5G-VICTORI

VertIcal demos over Common large scale field Trials fOr Rail, energy and media Industries

Presenter (s): Mesogiti, MBA, MSc

Senior R&D Engineer

COSMOTE A.E.

European Commission

Horizon 2020
European Union funding
for Research & Innovation

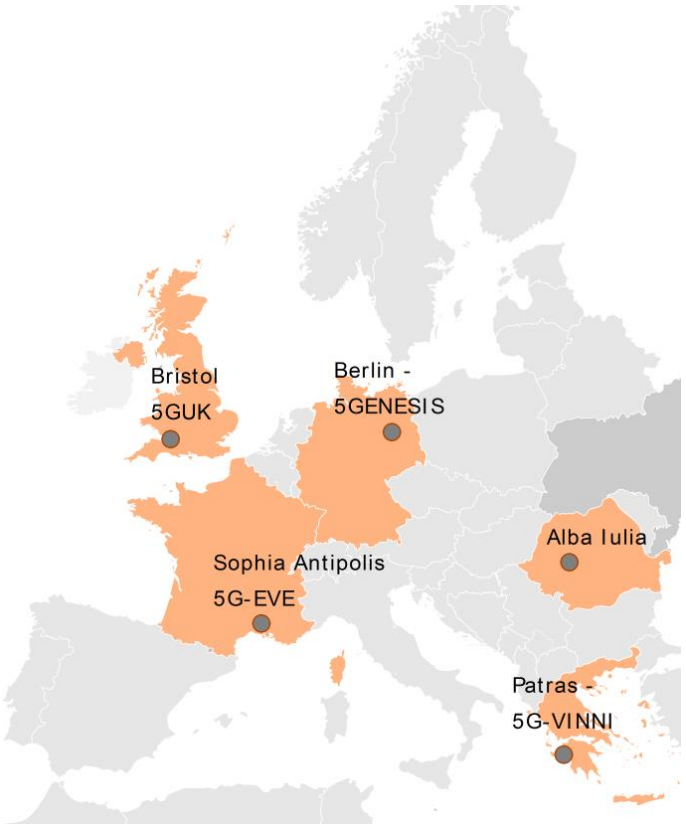
5G PPP

5G-VICTORI In Brief

- **ICT-19 Project**

  "Conducting large scale trials for advanced 5G use case verification focusing on:

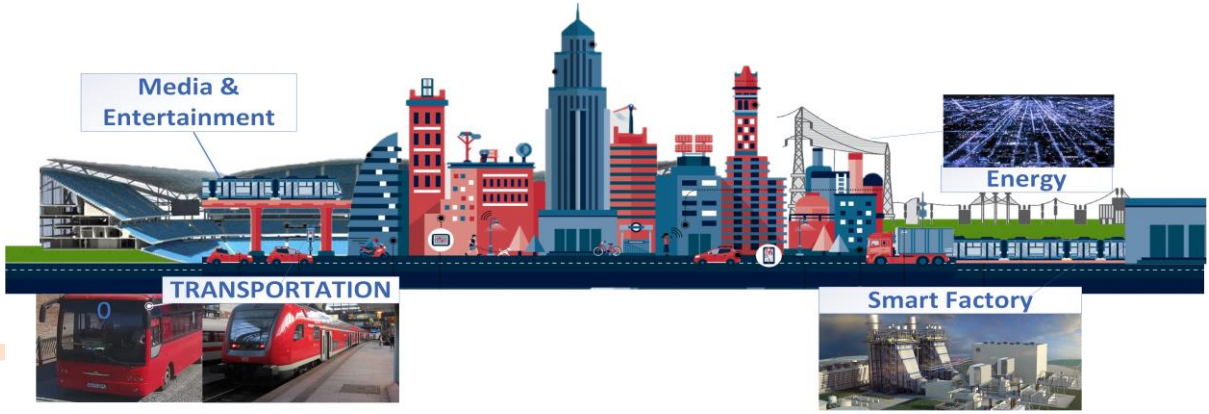
- Transportation | Energy | Media | Factories of the future | Cross-vertical use cases
- **Duration**: 3 years
- **Budget**: approx. 13.5 M€
- **Consortium**: 25 partners



5G-VICTORI Key Objectives

- 5G-VICTORI aims at conducting **large scale trials for advanced vertical use case** verification focusing on **Transportation, Energy, Media & Factories of the Future,** as well as **crossvertical use cases**.

- Design & deploy an open 5G infrastructure (leveraging on 3 ICT-17 & 5GUK platforms):
    - Capable of instantiating various particularly challenging vertical use cases/Apps even on a single 5G network deployment, towards substituting multiple legacy vertical specific networks (telecom, rail, energy), moving to "network as a service" model vision
    - Adopting the concepts of slicing and virtualization
    - Enabling flexible deployment of vertical-specific network functions based on App requirements (capacity, latency and reliability).

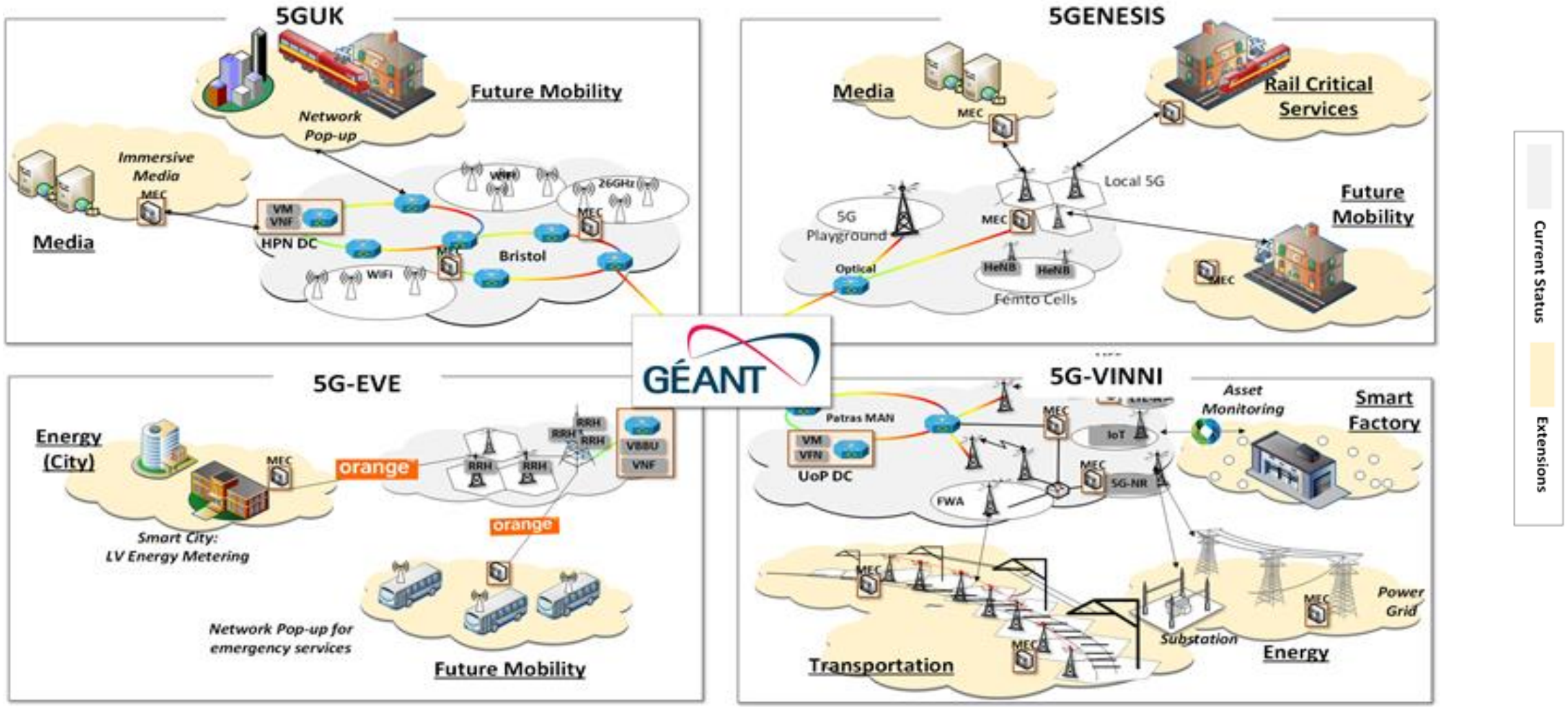


5G-VICTORI Key Focus Areas

5G-VICTORI will **extend and interconnect** main sites of all **ICT-17 infrastructures** & the **5G UK test-bed** in a Pan-European Network Infrastructure; also with technologies developed in **5G-XHAUL & 5G-PICTURE Projects**.

- 5G-VICTORI will provide enhancements to extend their coverage towards integration of **commercially relevant, operational environments**.
- The 5G-VICTORI will deliver **5G open environments where resources & functions are exposed** to the telecom & vertical industries **through common repositories** (vertical & non vertical specific).
- 5G-VICTORI will build:
  - **a thin inter-domain orchestration layer** on top of the sites' orchestration solutions for dynamic inter-site connectivity as well as
  - **a more complete inter-domain orchestration solution** providing on-boarding of inter-domain services, end-to-end slice monitoring & management for the deployed end-to-end services.

5G-VICTORI "Sites" and Use Cases

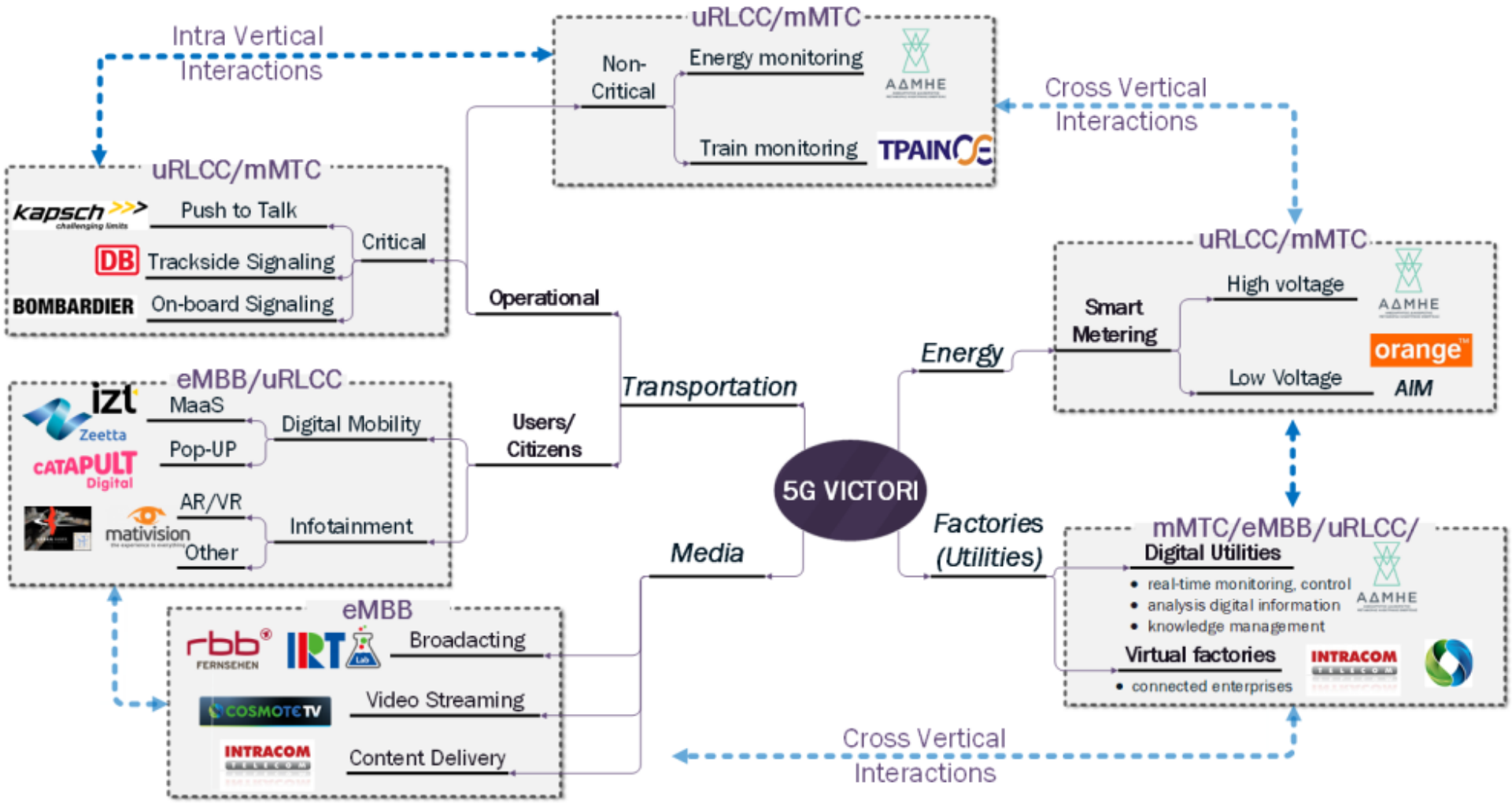


5G-VICTORI Use Cases and Services

Use Case Name	Service	Description
Transportation 1	eMBB	eMBB services under high speed mobility in Rail environments
Transportation 2	Digital Mobility	- A Mobility as a Service (MaaS) framework providing Door-to-Door services for passenger adopting sustainable transport modes. - A Passenger followed pop-up network on-demand
Transportation 3	Critical Services	Critical services for railway systems
Factories of the Future	Digital Utilities	Development of a fully automated Digital Utility Management system (Energy Utility)
Media	CDN services	CDN services in dense, static and mobile environments
Energy	Energy Metering HV/LV	mMTC for LV: high density distribution (e.g. 10k sensor/10km2) uRLLC for HV: Realtime low latency

5G-VICTORI Use Cases and Services

Use Case	Description
Transportation 1	eMBB
Transportation 2	Digital Mobility
Transportation 3	Critical Services
Factories of the Future	Digital Utilities
Media	CDN services in dense scenarios
Energy	Energy metering HV/LV



5G-VINNI Facilities in 5G-VICTORI: Patras Site

- **Transportation:** eMBB @ railways (Intracom, COSMOTE, TRAINOSE), Critical Services (Kontron, TRAINOSE), → with outlook to **FRMCS (Future Railway Mobile Communication System)**
- **Factories of the Future:** Digital Utilities (Energy Utility - ADMIE facilities)
- **Energy:** Energy Metering HV/LV (ADMIE & TRAINOSE) (mMTC for LV, uLLC for HV)
- **Media:** CDN services (Intracom, COSMOTE, TRAINOSE)
- **Greek cluster (5G-VINNI) facilities extension:** University of Patras, University of Thessaly, and University of Athens, IHP, in collaboration with aforementioned partners.

Thanks for your attention!

5G-VICTORI Project
Project Coordinator: Jesús Gutiérrez (teran@ihp-microelectronics.com)
Technical Manager: Anna Tzanakaki (Anna.Tzanakaki@bristol.ac.uk)