

5G TRANSFORMER & 5G CORAL



An integrated, virtualized solution deep into the RAN offering distributed data services for application verticals.

To develop the framework for an integrated, virtualized Edge/Fog solution and demonstrate its value proposition for various use cases: AR, VR, fog-assisted robotics, connected cars, IoT.

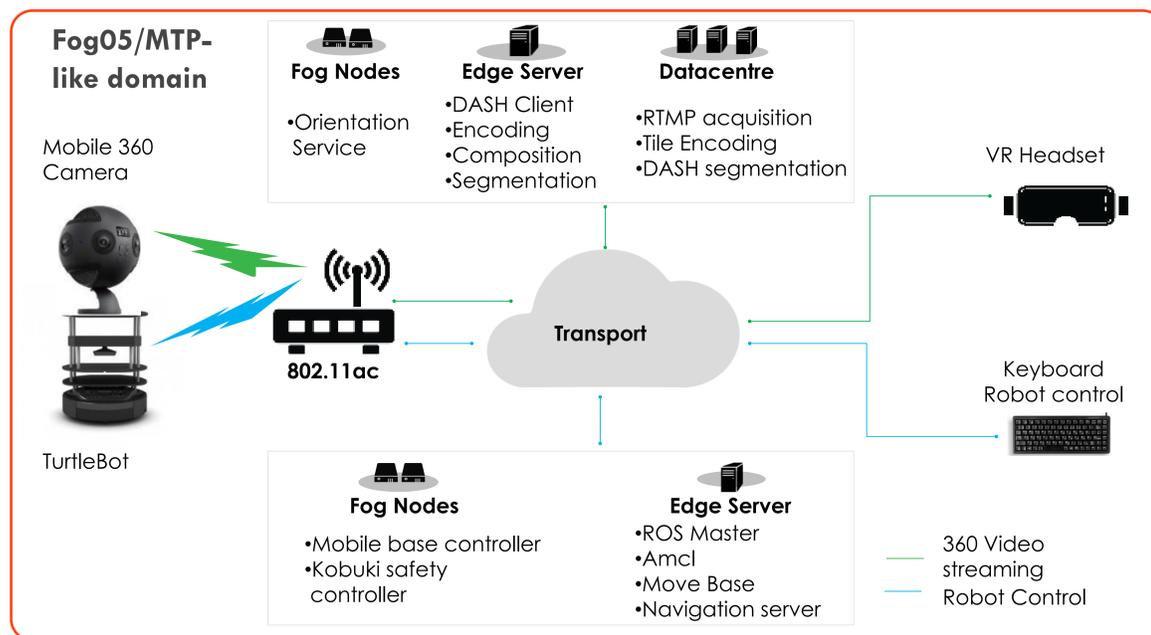


5G-Transformer aims to transform today's mobile transport network into an SDN/NFV-based Mobile Transport and Computing Platform (MTP).

Mobile Transport Networks shall transform from rigid interconnection into an SDN/NFV-based 5G Mobile Transport and Computing Platform (MTP) supporting diverse vertical industries.

5GT-Vertical Slicer (VS)

5GT-Service Orchestrator (SO)



PoC

360° Immersive Telepresence: Remote Robotic Control

Demonstrating: Remote robotic control and actuation based on the received 360° video stream.

The demo highlights simultaneous network slices with contrasting connectivity Profiles.

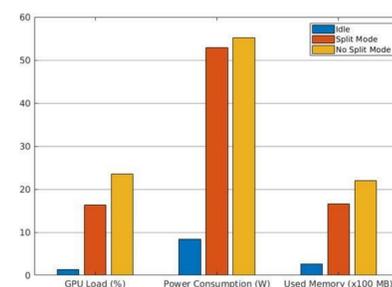
E2E 360° video streaming slice across three tiers of computing nodes (Low, medium and high ends), i.e. eMBB profile.

E2E robotic control and actuation slice, i.e. URLLC profile.

Automated deployment of the eMBB and URLLC slices using the 5GT-VS → 5GT-SO → Fog05 framework.

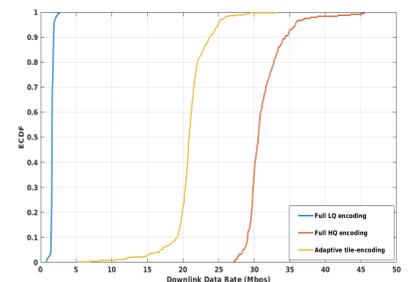
Video streaming from Mobile 360° camera to remote worker location, at a fraction of the bandwidth.

Remote robotic control and actuation based on the received 360° video stream.



- 7% GPU load reduction by offloading some GPU processing onto the edge.
- Reduced memory utilization, by 600 MB

Orientation based adaptive tile-encoding yields a bandwidth saving of 33%, i.e. 31 Mbps versus 21 Mbps.



uc3m

NEC

NOKIA

CRF CENTRO RICERCA FIAT

b com

Telefónica

NEXTWORKS

orange

INTERDIGITAL EUROPE

UNIVERSIDAD CARLOS III DE MADRID

Universidad Carlos III de Madrid

CONSEJO REGULADOR DE LAS COMUNICACIONES

ITRI Industrial Technology Research Institute

Atos

ERICSSON

Telefónica I+D

EURECOM

UNIVERSIDAD POLITÉCNICA DE MADRID

MIRANTIS

CTTC



www.5g-coral.eu
www.5g-transformer.eu



www.twitter.com/5G_CORAL
www.twitter.com/5g_transformer



www.linkedin.com/in/5g-coral
www.linkedin.com/in/5g-transformer-eu-project-a05311144

Project lifetime:

01/09/2017 - 31/08/2019
01/06/2017 - 30/11/2019

Cost:

3.856.973,75€
7.985.582,41 €

Coordinator:

Dr. Antonio de la Oliva (UC3M)
Dr. Carlos J. Bernardos (UC3M)

Technical Managers:

Dr. Alain Mourad (Interdigital Europe), Dr. Tony Do (ITRI)
Dr. Xavier Costa NEC Labs Europe