

5G Private Networks and Slicing

FUDGE-5G Project Newsletter #2 September 2021

FUDGE-5G is a European research project conceived to offer 5G private networks on demand, with revolutionary features for the industry and other environments such as hospitals or universities. The way to bring dedicated coverage and different services to such private and public organizations runs the risk to wrongly associate different 5G key concepts, such as dedicated private networks and network slicing.

Among the several key innovative concepts of 5G mobile networks, network slicing is recognized as a key feature that will be used to address enterprise and industrial wireless needs. At the same time, however, many private organizations and enterprises have been deploying business-critical Private LTE/5G networks and experimenting with Private 5G.

Especially due to the common final goal of enabling dedicated wireless communication services with performance and privacy guarantees, network slicing is often confused with Private LTE/5G. However, we emphasize that they have different applications on the field. Private networks, which strictly relate to manufacturing plants, airports and ports, utility production and distribution sites, financial institutions etc., typically require *dedicated core networks*. In fact, this is the case of enterprises that do not want to share any hardware or software infrastructure with other enterprises and competitors. Having dedicated core networks turns out to be the only way to provide the enterprise with full network isolation, bringing greater control, reliability and deterministic quality of service. On the other side of the story, network slicing suits very well for less localized applications such as nationwide fleet management, which might come along with a reliable and controlled service wherever the device is located.

Identifying the most suitable network deployment becomes a key infrastructural choice for private businesses and public institutions. This supports the need for clarification and differentiation between solutions, as debated above, also considering the amount of investments and expenditure that will soon concern the Private 5G ecosystem. Indeed, a recently published research by ABI (<https://enterpriseiotinsights.com/20200717/channels/news/private-5g-to-outrun-public-5g-for-spend-and-spectrum>) stated that Private 5G will outrun public 5G for spend and spectrum, raising the importance of the 5G mobile network features and where they reside, how they are shared and controlled.



Shipping yards – source:

<https://enterpriseiotinsights.com/20200717/channels/news/private-5g-to-outrun-public-5g-for-spend-and-spectrum>

The FUDGE-5G project will establish the guidelines for deploying 5G private networks on site and in the cloud, depending on the nature of the applications and customer's requirements, to reduce the cost of infrastructure and to increase the flexibility of the deployment, so that it always adjusts to the needs of the vertical end-user. One of the main advantages of using the cloud to host this infrastructure is elasticity, which allows the allocation of resources assigned to the network to be performed dynamically, helping to cut costs by optimizing the usage of resources towards the load at any given time.

Five testing grounds

The project started in September 2020 and will run until February 2023. It includes the development of different pilot tests for the deployment of 5G Private Networks, which will all be carried out in Norway, using Telenor Research as the network operator.

The locations in which the pilots will be carried out are a hospital (5G Virtual Office use case), the Norwegian public television NRK (Multimedia use case), the Norwegian Defence Material Agency (NDMA) (Public Protection and Disaster Relief use case), the multinational company ABB (case of Industry 4.0, where the performance of these networks for connected robotics applications will be evaluated), and at a university (Interconnected NPNs use case). In the latter use case, the main goal is to connect the UPV campus with a Telenor site and the Fraunhofer FOKUS German research institute in Berlin, deploying an Eduroam-style network with non-public 5G networks in different countries connected to each other.

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IN-PERSON EVENT:
21 - 23 SEPTEMBER, 2021
ExCel., London

VIRTUAL EVENT:
20 - 24 SEPTEMBER 2021
Online

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Project Coordinator

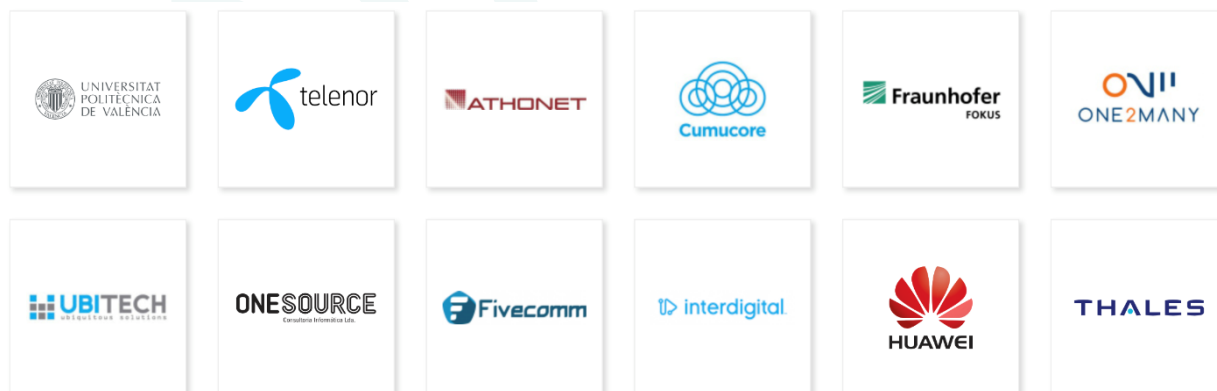


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