5G EVE
5G European Validation platform for Extensive trials

2020, October 14th, 5G Workshop on "5G Experimentation Facilities and Vertical Trials

Mauro BOLDI, TIM S.p.A., Project Coordinator

5G EVE

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The vision of 5G EVE's E2E Validation Platform

From: Two Worlds

Industries' Digitalization

5G
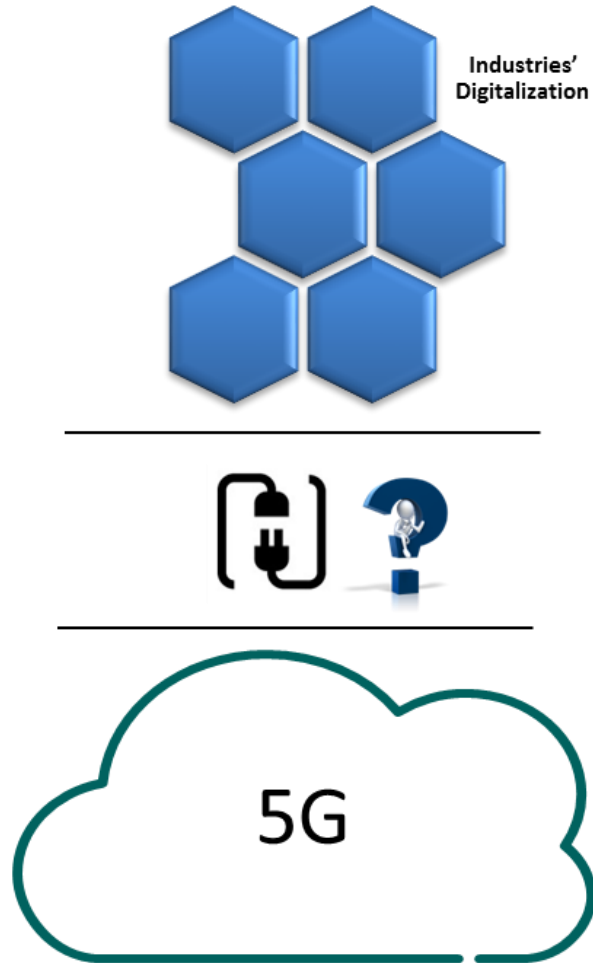
To: One Innovation Ecosystem
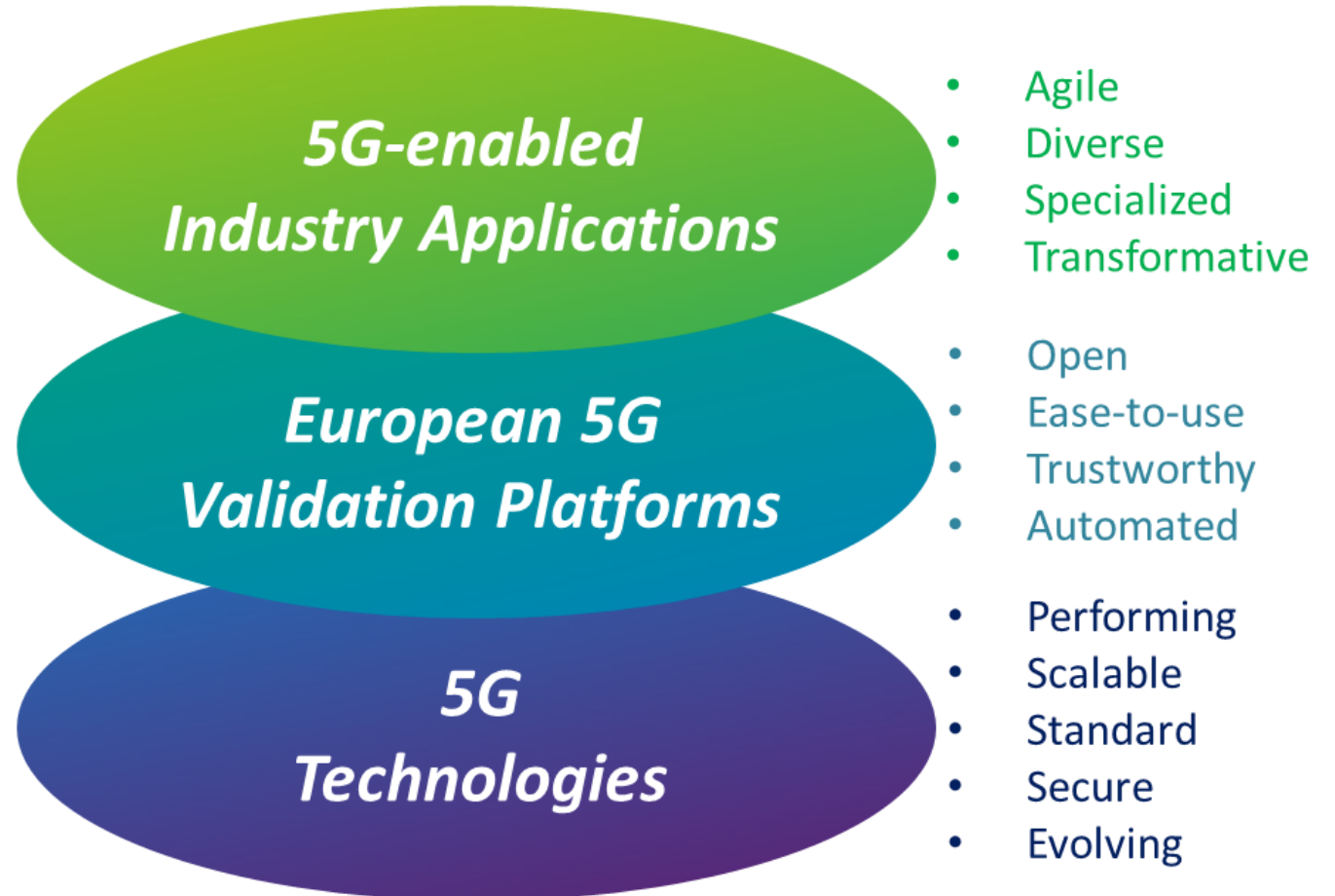
5G-enabled Industry Applications
- Agile
- Diverse
- Specialized
- Transformative

European 5G Validation Platforms
- Open
- Ease-to-use
- Trustworthy
- Automated

5G Technologies
- Performing
- Scalable
- Standard
- Secure
- Evolving

5G EVE

5G EVE Architecture - Platform View

- 5G EVE Platform functional architecture can be grouped in two main groups: **Common functional blocks** (common to all sites) and **site specific functions blocks** which could have different technologies and implementation on each site

Common 5G EVE functional blocks Common to all sites; secure homogeneous platform services to Verticals

5G EVE Site functional blocks Based on different technologies and implementations for different sites; enable richer tests
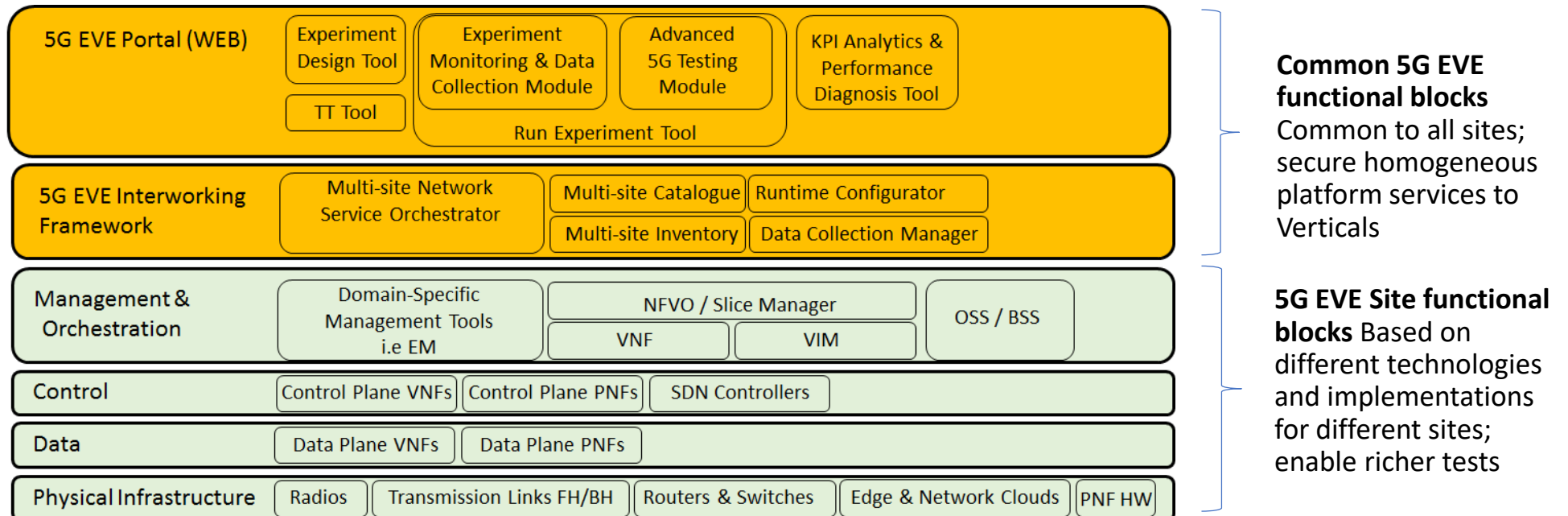
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5G EVE Architecture - Key 5G EVE innovations

1 — **Intent-based interface towards verticals**

A disruptive intent-based interface to simplify the access to the 5G end to end facility, specifying "what" is asked without details on "how" it is provided.

2 — **Multi-domain slicing and orchestration**

A new orchestration framework with the necessary features able to manage effectively multiple site facilities, dramatically improve efficiency, prevent overload, and easily manage migration of networks components, while meeting performance requirements.

3 — **Performance Diagnostics (KPI Framework)**

A completely new performance diagnosis mechanism and a new monitoring framework enabling the capturing of service and slice performance indicators, providing insight on performance.

4 — **5G VNF's (Openness Framework)**

A new framework to provide a modular, reusable set of different SFs enabling the coexistence of proprietary and open source technologies; this will allow the modular replacement and chaining of components implemented with open and novel performance acceleration techniques.
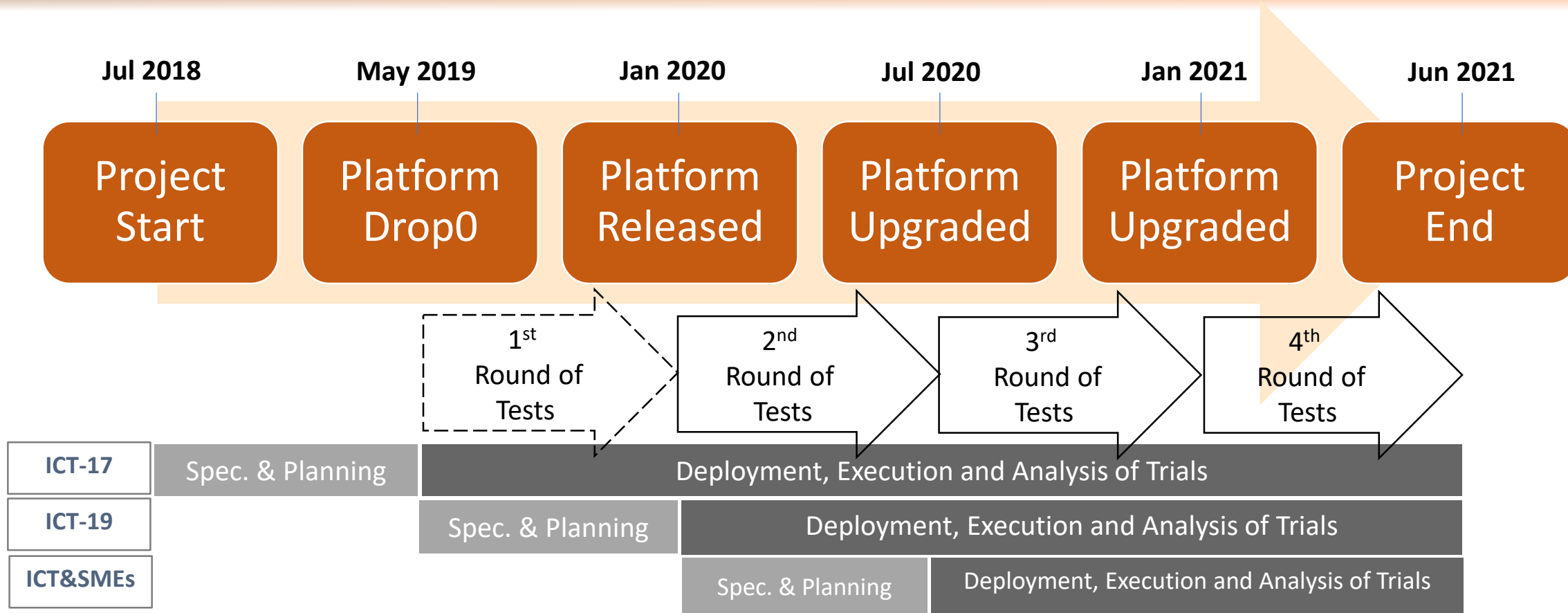
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5G EVE Roadmap – General Time-line

	Jul 2018	May 2019	Jan 2020	Jul 2020	Jan 2021	Jun 2021
	Project Start	Platform Drop0	Platform Released	Platform Upgraded	Platform Upgraded	Project End

1st Round of Tests | 2nd Round of Tests | 3rd Round of Tests | 4th Round of Tests

ICT-17	Spec. & Planning	Deployment, Execution and Analysis of Trials
ICT-19	Spec. & Planning	Deployment, Execution and Analysis of Trials
ICT&SMEs	Spec. & Planning	Deployment, Execution and Analysis of Trials

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French Site Facility – Concept
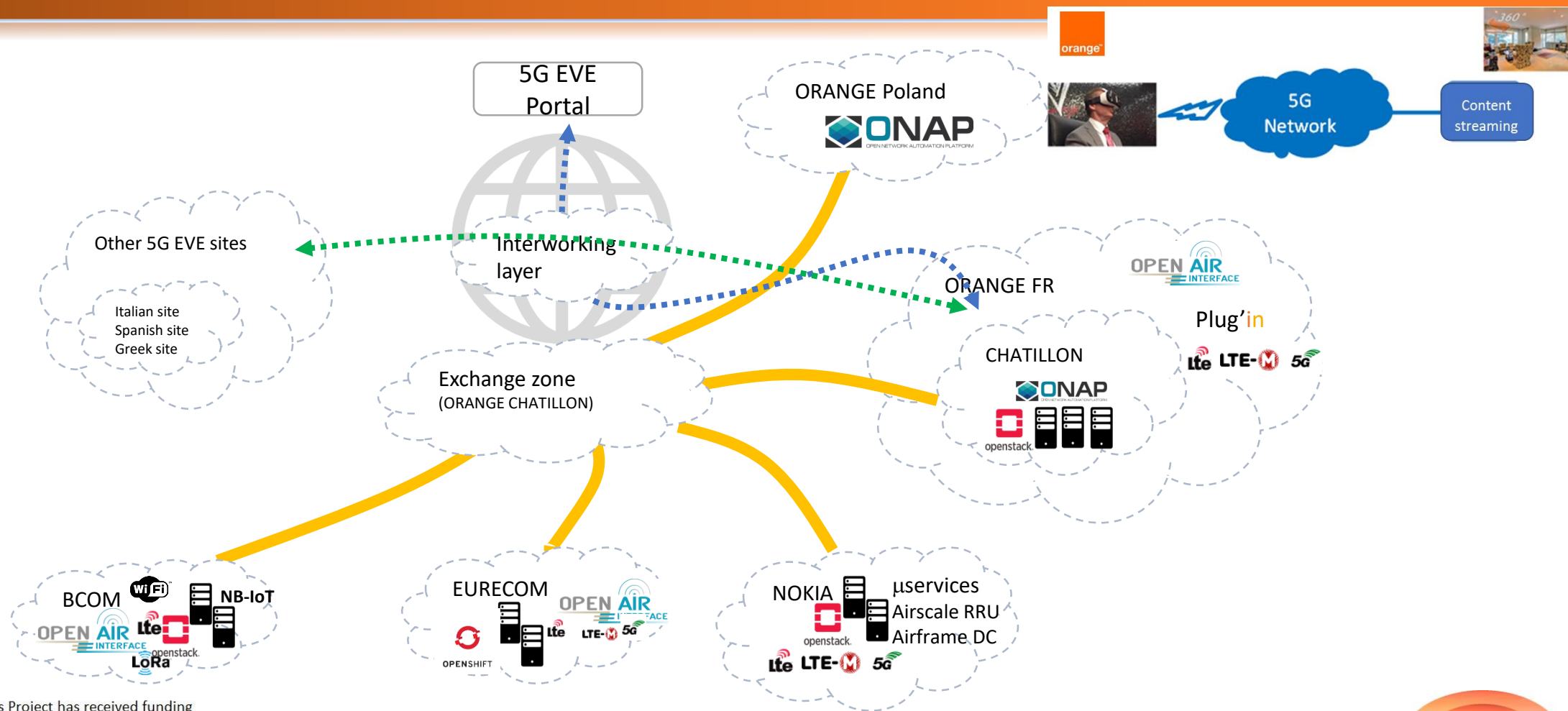
Greek Site Facility – Concept

- The Greek 5G EVE site facility covers a region of Northern Athens, around the R&D site of the **Greek National Telecommunication Organization (OTE)**

- **OTE, Ericsson GR, Nokia GR and WINGS** are responsible to prepare and upgrade the Greek site facility to be able to handle three **5G-oriented vertical use cases**

- **The facility will be offered to vertical industries for execution and validation of pilots with full sets of 5G capabilities**
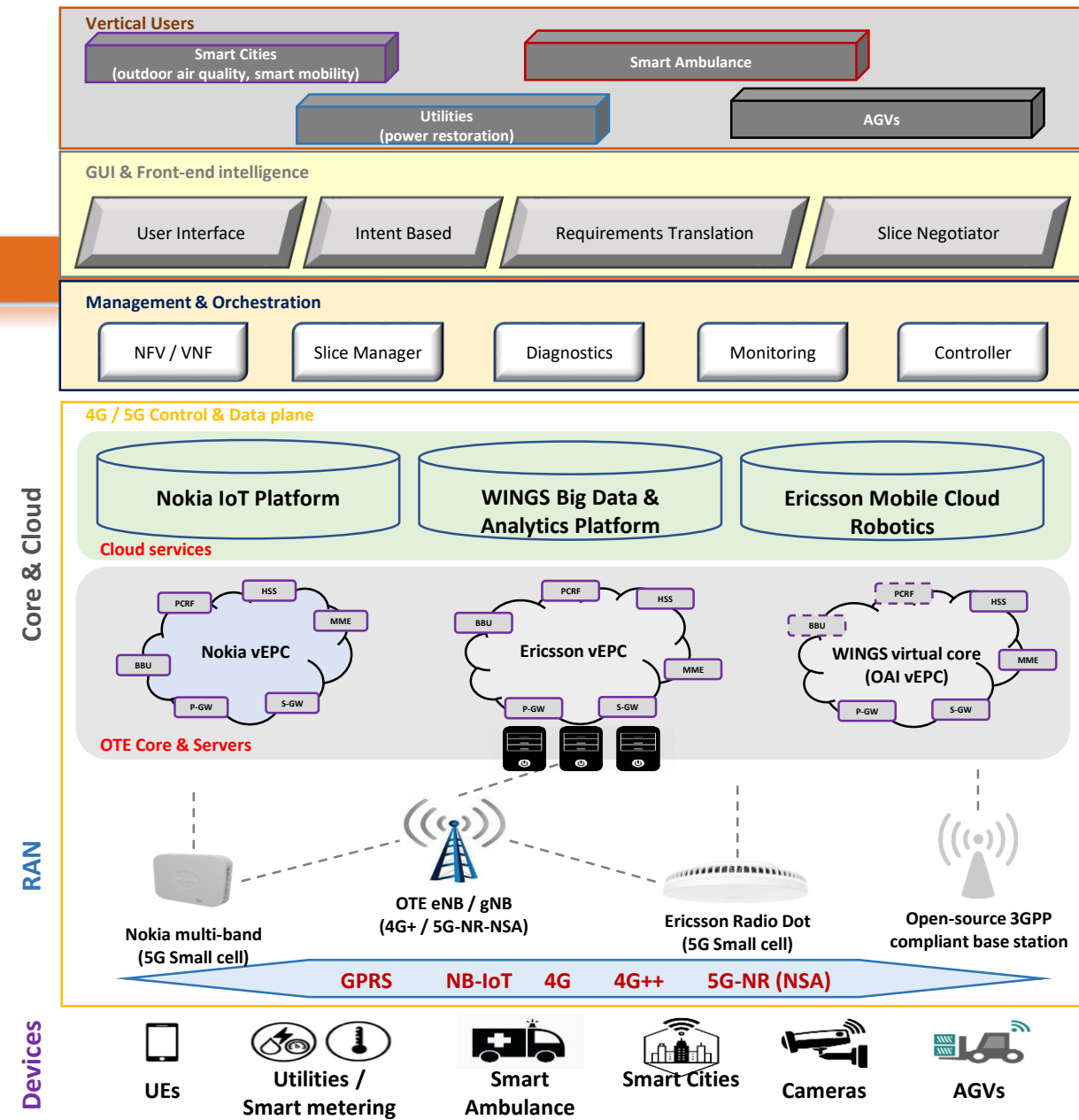
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Spanish Site Facility – Concept
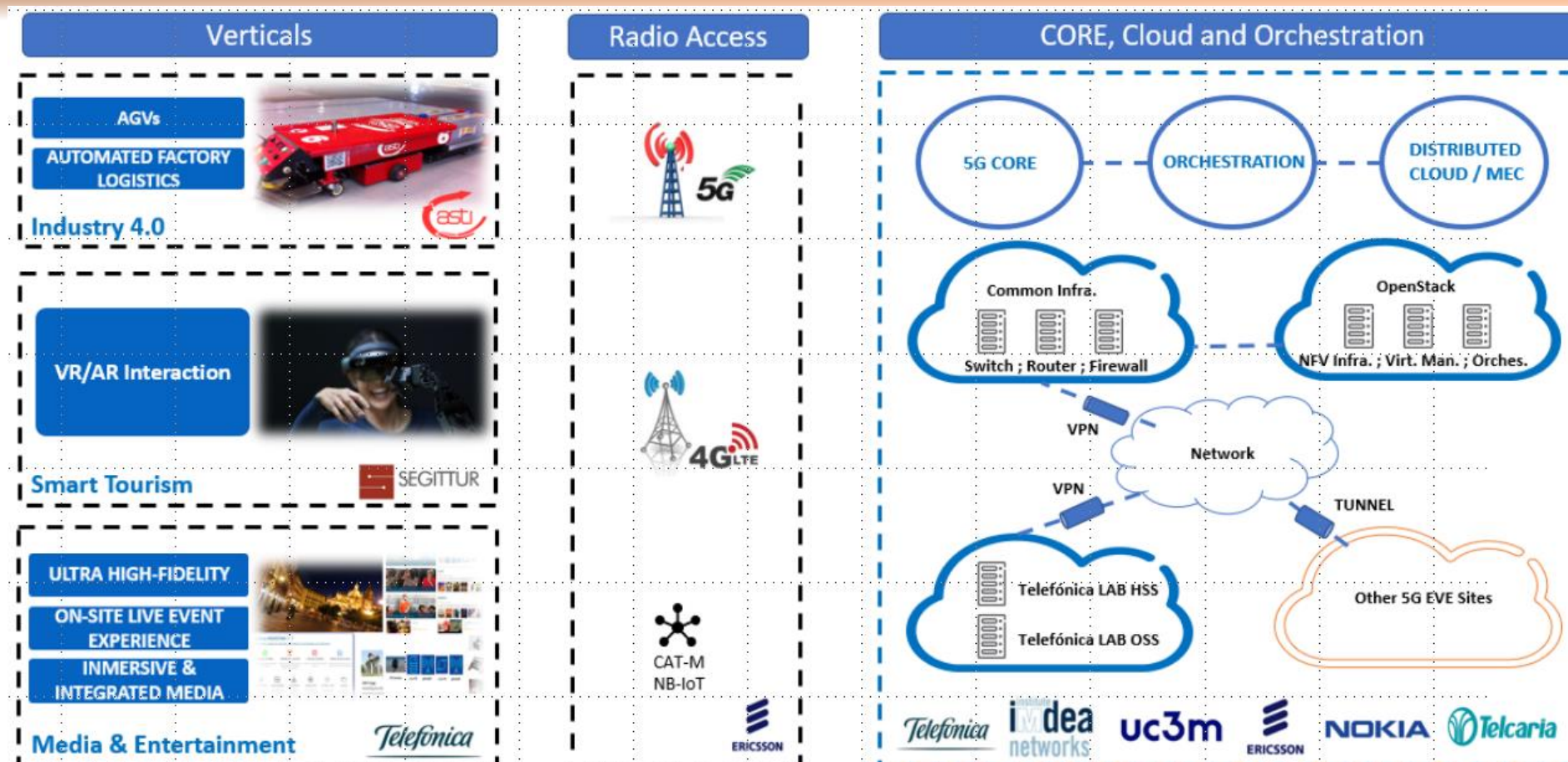
Italian Site Facility – Concept
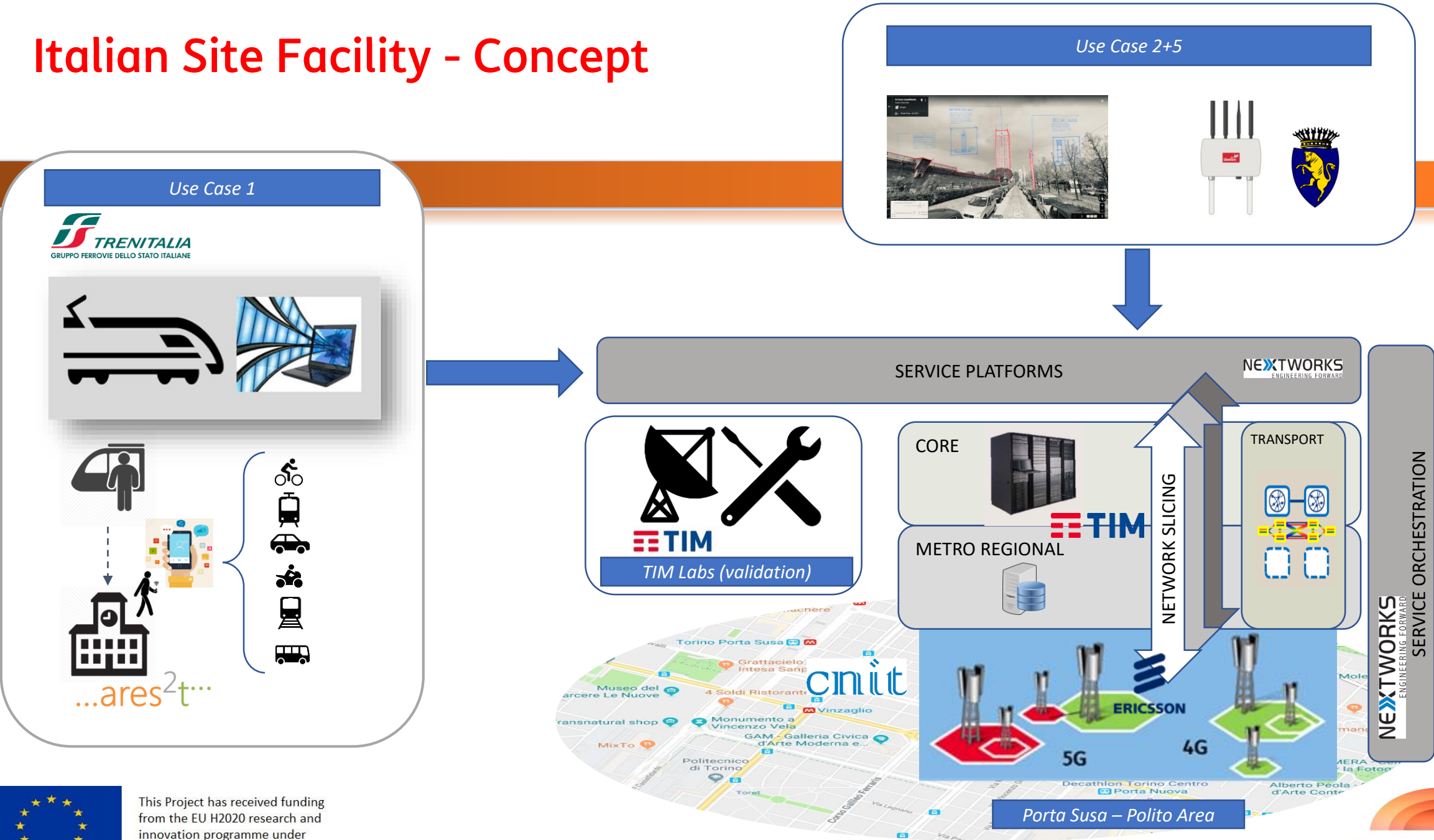
Use Case 2+5

Use Case 1

TRENITALIA
GRUPPO FERROVIE DELLO STATO ITALIANE

...ares²t...

SERVICE PLATFORMS

NEXTWORKS
ENGINEERING FORWARD

TIM

TIM Labs (validation)

CORE

TIM

METRO REGIONAL

NETWORK SLICING

TRANSPORT

SERVICE ORCHESTRATION

NEXTWORKS
ENGINEERING FORWARD

cnit

ERICSSON

5G   4G

Porta Susa – Polito Area

5G EVE

5G EVE Verticals Ecosystem

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				√				√		√

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THANKS A LOT

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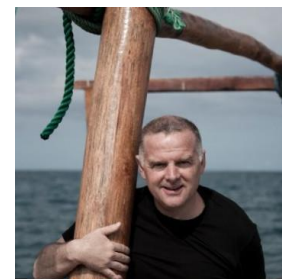
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