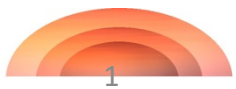




5TONIC Spanish site facility status – 5G EVE and Beyond

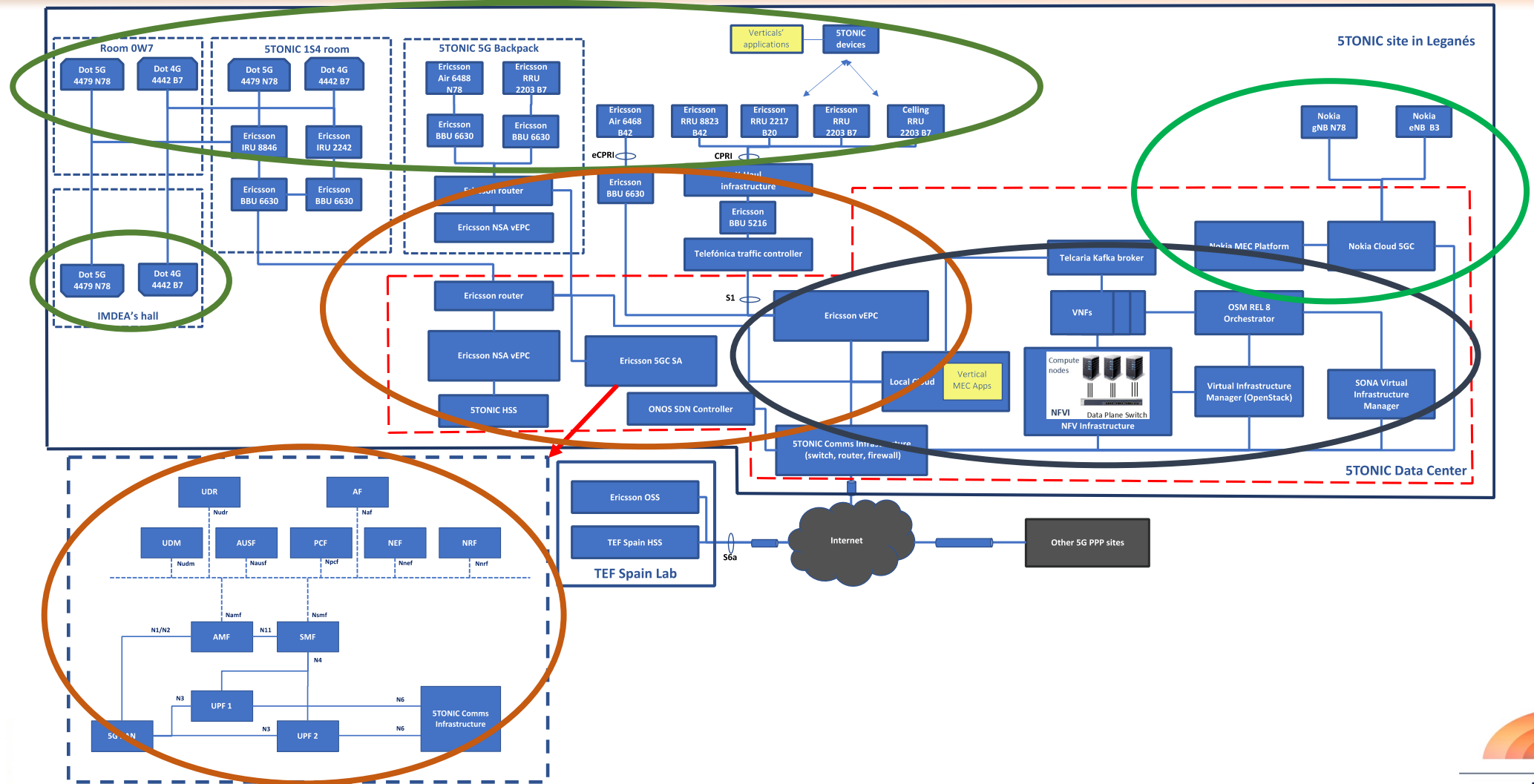


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5G EVE

Architecture of the site



Spanish site capabilities/features

Capabilities	Features	Availability
5G Services	Enhanced MBB (eMBB)	Y
	URLLC (URLLC)	
	Rel-15	Q3 2021
	Rel-16	Q2 2022
	Massive IoT (mMTC)	
	LTE-M	Y
5G Architecture Options	NB-IoT	Y
	Rel-16	Q2 2022
	Option-1 (Legacy)	
	Rel15-GNR + EPC in NSA mode	Y
5G Access Features	Rel15-5G NR + Rel15-5GC in SA mode	Y
	Rel16-5G NR + Rel16-5GC (in NSA & SA modes)	Q2 2022
	Flexible Numerology	Y
	Massive MIMO	Y
	Multi-User MIMO	Y
	RAN Virtualization	Q3 2021
	Latency Reduction Rel-15	Y
Latency Reduction Rel-16	Q2 2022	
Spectrum	Low Band (800 MHz – LTE-M & NB-IoT)	Y
	Mid Band (2500 MHz – LTE & 3500 MHz – NR)	Y
	High Band (28 GHz – NR)	Y



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5G EVE

Spanish site capabilities/features

Capabilities	Features	Availability
Core Network	vEPC supporting 5G	Y
	5GC	Y
	CUPS	N
	SBA	Y
	Interworking with LTE	Y
Slicing	Network Slicing (std 5G Services: eMBB, URLLC, mMTC)	N
	Service Slicing (cloud orchestration level)	Q2 2022
	Multi-site Slicing	Q2 2022
Virtualization	NFVi support	Y
	SDN control	Y
	Vertical Virtualized Application deployment support	Y
Edge Computing	3GPP Edge Computing	Y
	ETSI MEC	Y
Orchestration	VNF, PNF	Y
	CNF	



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5G EVE

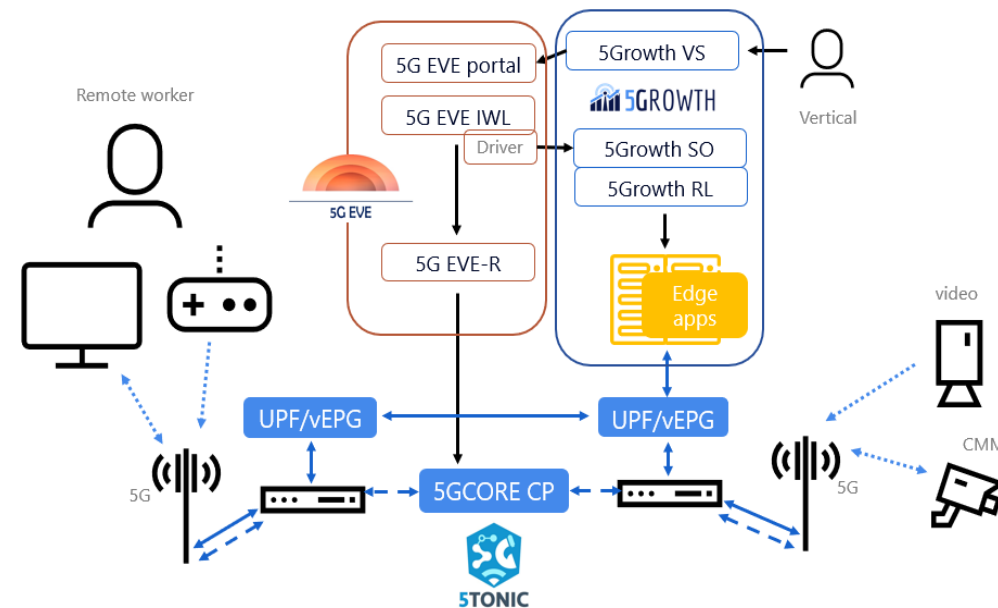
Support of ICT-19 projects

5G EVE supports **5Growth Connected Worker Remote Operation of Quality Equipment** use case, where **Innovalia** is the vertical customer

- With this pilot, Innovalia expects to improve its M3 Zero Defect Manufacturing (ZDM) service portfolio by the introduction of a remote CMM (Coordinate Measuring Machine) configuration service
- In this way, one of the most expensive maintenance tasks for the CMM will be significantly reduced thanks to the use of the 5G technologies, which will effectively enable remote control operations, thus avoiding the cost of the in-site human interventions

Added value from 5G EVE:

- 5G EVE provides an intermediate layer between the 5Gr VS, which is new functionality defined by 5Growth, and it facilitates the onboarding of the NSD and VNF packages and the instantiation of the VNFs at the 5Growth site
- Additionally, the pilot benefits from the monitoring functionalities of 5G EVE. The results of the experiment are collected and exposed by the 5G EVE monitoring platform



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5G EVE

And what will happen with the Spanish 5G EVE cluster in the post 5G-EVE era?

The Spanish site, 5TONIC, already existed before the start of 5G EVE and will continue with its activities when the project finishes, without requiring the support from European projects. However, for 5TONIC is essential to extract value from the deployment of the 5G EVE platform to enhance its objectives as co-creation platform for 5G and beyond 5G use cases.

Among the projects that will use 5TONIC 5G EVE platform beyond ICT-19 are:

- **AI@ege project** (<https://aiatedge.eu/>):

The project will develop a connect-compute fabric – specifically leveraging the serverless paradigm – for creating and managing resilient, elastic, and secure end-to-end slices. The AI@EDGE platform will be validated using four well-chosen use cases with specific requirements that cannot be satisfied by current 5G networks, and one of them, Edge AI assisted monitoring of linear infrastructures using drones in BVLOS operation, will be implemented in 5TONIC.

The participation of 5TONIC is supported by the presence of Ericsson in the Consortium, as well as Aerotoools, a candidate 5TONIC collaborator.

- **5G DIVE** (<https://5g-dive.eu/>):

The project, a cooperation between EU and Taiwan, targets end-to-end 5G trials aimed at proving the technical merits and business value proposition of 5G technologies in two vertical pilots, namely (i) Industry 4.0 and (ii) Autonomous Drone Scout. 5TONIC will host the main European demo of the project.

The project is supported by UC3M, Ericsson, Telcaria and Telefónica.

- **5G-INDUCE** (<https://www.5g-induce.eu/>):

The project targets the development of an open, ETSI NFV compatible, 5G orchestration platform for the deployment of advanced 5G NetApps. The platform's features provide the capability to the NetApp developers to define and modify the application requirements, while the underlay intelligent OSS can expose the network capabilities to the end users on the application level without revealing any infrastructure related information.

The project is supported by Ericsson, as well as 5TONIC collaborators Fivecomm, ASTI and YBVR.

- **HEXA-X** (<https://hexa-x.eu/>):

Hexa-X is the flagship project aiming to define the European vision of the 6G mobile system that will be deployed by 2030. The project considers 23 use cases, clustered in to 5 families, that are enabled by 7 enabling services harnessing new capabilities.

The involvement of 5TONIC in the project is supported by the participation of UC3M, Ericsson and Telefónica



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5G EVE

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THANK YOU



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5G EVE