5G Connected Hospital Project Presentation

Project Summary

Objective: "5G connected hospital" seeks to establish the base for the national "Health network" that leverages advanced 5G/6G technology to connect hospitals through secure private networks. The primary objective of the project is to revolutionize healthcare delivery in Luxembourg by creating a reliable and secure network that connects multiple hospitals.

Scope: to deploy private 5G networks in two sites of Hôpitaux Robert Schuman (HRS) in Luxembourg and aim to separate critical medical services from standard office traffic, thereby ensuring that life-dependent services and essential communication tools operate seamlessly.

Key activities: implementation of 5G-based use cases such as hospital emergency communication, connected health devices and the connected ambulance, which particularly will integrate real-time patient data from the public network to the hospital's private network, enhancing patient care from the moment they are picked up.

- The project start was on 01.01.2025 and the project's duration is 3 years.

- Project funding from European Commission equals 4.050.000€.

The Consortium Members
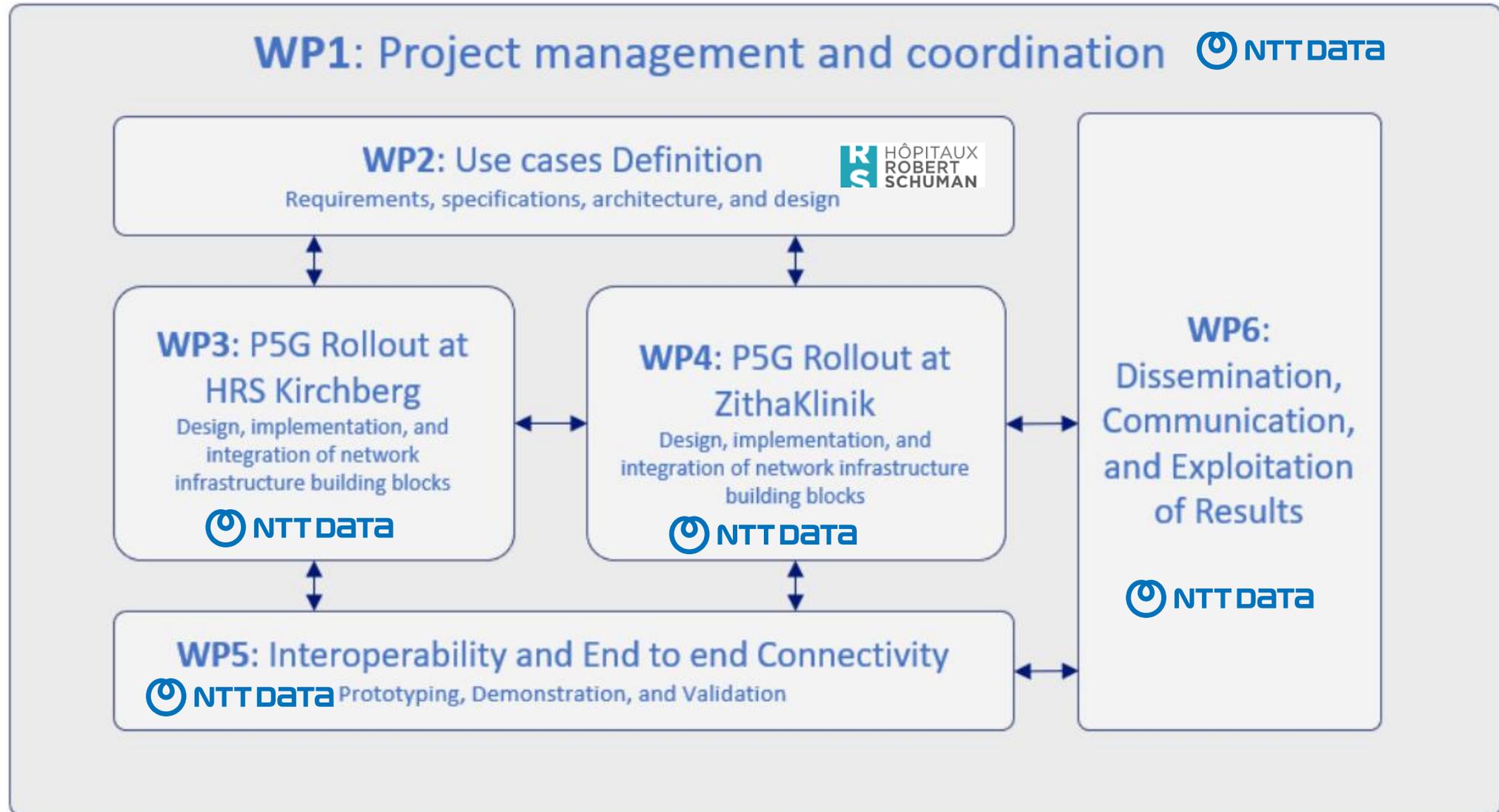## Technology and healthcare leadership

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Hôpitaux Robert Schuman

The Robert Schuman Hospitals (HRS) in the Grand Duchy of Luxembourg were created in 2014 from the union of the Clinique Bohler, the Hôpital Kirchberg and the ZithaKlinik located in Luxembourg City and the Clinique Sainte Marie located in Esch-sur-Alzette: around 311 physicians and more than 2,300 employees are committed to providing high-quality care and a personalised service with a strong human element.

5G Connected Hospital: Project Structure

UC1 — 5G Communication
Mission-critical voice with prioritization

- Reliable voice everywhere (elevators, basements, campus)
- Priority handling for emergencies
- Location-aware security alerts
- Single device across hospital sites

UC2 — Connected Medical Devices
Continuous telemetry + nursing apps

- Continuous telemetry during patient movement
- Apps work directly in patient rooms
- No data loss, no manual workarounds
- Accurate real-time records in EMR

UC3 — Connected Ambulance
Digital emergency handover

- Digital protocol before arrival
- Faster triage and decisions
- Reduced admission delays
- Improved continuity of emergency care

Higher patient safety and clinical quality

Reduced operational risk

Efficiency gains for nurses and doctors

5G

Foundation for future digital health services

What Comes Next

Solution design & architecture deliverable

Technical pilots in real hospital environments

Progressive rollout across campuses