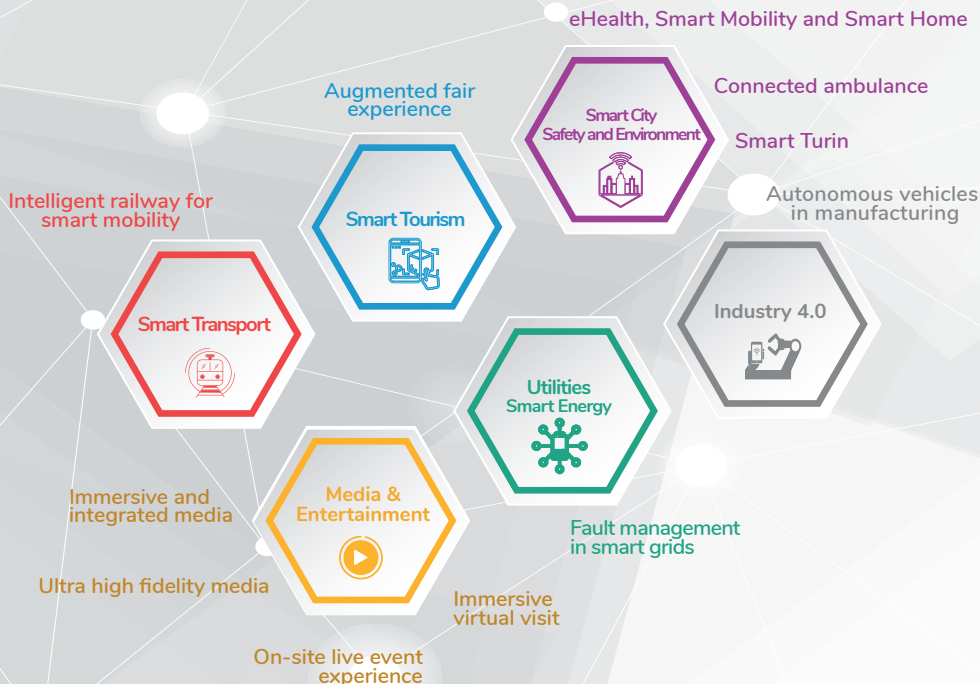5G EVE

A 5G End-to-End Validation Platform for Verticals

Extensive validation of **12** vertical use cases

Support of experimentation from **6** additional 5G PPP Phase 3 projects

eHealth, Smart Mobility and Smart Home

Augmented fair experience

Smart City Safety and Environment

Connected ambulance

Smart Turin

Intelligent railway for smart mobility

Smart Tourism

Autonomous vehicles in manufacturing

Industry 4.0

Smart Transport

Utilities Smart Energy

Immersive and integrated media

Media & Entertainment

Fault management in smart grids

Ultra high fidelity media

Immersive virtual visit

On-site live event experience

5G EVE Portal

4-Step Process to 5G Validation

Portal

TEST DESIGN
Define goals, conditions, assumptions, expected results

TEST PREPARATION
Planning, preparation of equipment and infrastructure

TEST EXECUTION & MONITORING
Execute experiment, collect logs and results

TEST RESULT & ANALYSIS
Performance evaluation, KPI assessment

INTENT-BASED INTERFACE FOR VERTICALS
Specify "what" is requested without details on "how" it is to simplify the access to the 5G end-to-end facility

MULTI DOMAIN SLICING AND ORCHESTRATION
Instantiate and manage network slices over multiple 5G site facilities to meet target performance requirements

PERFORMANCE DIAGNOSTICS
Derive insights on 5G performances from the analysis of various metrics (experiment, service, network and slice)
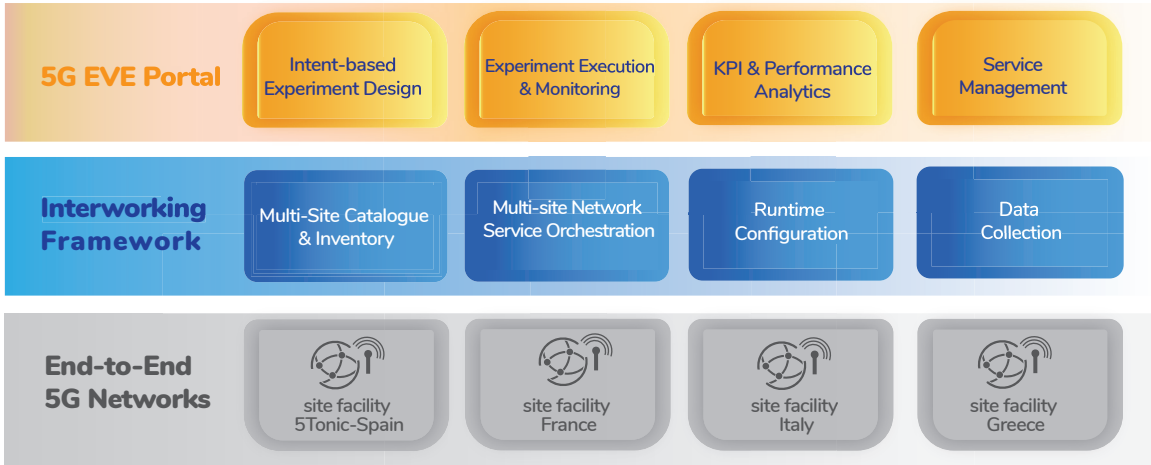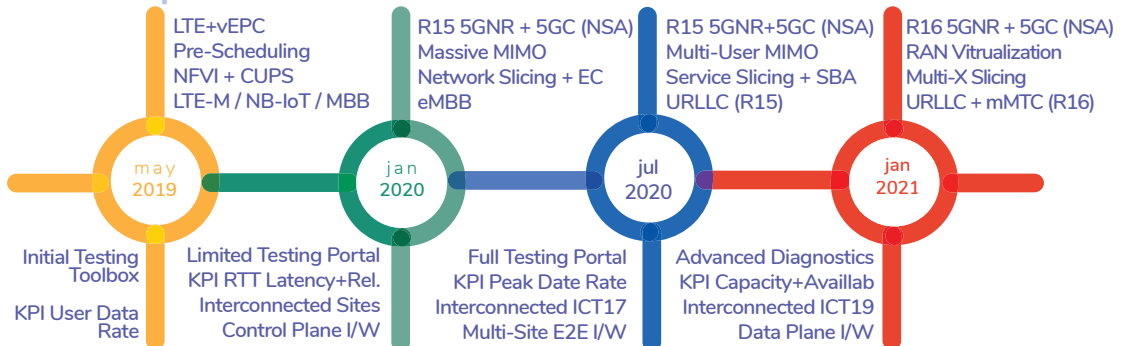
5G VNFs OPEN FRAMEWORK
Modular, reusable set of Service Functions - both proprietary and open source - for complete end-to-end 5G service chains

5G EVE Platform

Interworking of Multiple End-to-End 5G Site Facilities

5G EVE Portal
- Intent-based Experiment Design
- Experiment Execution & Monitoring
- KPI & Performance Analytics
- Service Management

Interworking Framework
- Multi-Site Catalogue & Inventory
- Multi-site Network Service Orchestration
- Runtime Configuration
- Data Collection

End-to-End 5G Networks
- site facility 5Tonic-Spain
- site facility France
- site facility Italy
- site facility Greece

5G capabilities

LTE+vEPC
Pre-Scheduling
NFVI + CUPS
LTE-M / NB-IoT / MBB

R15 5GNR + 5GC (NSA)
Massive MIMO
Network Slicing + EC
eMBB

R15 5GNR+5GC (NSA)
Multi-User MIMO
Service Slicing + SBA
URLLC (R15)

R16 5GNR + 5GC (NSA)
RAN Vitrualization
Multi-X Slicing
URLLC + mMTC (R16)

may 2019

jan 2020

jul 2020

jan 2021

Initial Testing Toolbox

KPI User Data Rate

Limited Testing Portal
KPI RTT Latency+Rel.
Interconnected Sites
Control Plane I/W

Full Testing Portal
KPI Peak Date Rate
Interconnected ICT17
Multi-Site E2E I/W

Advanced Diagnostics
KPI Capacity+Availlab
Interconnected ICT19
Data Plane I/W

5G added-value features

5G EVE Consortium

PARTNERS

28

7

COUNTRIES

TIM

orange
FR-PL-RO

Telefónica
I+D Telefónica Investigación y Desarrollo

OTE
GROUP OF COMPANIES

ERICSSON
IT-GR-ES

NOKIA
FR-GR-ES

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NE<XTWORKS
ENGINEERING FORWARD

CITTÀ DI TORINO

ASTI
MOBILE ROBOTICS

TRENITALIA
GRUPPO FERROVIE DELLO STATO ITALIANE

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Telcaria

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EURESCOM

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uc3m

cnit

SEGITTUR

edf

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Project information
Research Programme
**Horizon 2020 / 5G Infrastructure
Public-Private Partnership**
5G PPP Phase 3, Part 1: Infrastructure Projects

Duration
36 months

Budget
15.7 million euro

Coordinator
TIM (Italy)

Technical Manager
Ericsson (Spain)

5G PPP
PUBLIC-PRIVATE PARTNERSHIP