

# NGPaaS

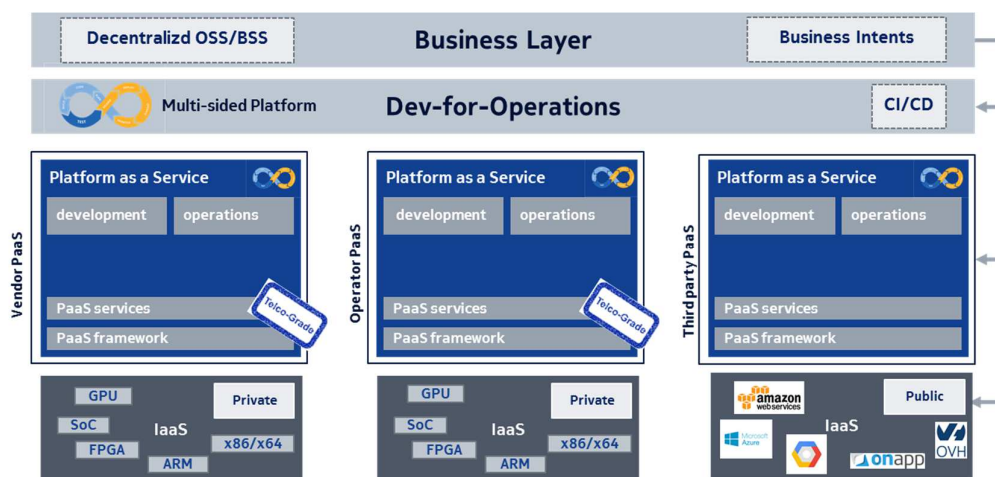
## Next Generation Platform as a Service

### MAIN OBJECTIVES

The ideal 5G Platform-As-A-Service (PaaS) not only facilitates building, shipping and running classical virtual network applications (VNFs) with “telco-grade” quality but also provides an ecosystem that breaks the barriers between connectivity and computing, combining all sorts of third-party applications with those VNFs for creating exciting more versatile and powerful cloud objects. This 5G PaaS does not exist today. The **main goals** of NGPaaS is to build it by targeting:

- ❖ A **Telco-grade PaaS** to support different configurations and a large set of deployment targets such as **FPGA/ARM/x86**, private/public cloud in a scalable and unifying manner.
- ❖ A new **Dev-for-Operations model** to remove the vertical barriers that create isolated silos, not only between different teams of the same organisation or organisations of the same industry, but also between different industries (vendor, IoT/Vertical, operator).
- ❖ **High quality and high-performance development and operational environments**: If we want developers from the IT industry to embark on the 5G platform, it is important to support tools for ensuring the same quality and SLA as the ones found in telecom environment.
- ❖ **Decentralized OSS/BSS model** for interfacing with cloud resources supporting the Telco-grade PaaS optimised for cost and performance in a highly dynamic environment.

### TECHNICAL AND RESEARCH CHALLENGES



Specificities to 5G systems require innovations not yet available in current PaaSes:

- ❖ **Adoption of the ‘cloud computing’ patterns** through a new layered approach: infrastructure/platform/business layers, enabling the support of heterogeneous and distributed cloud environments.
- ❖ **Component modularity** to implement “**build-to-order**” principle and to support recursion to build efficiently complex PaaS structures.

- ❖ **Enabling unstructured and flexible stack** to break existing vendor lock-in by facilitating a dynamic composition of the PaaS technologies.
- ❖ **Telco-grade enhancements** implemented directly and natively in the network control, orchestration, virtualisation and operational frameworks.

## USE CASES

A diversity of use-cases can be supported easily following NGPaaS principles and design: **enhanced mobile broadband, in-vehicle infotainment, connected healthcare, Industry 4.0, smart cities, IoT**, etc. To illustrate the “build-to-order” principle, three use-cases have been selected. One for the telco, one the IoT and one mixing components from telco and IoT. These use-cases are highly representative of the advanced capabilities of the platform.

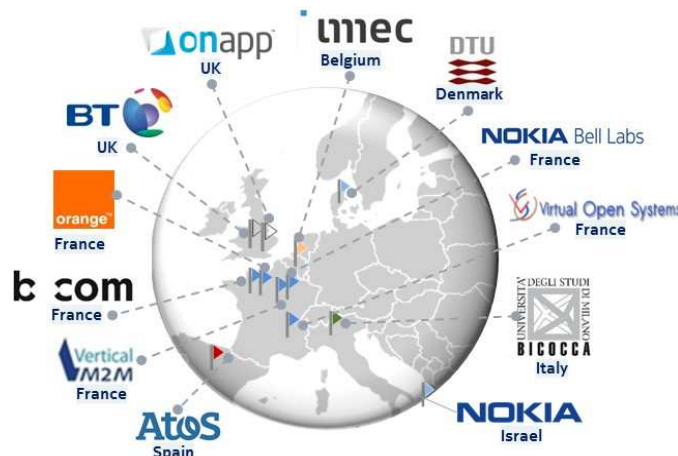
- ❖ The telco use-case demonstrates advanced **network softwarization** such as ‘*RAN-as-a-Service*’ and ‘*EPC-as-a-Service*’.
- ❖ The vertical use-case is related to IoT energy scenarios.
- ❖ The third use-case shows a mix of telco and 3rd party IoT components (e.g. local analytics). Heterogeneous IaaS will be considered.

## EXPECTED IMPACT

NGPaaS’s ambition is to:

- ❖ Reduce **Time-to-Market** & Accelerate **Time-to-Profit** for Telco and Vertical players.
- ❖ Enable 5G to become central to a cooperative future with cloud developers, by removing the technological silos between the telco and IT industries.
- ❖ Create a new ecosystem and the opportunity for all players to collaborate and develop new business models they can each benefit from.
- ❖ Deliver innovative technologies enabling and accelerating the telco-grade PaaS transformation across the industry (operator, IoT/verticals and vendors).

## CONSORTIUM & CONTACT



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