

# 5G EVE

## Project Overview & Greek facility presentation

October 11<sup>th</sup> 2018



This Project has received funding  
from the EU H2020 research and  
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Grant Agreement No 815074



5G EVE

# Outline

- 5G EVE Overview
- 5G EVE Vision
- 5G EVE Objectives
- 5G EVE Timeline
- 5G EVE Greek facility overview
- 5G EVE Greek facility high level architecture
- 5G EVE Greek facility envisioned use cases



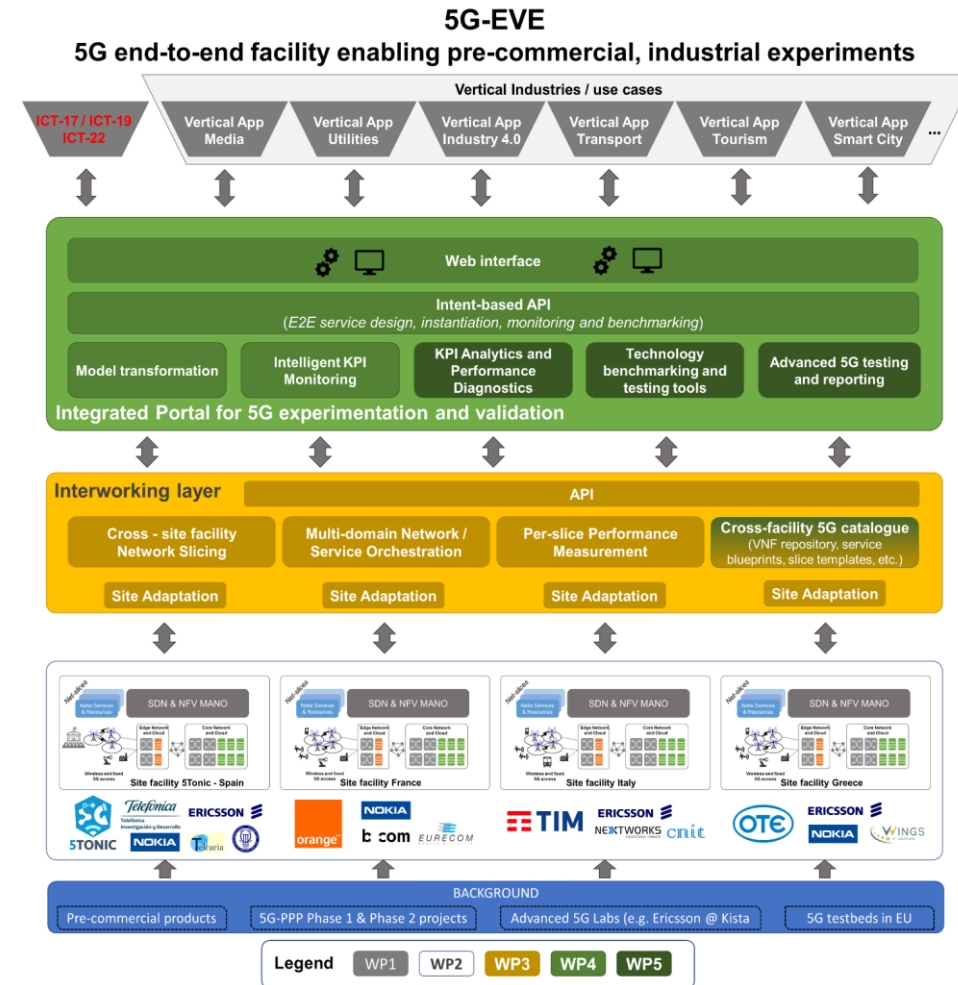
# 5G EVE Overview

- The 5G EVE proposal received an evaluation score of 14.5 / 15.0 points, the highest score for an ICT-17-2018 proposal
- The project will receive a total funding of 15,737,785 €, at a funding rate of 100% for all partners (RIA)
- The project consortium is comprised of 28 partners from 7 countries
- The Project starting date is set to be the 1st of July 2018
- The project duration is 36 months
  - End date: 30 June 2021



# 5G EVE Vision

- 5G EVE will create the foundations for a pervasive roll-out of end-to-end 5G networks in Europe by offering a **5G end-to-end facility to multiple vertical industries for validation of their network KPIs and their services**
- This pan-European 5G E2E facility will be comprised of four interworking local 5G facilities in **France, Greece, Italy and Spain** and will enable experimentation and validation with **full sets of 5G capabilities** (Rel. 15 & Rel.16 compatible features)
- The 5G EVE project will also offer **four advanced, innovative tools and features** towards the vertical industries:
  - intent-based interfaces
  - multi-x slicing and orchestration mechanisms
  - performance diagnosis tools
  - modular replacement and chaining of components.



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# 5G EVE Objectives

- The 5G EVE project has set 10 major Objectives:

1. **Create** a 5G end-to-end facility
2. **Evolve** the 5G end to end facility following relevant 5G standards (up to Rel.16)
3. **Validate** the 5G EVE end to end facility according to the 5G PPP network KPIs
4. Provide interworking facilities, and “**multi-x**” **slicing** and **orchestration functionality**
5. Develop a vertical-oriented open framework, consisting of **intent-based mechanisms**, APIs, and tools
6. Develop a common methodology for consistently performing tests, **KPI evaluation**, technology-benchmarking, and **performance diagnosis**
7. **Engage** with external verticals, applications, and projects from other H2020 initiatives
8. Enhance the **openness** of the facility by allowing **modular** replacement of components and the coexistence of proprietary and **Open Source technologies**
9. Contribute to relevant 5G **standardization** fora
10. Validate the strategic **business** and technical impact of 5G EVE **ecosystem** (**sustainability**)



# 5G EVE Sites & Use cases

- 5G EVE end-to-end facility comprised of 4 local sites

Site Facility	Greece	Spain 5TONIC	France	Italy
Owner (operator)	OTE	Telefonica	Orange	TIM
Location(s)	Athens	Madrid	Nice, Paris & Rennes	Turin
Involved partners	Nokia, Ericsson, WINGS	Ericsson, UC3M (IMDEA), Segittur, ASTI, Telcaria	Nokia, B-COM, Eurecom, EDF	Ericsson IT, Nextworks, CNIT, Comune Torino

- To focus on 6 5G use cases

- UC1: Smart Transport
- UC2: Smart Tourism
- UC3: Industry 4.0
- UC4: Utilities / Smart Energy
- UC5: Smart Cities
- UC6: Media & Entertainment



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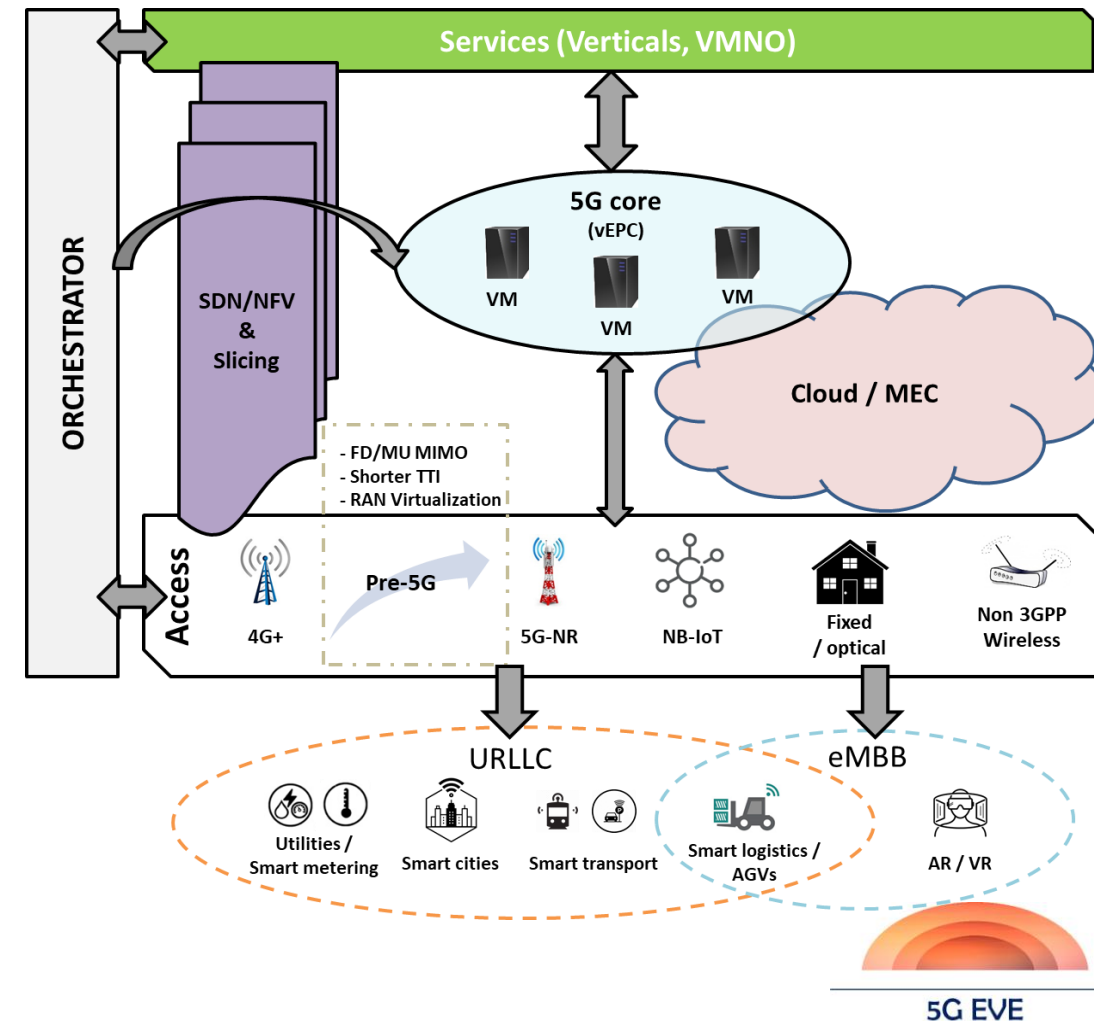
# 5G EVE timeline

- 07/2018 (**M0**) : Project kick-off meeting (Turin)
- 05/2019 (**M10**): Initial access to local sites provided to participating verticals
- 01/2020 (**M18**): 1<sup>st</sup> release of 5G EVE end-to-end facility
- 07/2020 (**M24**): 2<sup>nd</sup> release of 5G EVE end-to-end facility
  - APIs, Web interfaces & site interworking fully functional
- 01/2021 (**M30**): 3<sup>rd</sup> release of 5G EVE end-to-end facility
  - 3GPP Rel.16 compatible



# 5G-EVE Greek facility overview

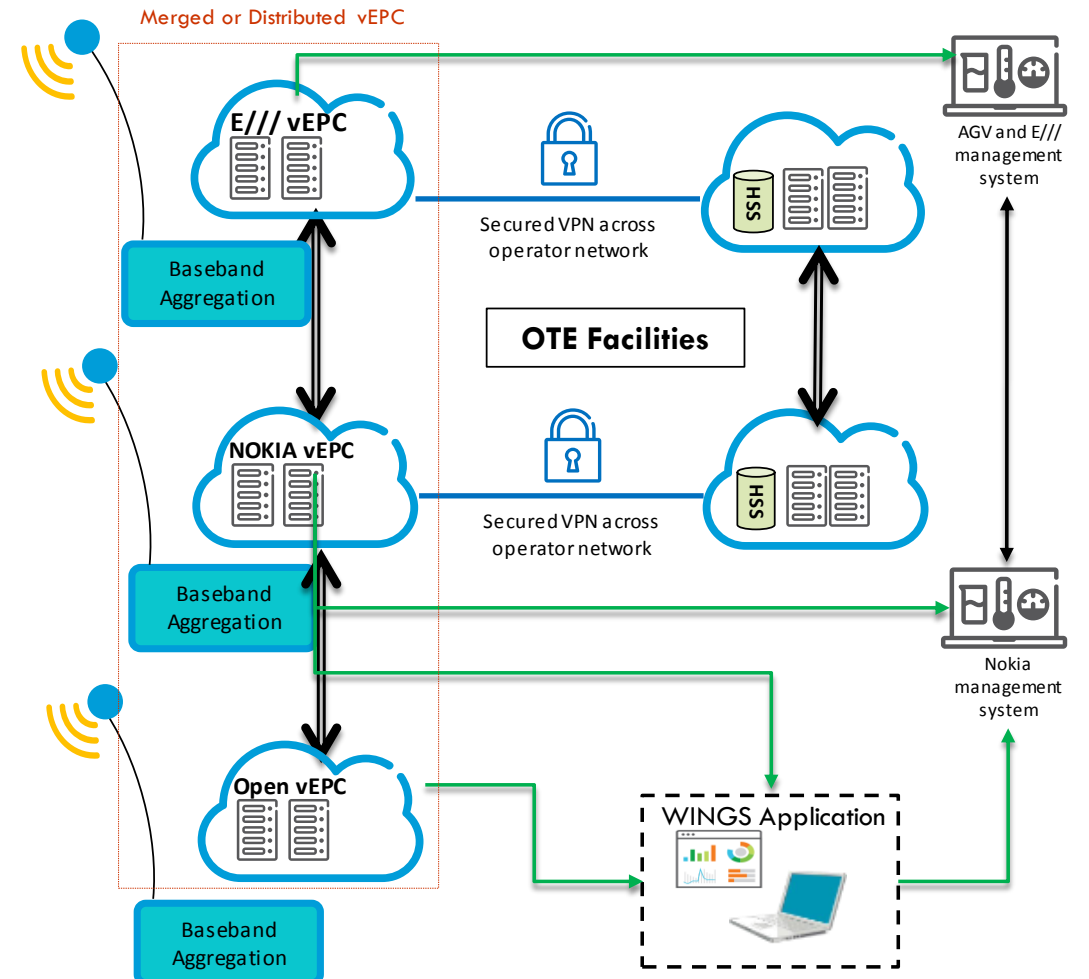
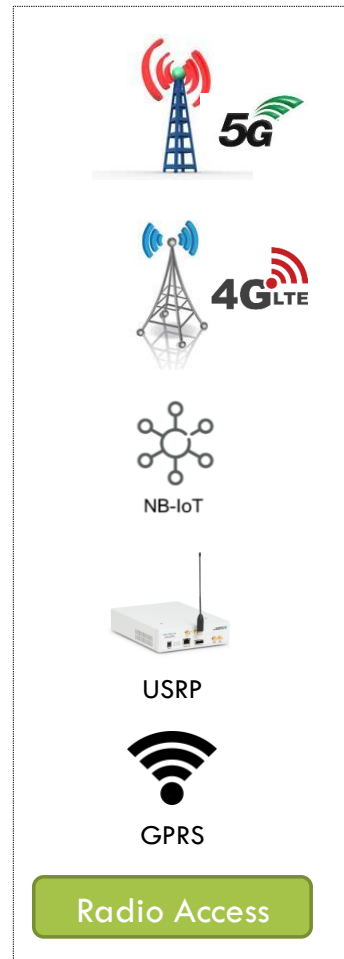
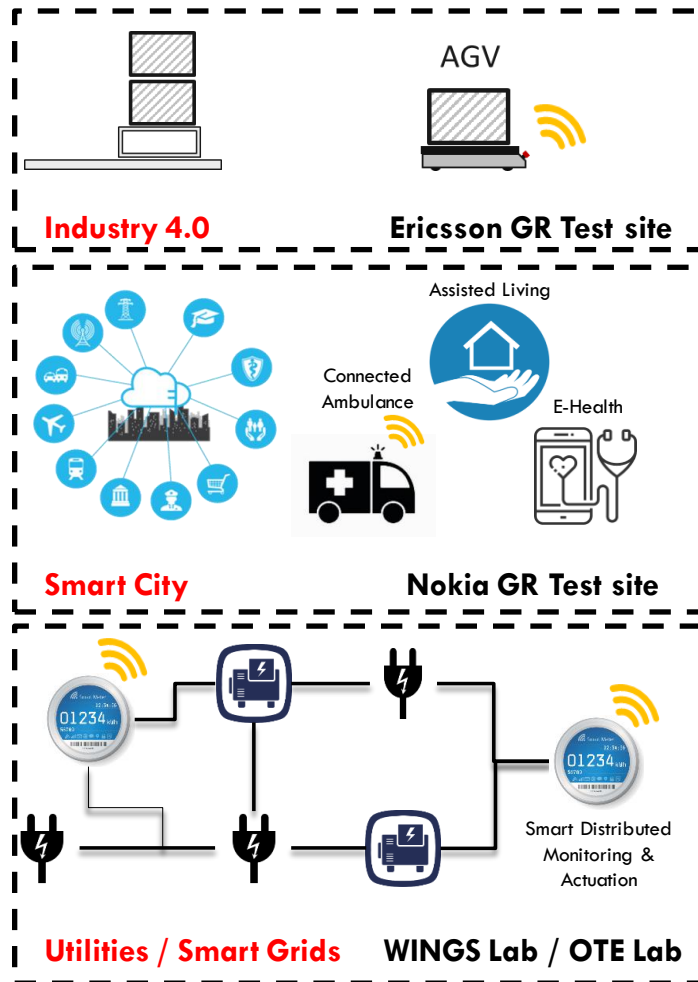
- The Greek 5G-EVE facility is one of the four interworking 5G-EVE facilities and will be implemented by OTE, Ericsson GR, Nokia GR and WINGS
- The facility will offer **uRLLC**, **eMBB** and **mMTC** functionality and it will focus on the support of three prominent vertical industries
  - Industry 4.0 (AGV + AR/VR)
  - Utilities/Smart Energy (predictive & ultra-fast fault detection)
  - **Smart Cities (Cloud IoT & smart infrastructure management)**
- The facility will be interconnected with the other three 5G-EVE facilities and will allow cross-facility resource utilization



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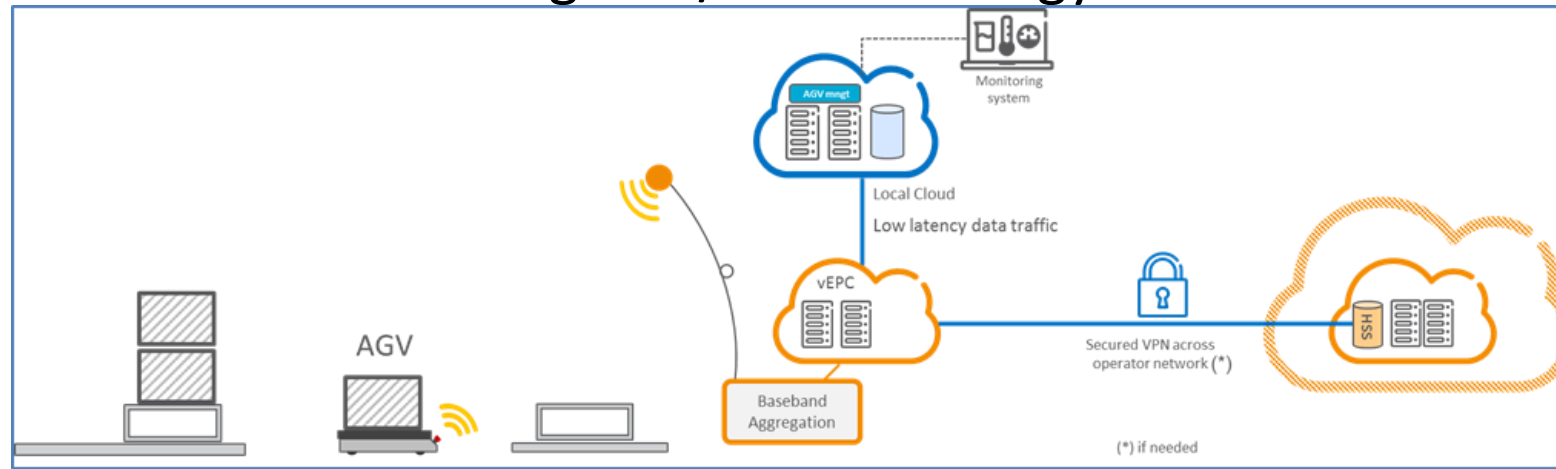


# 5G EVE Greek Facility High Level Architecture



# Greek facility envisioned use cases

- UC3: Industry 4.0 (uRLLC + eMBB, Ericsson GR)
  - Localization, navigation, control, coordination and cooperation of Automated Guided Vehicles (AGVs) for OTE warehouse
  - Environment maps building and sharing via the cloud
  - Collaboration among Automated Guided Vehicles (AGVs)
  - Enhanced user interaction through AR/VR technology



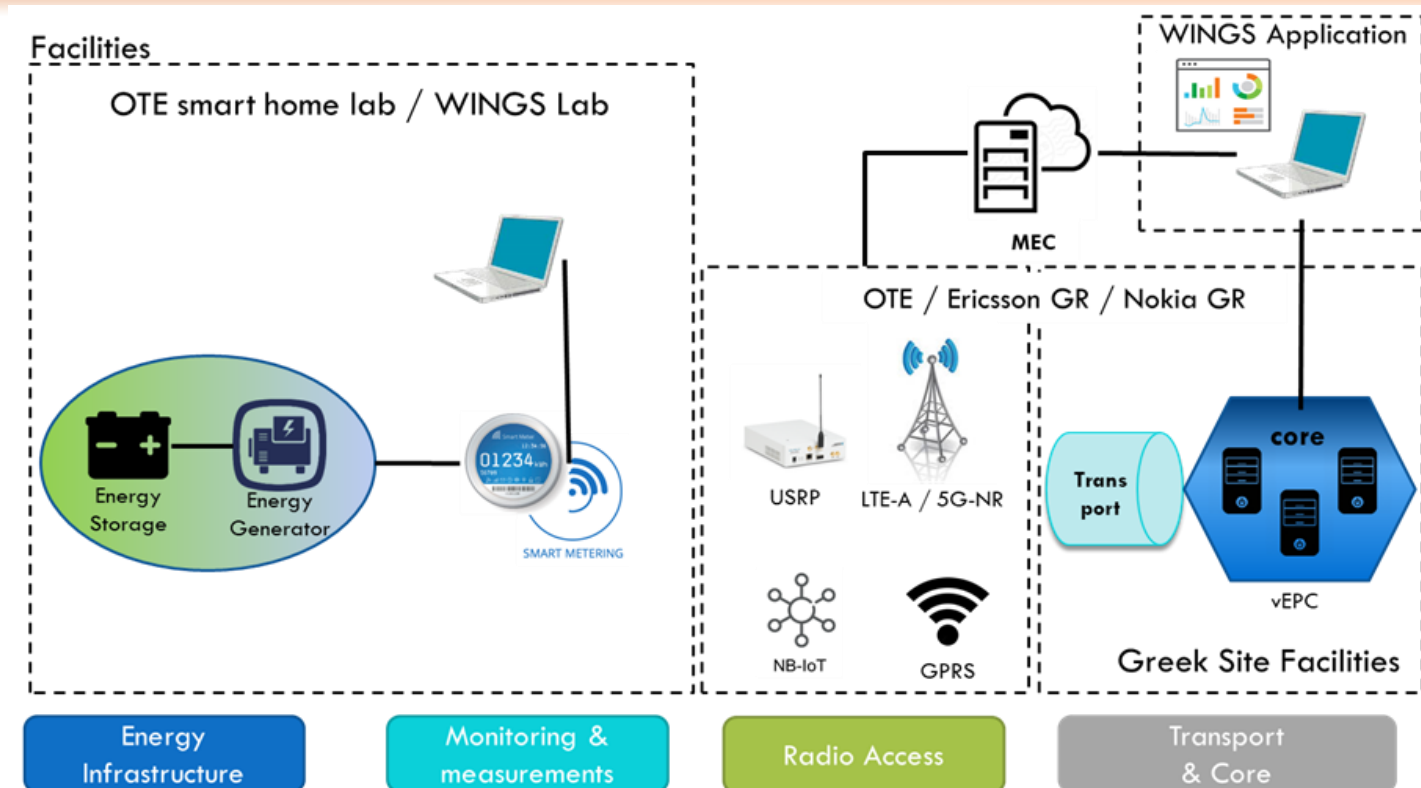
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# Greek facility envisioned use cases

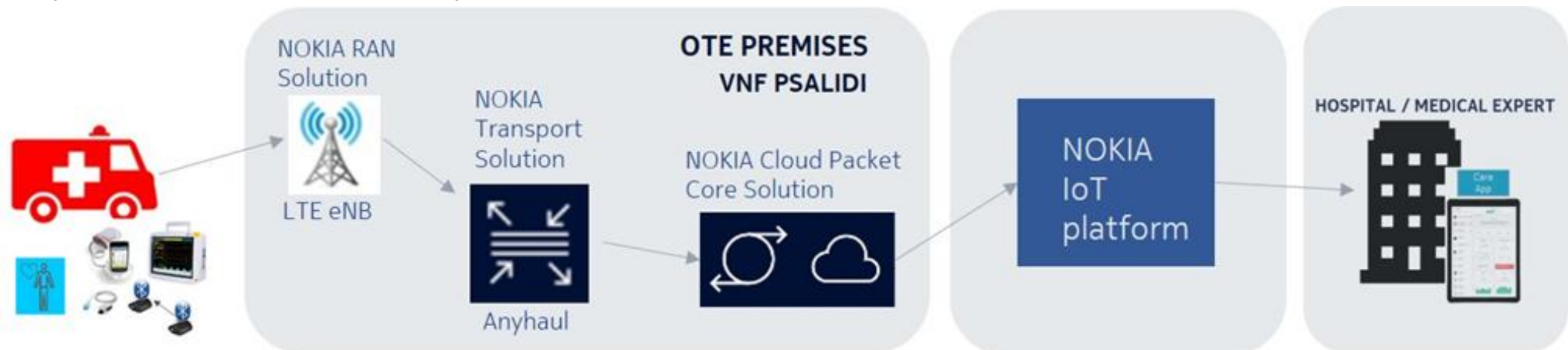
- UC4: Utilities / Smart Energy (uRLLC + cMTC, WINGS)
  - Smart metering installation and operation
  - Predictive analytics for ultra-fast fault detection and management
  - Operation in a Distributed Generators environment



# Greek facility envisioned use cases

- UC5: Smart Cities (uRLLC + mMTC, Nokia GR - WINGS)

- Installation & operation of multiple IoT devices enabling e-Health vertical through “Smart Ambulances” application
- Additional smart city application addressing urban assisted living, remote health monitoring and automated environments adaptation over WINGS smart city platform
- Operation over Cloud IoT platform



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