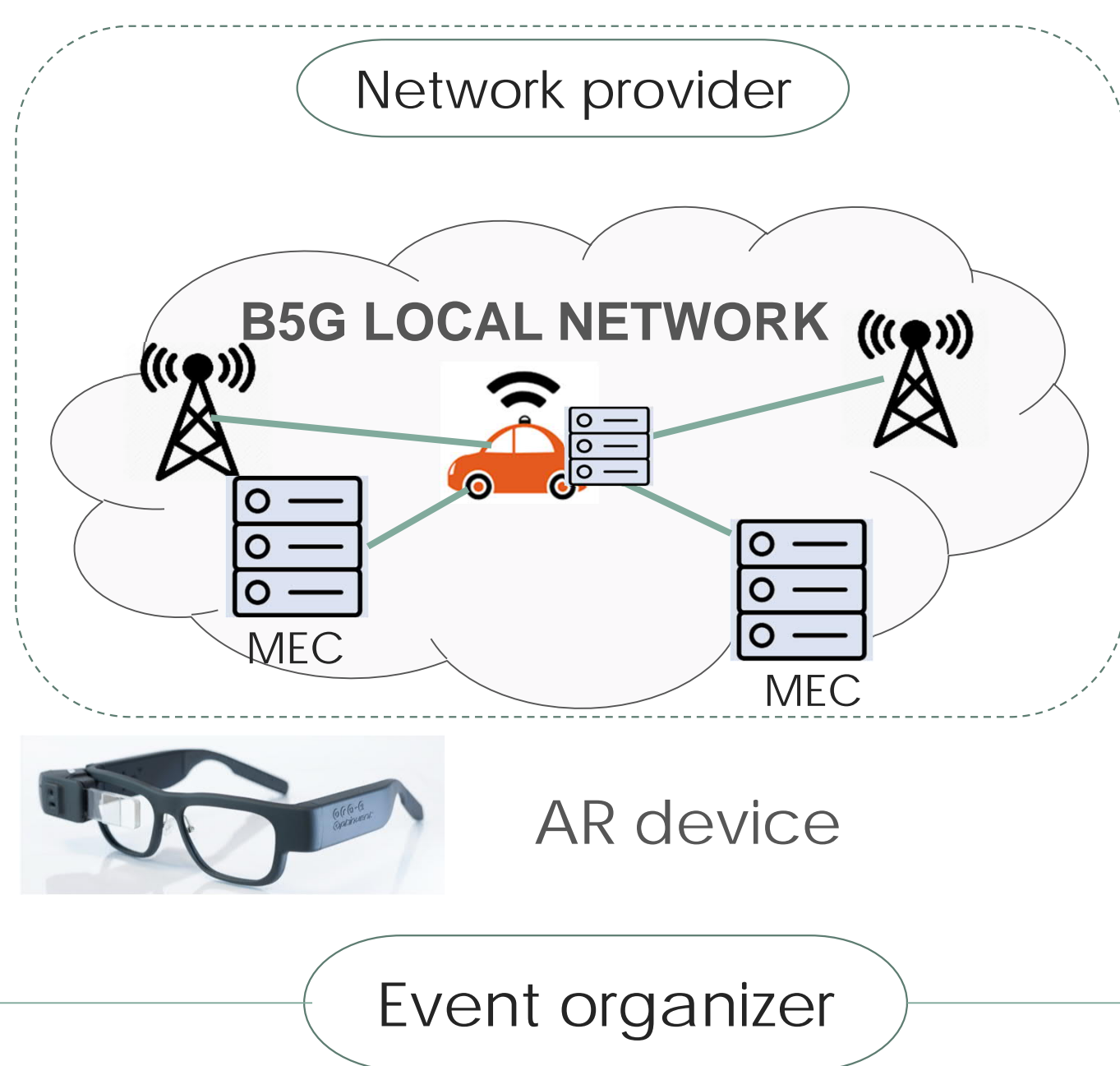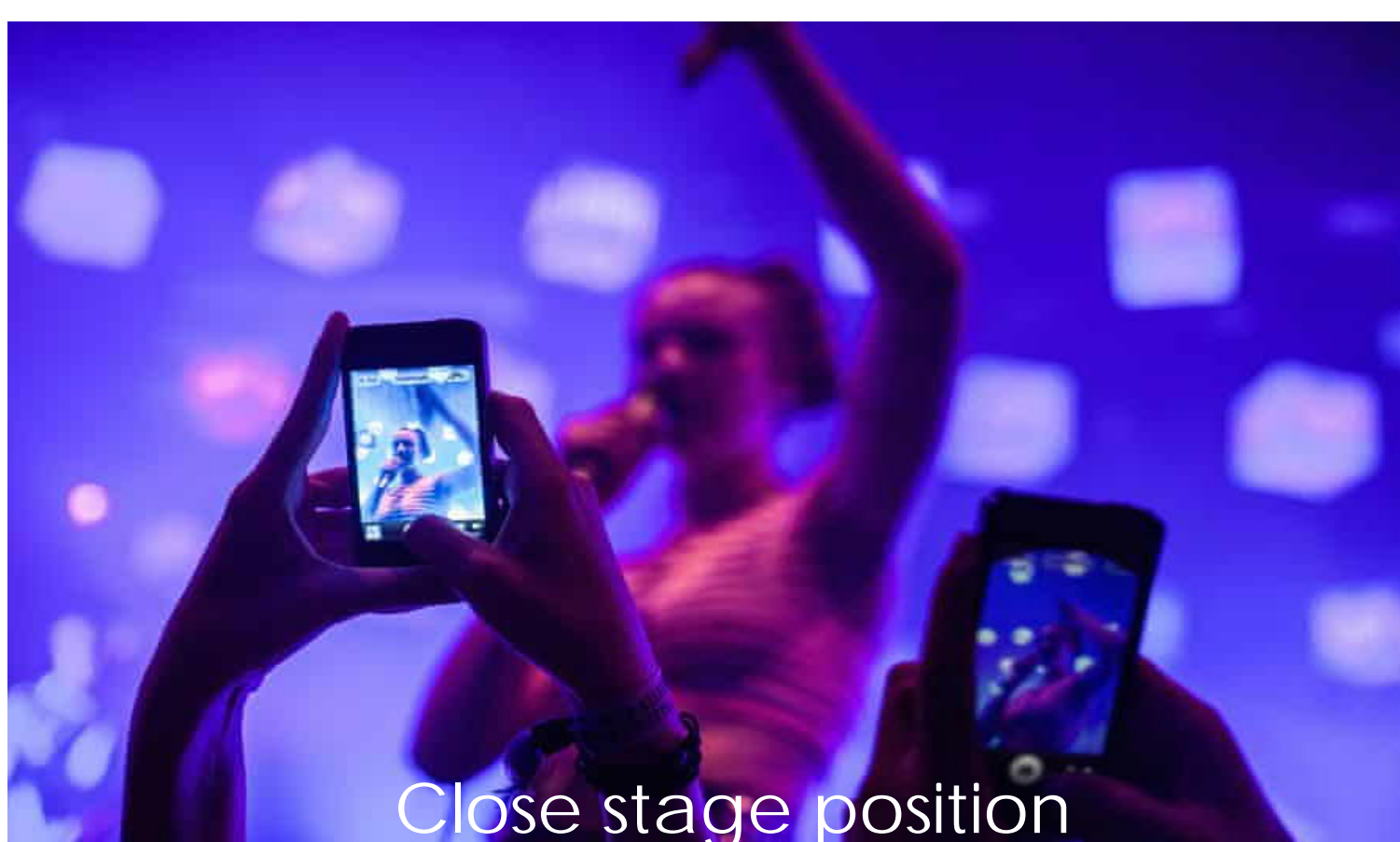
Enhanced Experience for live event streaming

Enhance video streaming in live events with key innovations
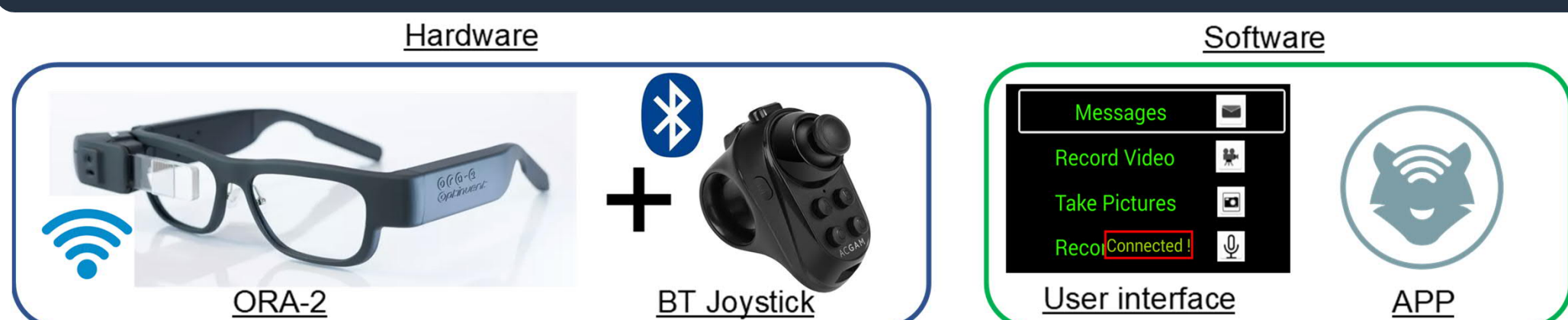
✓ Smart user devices and applications in public events from enhanced viewpoints
✓ Network AI/ML algorithms and resource allocation for improved video service availability and energy efficiency
✓ Dynamic video adaptation and edge placement for computation offloading
✓ Enhanced user experience

KPI'S:
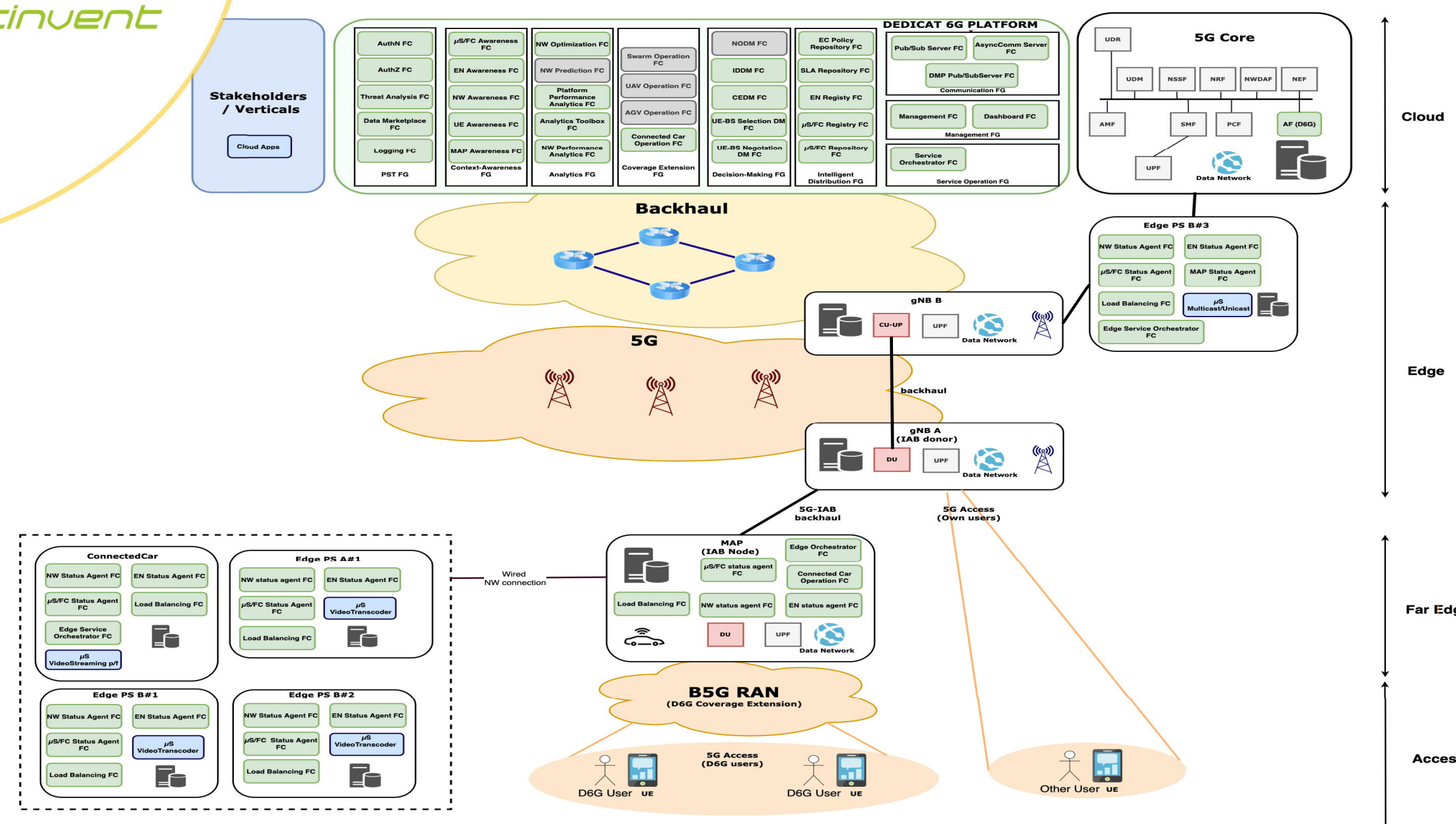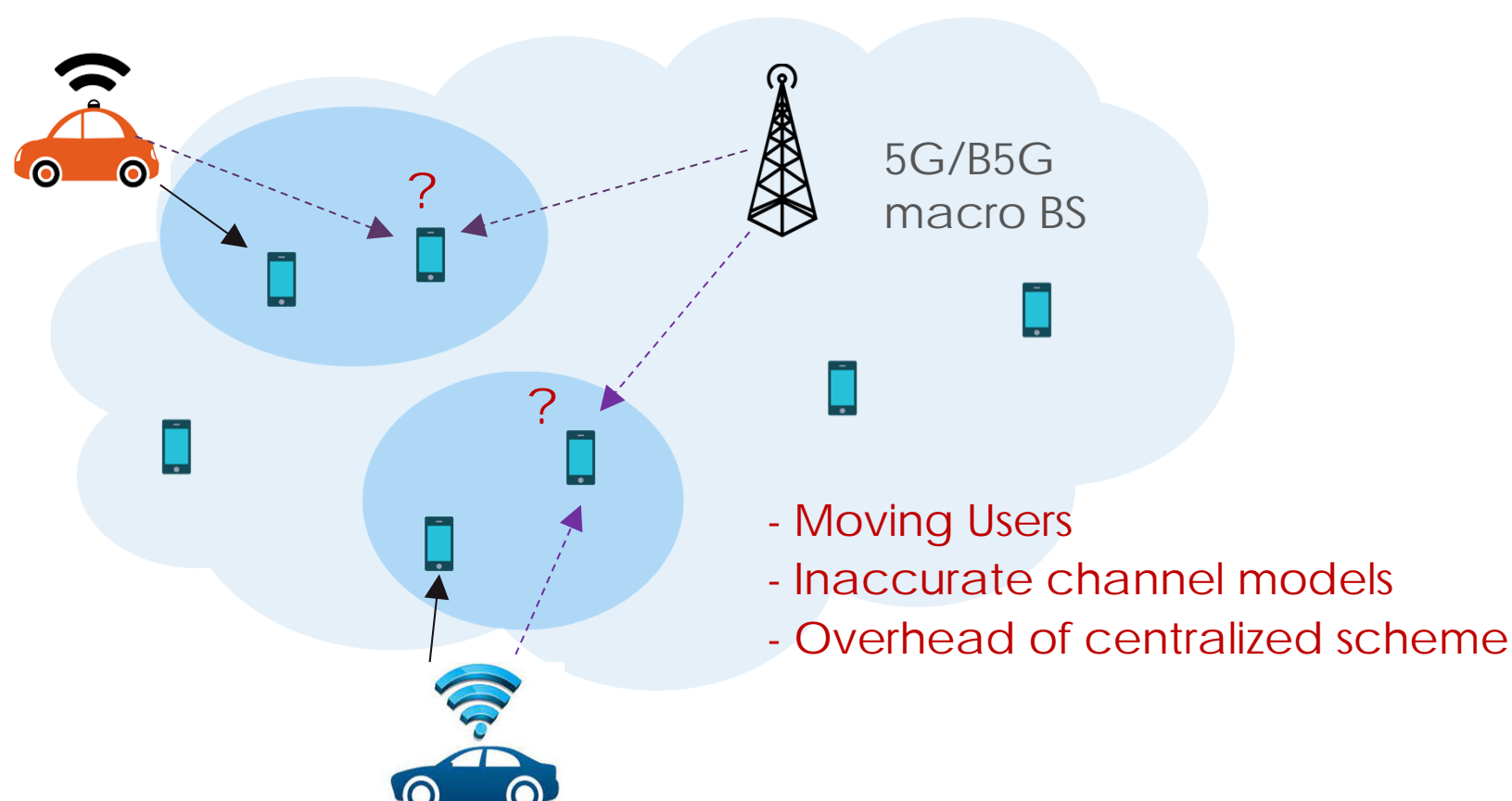Throughput (per user), end-to-end latency, service availability and reliability

Smartphone   VR device

Remote site

Network provider

B5G LOCAL NETWORK

MEC   MEC

AR device

Event organizer

Close stage position

Outdoor music concert

Technical approach

Hardware   Software

ORA-2   +   BT Joystick

Messages
Record Video
Take Pictures
Reco Connected !

User interface   APP

Smart Glasses deployment

5G/B5G modems

5G/B5G small cells

5G Test Network components

Mobile access point

Edge computing servers

UNIVERSITY OF SURREY   VTT

orange   Finland   Optinvent

- The Enhanced Experience pilot will take place in Oulu, Finland

- VTT 5G Test Network(5GTN) infrastructure will be used for the live experiments

Machine Learning based distributed user association

5G/B5G macro BS

- Moving Users
- Inaccurate channel models
- Overhead of centralized scheme

Uplink Throughput

4.40 Mb/s
4.30 Mb/s
4.20 Mb/s
4.10 Mb/s
4 Mb/s
— Throughput
11:05 11:10 11:15 11:20 11:25 11:30 11:35 11:40 11:45 11:50 11:55 12:00

4.24 Mb/s

Uplink Delay/Jitter

14 ms
12 ms
10 ms
8 ms
11:15 11:20 11:25 11:30 11:35 11:40 11:45 11:50 11:55 12:00

12.2 ms

1.09 ms

Some of the visualized network parameters by Grafana

DEDICAT 6G PLATFORM

5G Core

Stakeholders / Verticals

Backhaul

5G

DEDICAT 6G architecture deployment view for Enhanced Experience