Introduction to 5G-TOURs and Link to 5G-EVE

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5GTOURs

5G-EVE Project

Spain
Madrid

Telefónica, ERICSSON, NOKIA, ASTI, Telcaria, SEGITTUR

France
Paris, Rennes, Sophia Antipolis

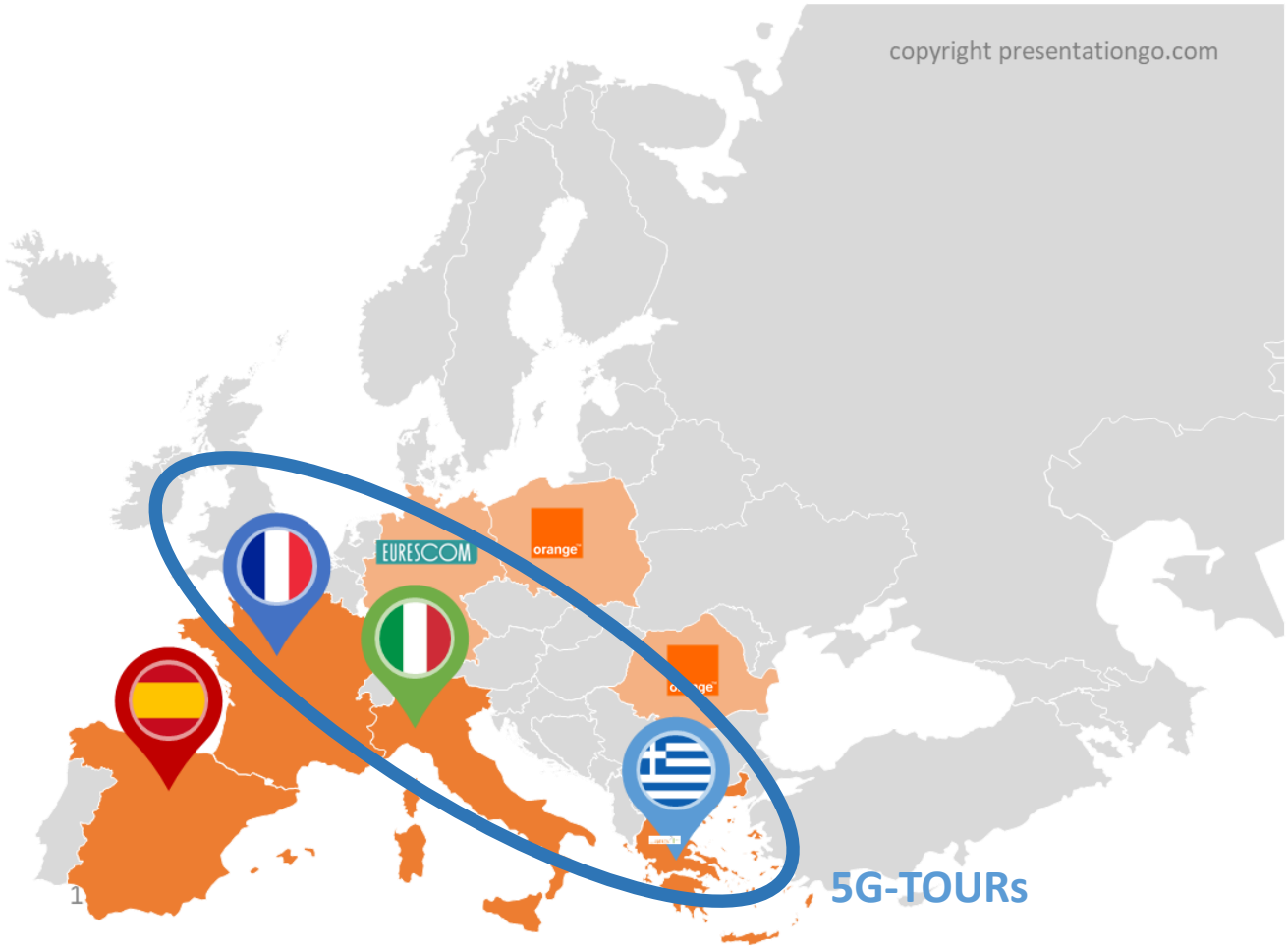
orange, NOKIA, b com, EURECOM, EDF

Italy
Turin

Città di Torino, IDC, PIIU, TIM, ERICSSON, NEXTWORKS, TRENITALIA, cnit, ...ares2t...

Greece
Athens

OTE, ERICSSON, NOKIA, WINGS

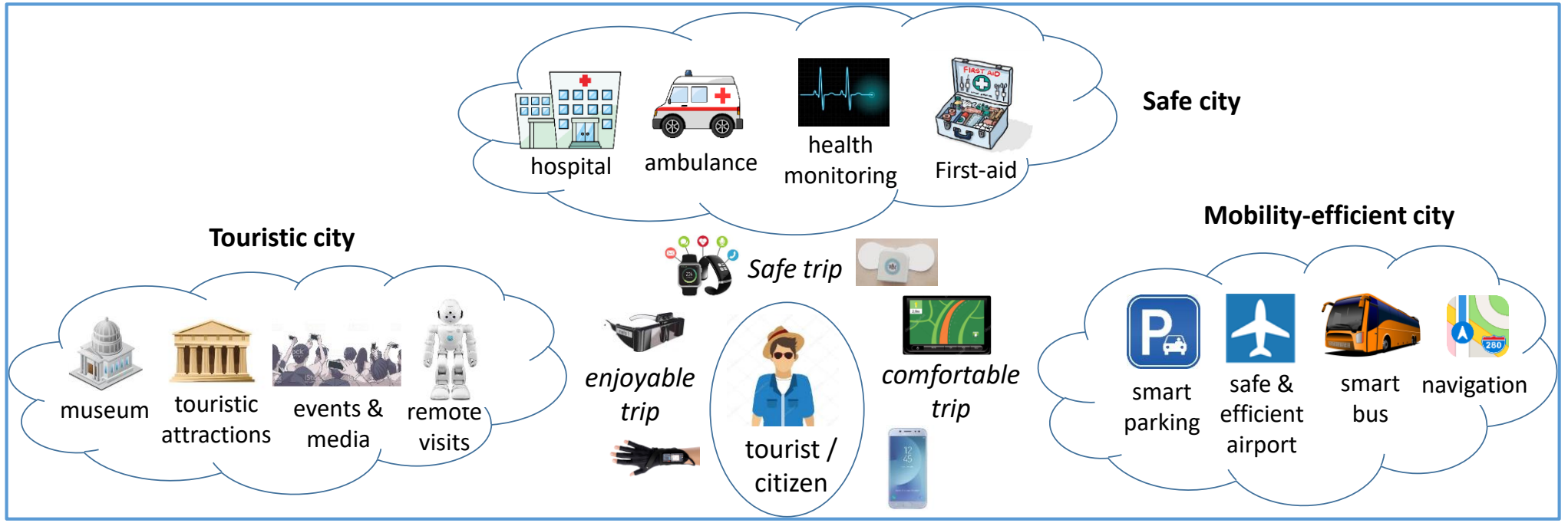


5G-EVE and ICT-19 projects

Projects	Web site	Industry 4.0	Agriculture & Agri-Food	Automotive	Transport & Logistics	Smart Cities & utilities	Public Safety	Smart (air)ports	Energy	Ehealth & wellness	Multimedia & entertainment
5G EVE	https://www.5g-eve.eu/	√		√		√			√		√
5G Drive	https://5g-drive.eu/			√							
5G Solutions	https://www.5gsolutionsproject.eu/	√				√		√	√		√
5G TOURS	http://5gtours.eu				✓			✓		√	√
5G!Drones	https://5gdrones.eu/				√		√				√
5G HEART	http://5gheart.org/		√		√					√	
5GROWTH	http://5growth.eu/	√			√				√		
5G VICTORI	https://www.5g-victori-project.eu				√				√		√

Vision

- **5G-TOURs aims to Implement and showcase 13 vertical use cases on top of the 5G-EVE infrastructure.**
- 5G-TOURS aims to demonstrate the ability of 5G to support multiple vertical use cases concurrently on the same infrastructure.



- **Vision**: Improve the of **citizens** and **tourists**, making **cities** more attractive to **visit**, more efficient in terms of **mobility** and **safer** for everybody. The industry segments within this vision can greatly benefit from 5G technology and account for a very large fraction of Europe's economy.

Three cities – Trial platform sites:

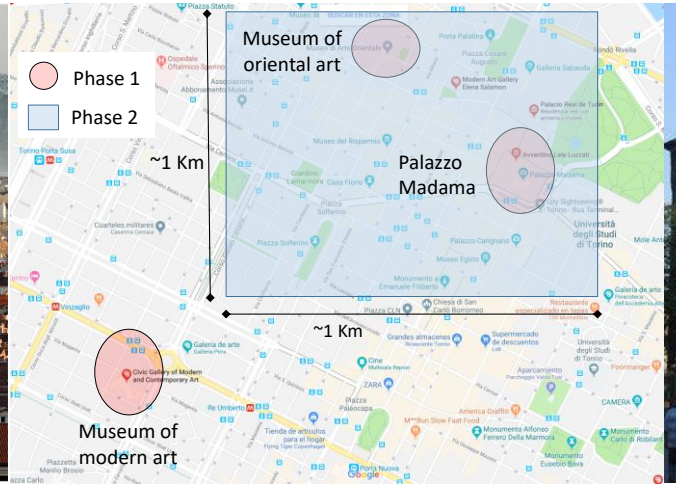
Turin-Italy,
The Touristic City

Rennes-France,
The Safer City

Athens-Greece,
The Mobility city

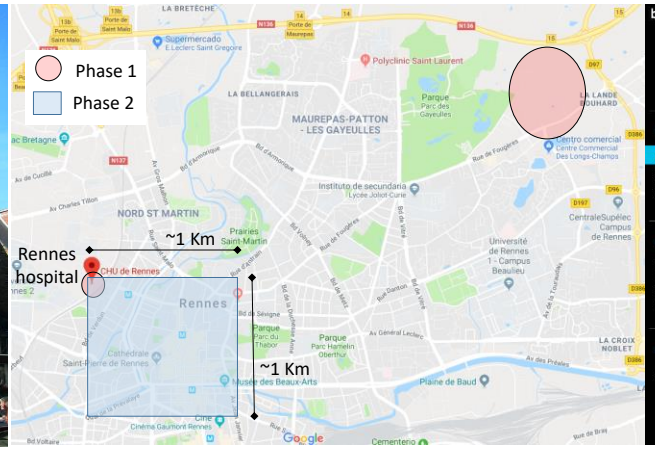
Use cases: Touristic City - Turin

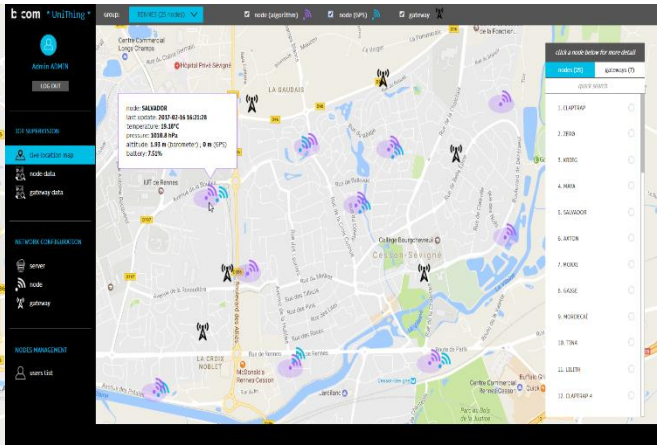
Use case	Vertical customer	Slice type(s)	KPI requirements	Improvements provided	Vertical solutions
Touristic city (Turin)					
Augmented tourism experience	Museum	eMBB, URLLC, mMTC	Per-user data rate up to 500 Mb/s, latency < 10 ms	Improving visitor's experience	XR application (AR/VR/MR)
Telepresence	Museum	eMBB, URLLC	Latency < 10 ms	Remote museum visit	Robot & remote interface
Robot-assisted museum guide	Museum	URLLC	Latency < 10ms	Improved visitors' experience and safety	Robot
High quality video services distribution	TV broadcaster	eMBB	Per-user data rate of 25 Mb/s, several users/m^2	Improved video user's experience	App for content / video distribution
Distributed video production	TV broadcaster	URLLC, eMBB	Latency < 5 ms Reliability > 99.99%	Concert by distributed orchestra	Media production backpack



Use cases: Safer city - Rennes

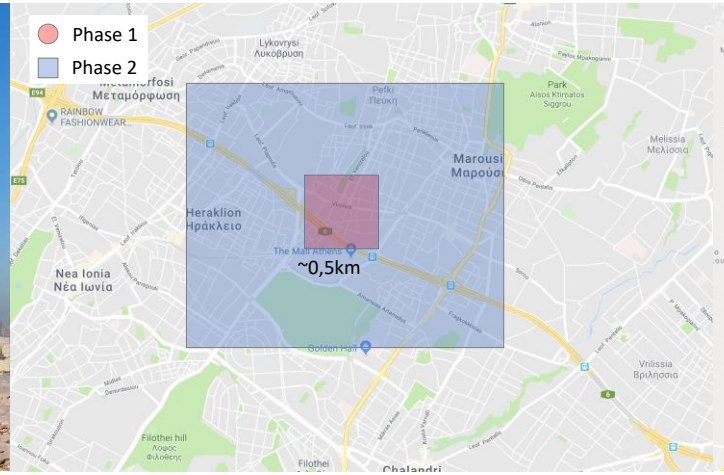
Use case	Vertical customer	Slice type(s)	KPI requirements	Improvements provided	Vertical solutions
Safe city (Rennes)					
Remote health monitoring & emergency mgmt.	Hospital	mMTC, URLLC	Several devices/m^2, reliability > 99.99%	Prompter safety reaction upon an anomaly	Wearables & patches for health monitoring
Teleguidance for diagnostics and intervention support	Hospital	URLLC, eMBB	Speeds above 100 Km/h, 2 Gb/s, latency < 10 ms, reliability > 99.999%	Saving lives through improved assistance	Remote treatment & diagnostics, smartglasses
Wireless operating room	Hospital	URLLC, eMBB	Latency < 5ms, reliability > 99.9999%, total data rate > 10Gb/s	Saving lives in the operating room	AR & Cobotic assisted surgery, smartglasses
Optimal ambulance routing	Hospital	mMTC		Faster journey to hospital	City sensors & navigation app

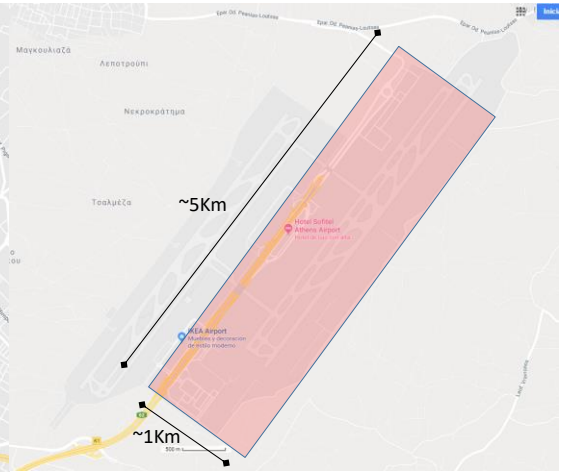




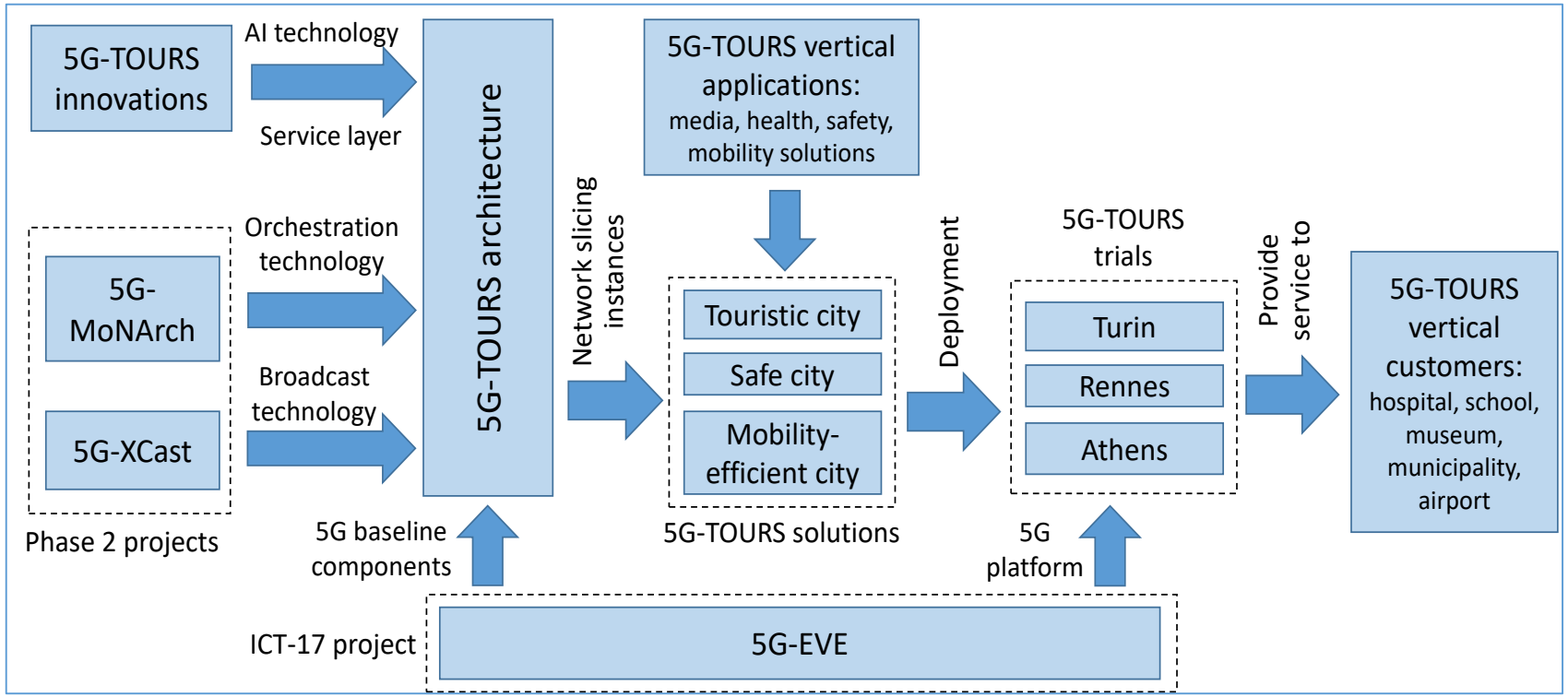
Use cases: Mobility–efficient city (Athens)

Use case	Vertical customer	Slice type(s)	KPI requirements	Improvements provided	Vertical solutions
Mobility-efficient city (Athens)					
Smart parking management	Airport	mMTC	Density of 50,000 devices/Km^2	Fast & personalised parking for drivers	Parking sensors & driver app
Video-enhanced ground-based moving vehicles	Airport	eMBB	Per-user data rate above 25 Mbps, speeds up to 100 Km/h	Improved airport logistics	Live video feeds application
Emergency airport evacuation	Airport / Security agency	URLLC, mMTC	Reliability > 99.99%, location accuracy ≤ 1m, several devices/m^2	Safer emergency handling for travellers	Personalised evacuation application
AR/VR-enhanced educational bus excursion	School	eMBB	Per-user data rate up to 500 Mb/s, latency < 10 ms, speeds of 100 Km/h	Improving students' educational experience	AR/VR application



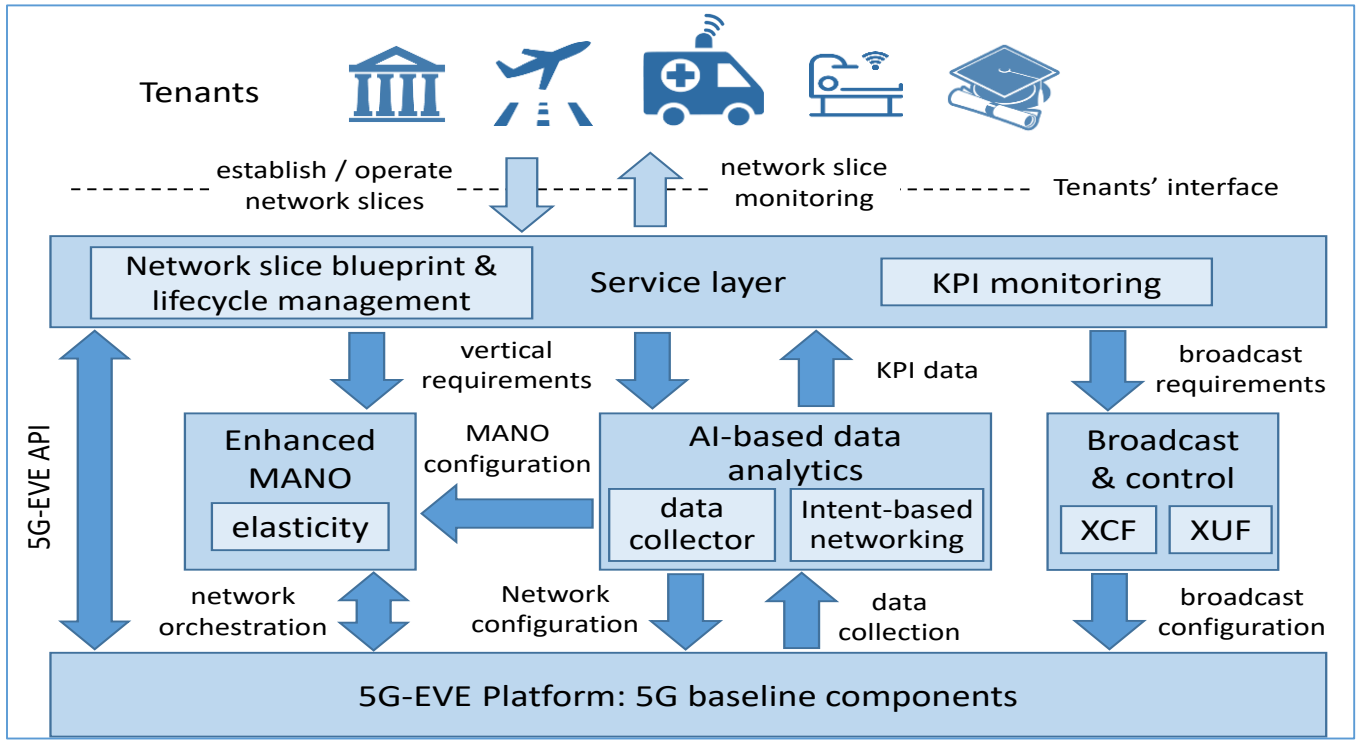


5GTOURs Approach



- *Design and deployment of an architecture* composed of components of **5G-EVE** platform along with the innovations coming from Phase 2 projects and 5G-TOURS
- *Implement the 5G-TOURS solution*s combining the use of the network slicing instances of the architecture and the vertical solutions relying on 5G communication that is needed for the use cases
- *Deployment of trials* to evaluate the 5G-TOURS vertical solutions on top of the **5G-EVE** nodes.

5GTOURs Architecture



- On top of the 5G-EVE, 5G-TOURS implements some modules that provide functionality required for the use cases addressed that is not available within the underlying platform.
- These modules employ standard interfaces of the equipment to configure and manage the underlying modules.
- On top of the 5G baseline components, the 5G-TOURS architecture envisions three different functions: Enhanced MANO, Artificial intelligence, broadcast modules.

Consortium Partners

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THANK YOU