

Concept

5G-HEART will deploy, trial and validate innovative digital use cases on top of five European 5G test facilities. The utilized test facilities include all three ICT-17 platforms (5G-VINNI, 5GENESIS and 5G EVE), as well as two national infrastructures (5GTN and 5Groningen). The validation trials are built around use cases from healthcare, transport and aquaculture vertical industries.

Healthcare, transport and food verticals are hugely important in Europe, in terms of jobs, size (collectively surpassing €3Trillion) and export trade. Moreover, they are vital from a social perspective, for better patient care, safer transportation and safer and more sustainable food production. 5G is important for these verticals in terms of improvements for utility, process efficiency and safety among others. 5G-HEART validation trials confirm the various improvements, stimulating huge business opportunities within and beyond the project.

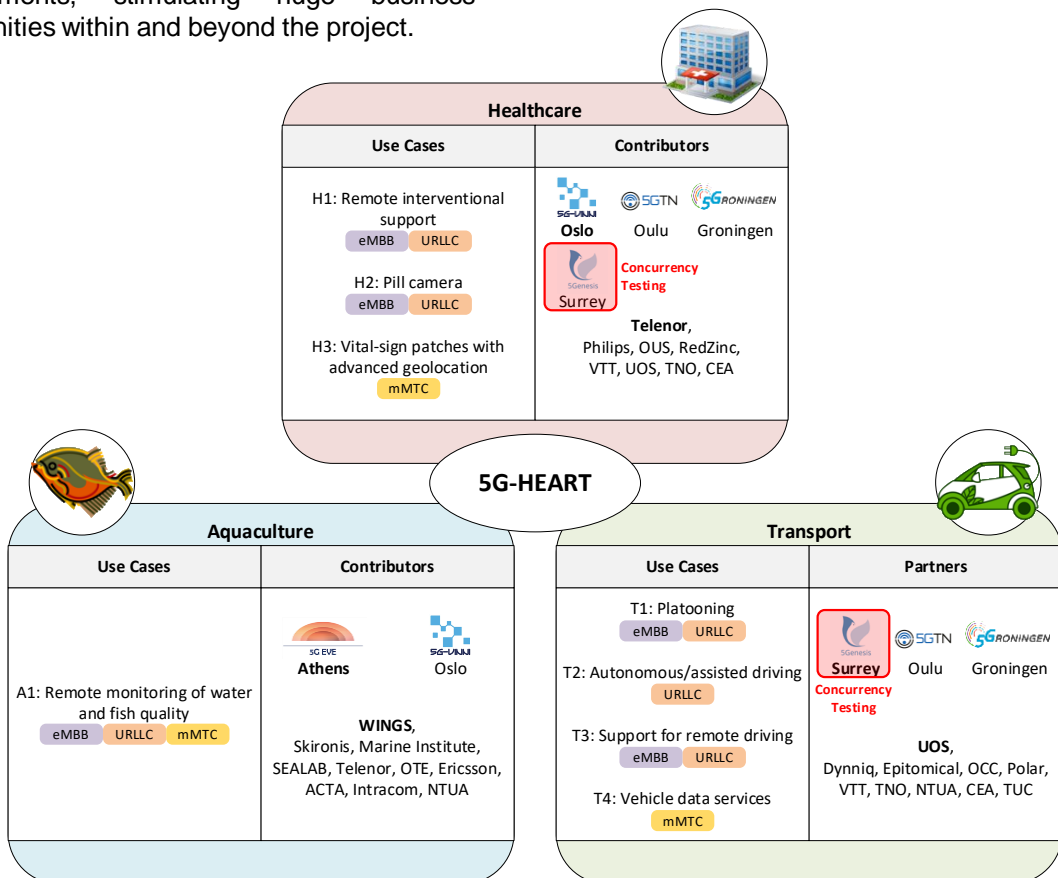
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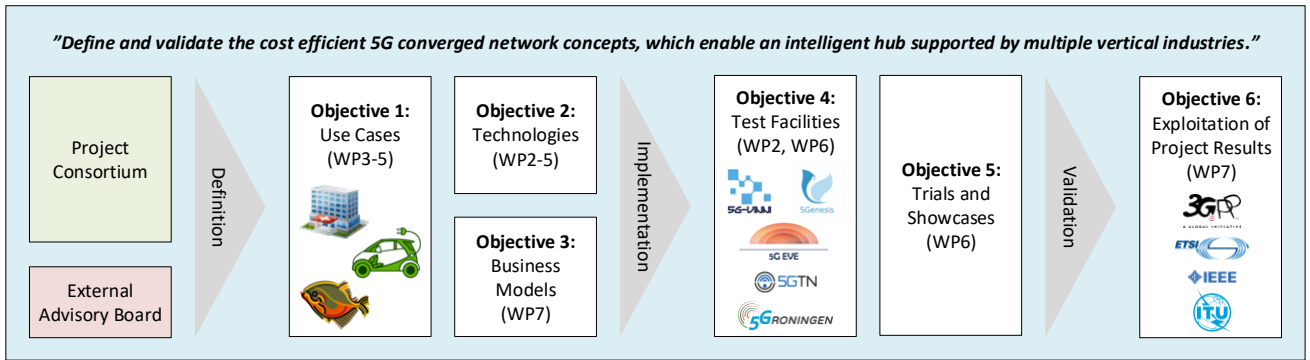
5G-HEART will through the business and ecosystem studies show how all the vertical sectors separately and combined contribute to the improved quality of life for citizens, more efficient resource usage and sustainable society.

Healthcare: More efficient clinical processes, improved patient pathways and outcomes, reduced hospital OPEX, and reduced impact of geography and economy on the quality of health care globally.

Transport: Increased public safety in platooning and autonomous/assisted driving, new business models for the transport of people and goods, and contributions towards evolving standards.

Aquaculture: More advanced and sustainable food production in Europe, autonomous feeding, better fish health and fish farm management.





Objectives

1. To **define and implement specific use cases of healthcare, transport and aquaculture industries** enabling testing and validation of typical 5G network Key Performance Indicators (KPI) like latency, throughput, capacity, connection density, mobility and reliability.
2. To **define and develop 5G enhancements required for demonstration of Proof of Concepts (PoC), trials of multiple vertical services**, such as transport industry, healthcare industry, and aquaculture industry and demonstrate support for concurrency (simultaneous support of use cases from different vertical domains with diverse service quality requirements) in a scalable manner.
3. To **describe and validate viable business models for the use cases** tested across the multiple industry verticals.
4. To **implement and validate converged network functions on 5G end-to-end (E2E) platforms** using virtualization and slicing to support multiple 5G use cases targeting the eMBB, URLLC and mMTC scenarios.
5. To **perform field trials and demonstrations of selected use cases involving multiple vertical services on the available 5G E2E platforms** in order to assess how 5G can provide differentiated services across multiple verticals.
6. To **ensure extensive exploitation of project results** with thoroughly planned dissemination and communication activities targeted towards carefully selected standardisation bodies and industry associations.

Consortium

5G-HEART consortium includes major vertical players, telecom industry vendors and operators, research and academic institutions, and SMEs. Partners have proven know-how in 5G, vertical applications, standardisation, business modelling, prototyping, trials and demonstrations. All of these competences are needed to validate key 5G technologies with real vertical industry use cases.

