5G in Healthcare – Northern Region (PT)

CEF2 Digital - 5G for Smart Communities

5GSC Working Group II - Healthcare Subgroup
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July 3rd 2025

5G | HEALTH CARE
NOS • SÃO JOÃO • INEM

NOS SÃO JOÃO INEM ULSAM UNIDADE LOCAL DE SAÚDE DO ALTO MINHO, EPE

Co-funded by the European Union

5G in Healthcare – Northern Region (PT)

Agenda

01. General overview

02. Connectivity Infrastructure

03. Use Cases

General overview

CEF2 guarantees the infrastructure to enable the use cases setup & integration for healthcare

March 2024
-
February 2027

- NOS, together with project partners, **will use 5G technology to foster advanced use cases in Healthcare sector that will improve focused services for the community**
- This project was designed to cover **several use cases**, in different environments, where the use of 5G technology will significantly **improve medical care**
- The main objective is to demonstrate the **potential that 5G network connectivity** can achieve in terms of **improved services** (quality and quantity) in the **healthcare sector**

Connectivity Infrastructure

CEF2 FUNDING

TOTAL
3.315 M€ Investment
2.487 M€ Funding*

NOS ★	SÃO JOÃO	INEM
Investment 2.715 M€	Investment 0.350 M€	Investment 0.250 M€
Funding* 2.036 M€	Funding* 0.263 M€	Funding* 0.188 M€

Use Cases

PT 2030 FUNDING

TOTAL
2.999 M€ Investment
2.399 M€ Funding*

SÃO JOÃO ★	INEM
Investment 2.624 M€	Investment 0.375 M€
Funding* 2.099 M€	Funding* 0.300 M€

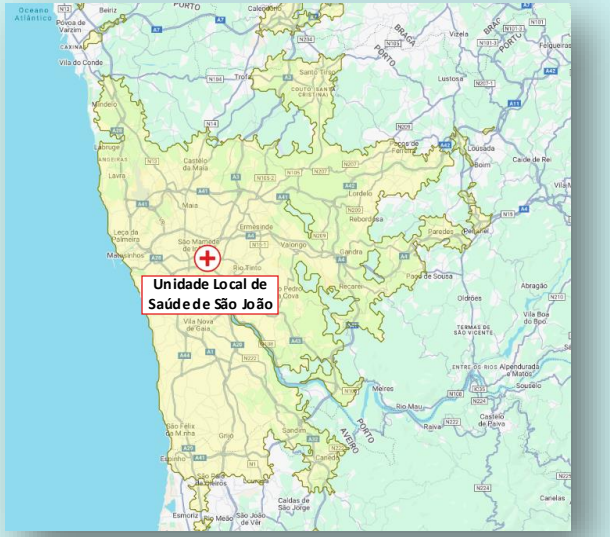
Legend: ★ Consortium Leader * Funding Rate = 75%

Connectivity Infrastructure

5G technology to foster advanced use cases in Healthcare sector

The project will be developed within the influence perimeter of the **Unidade Local de Saúde de São João**, where a **5G network will be made available**

- **Reinforced 5G Network** in the **ULS São João assistance area** (30min radius)
  - Increase NR700 and NR3500 coverage
- **High-capacity** mobility layer
  - Seamless coverage with top notch quality
- **5G** Network at **ULS São João facilities** for indoor use cases
  - Dedicated coverage at UCI, Davinci robotic room, etc.
- **Response times less than 10ms**, with regional processing capacity
  - Mobile Edge Computing (MEC) at Porto Centre
- **Differentiated service quality** for critical use cases
  - 5G SA Core enables virtual private network/slicing



MAIN TECHNOLOGY ENABLERS

RADIO NR700+NR3.5 | CORE 5G NSA & SA | HIGH CAPACITY BACKBONE | MOBILE EDGE COMPUTING | VIRTUAL PRIVATE NETWORK/SLICING | ADVANCED FUNCTIONALITIES

VERY HIGH THROUGHTPUT | INSTANT ACTION | MASSIVE CONNECTIONS

Project progress

Infrastructure deployment and use cases setup

Connected Emergency vehicles

Provide live feed of vital signs and HR video between INEM emergency vehicles and INEM support center

SÃO JOÃO INEM

Robotic surgery live stream

Allows the live broadcast of a surgery using the DaVinci laparoscopic robotic system

SÃO JOÃO

Telemedicine within the Metropolitan Em. Net.

Specialists access real-time patient data, conduct telemedicine consults, and assess the need for hospital transport

SÃO JOÃO

5G IoT for health monitoring environment

Establish a healthcare and monitoring environment using 5G IoT devices in selected patients' homes

SÃO JOÃO

Virtual reality in the intensive care unit

Use 5G-powered VR technology as a non-pharmacological intervention for patients in ICU

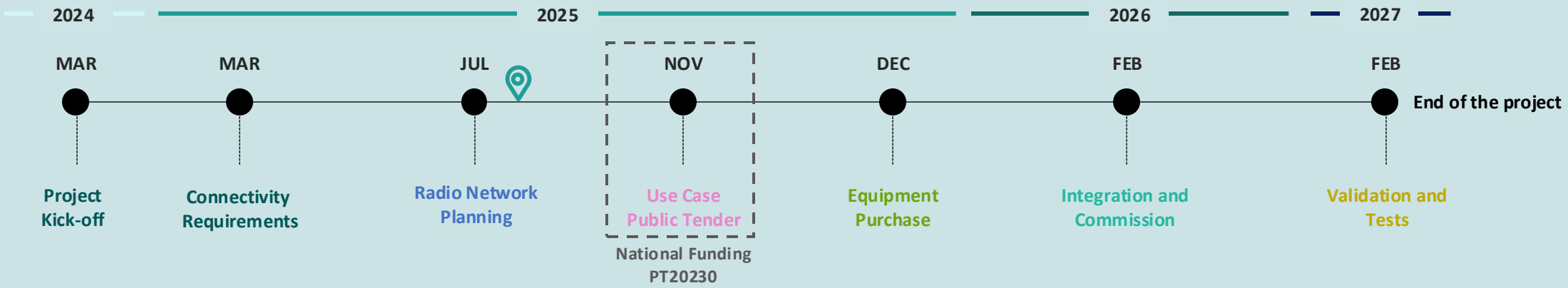
SÃO JOÃO

Off-site anatomical pathology diagnosis

Enables remote pathology with high-quality digital images from scanned tissue, solving large file issues remotely

ULSAM

Macro Milestones



Thank you

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