

5G EXPERIMENT IN MILAN: 5G INTERNET OF THINGS FOR TELEMEDICINE

THE PROJECT IS BEING CARRIED OUT BY VODAFONE WITH HUMANITAS, L.I.F.E. AND EXPRIVIA | ITALTEL

Milan, 7 November 2018 – As part of the **Vodafone 5G Experience Day** event dedicated to partners, start-ups and companies involved in the 5G experiment in Milan, Vodafone presented its **IoT telemedicine solution for patients suffering from heart failure**, developed in conjunction with **Humanitas, L.I.F.E. and Exprivia | Italtel**.

This technological solution is implemented entirely on Vodafone's 5G network and architecture and consists of clinically-certified connected clothing produced by L.I.F.E. and a monitoring and video-calling platform implemented by Exprivia | Italtel, with clinical and technical support from Humanitas.

The patient's data, collected through sensors fitted into their clothing, are sent to the monitoring platform housed on Vodafone's 5G network where artificial intelligence algorithms that are able to monitor and identify the patient's vital signs during the management of daily activities are applied. Thanks to the reliability and quality of the 5G network, the patient's condition can be checked regularly, including through video calls to visually monitor their physical and emotional state. In addition, through the machine learning platform, the solution is able to learn and memorise every patient's clinical picture and identify potentially critical situations in real time.

"The aim of this project is to show how the continuous monitoring of physiological parameters, along with the possibility of enabling doctor and patient to interact via video, also remotely, may help to improve the treatment of common conditions like heart failure", explains Sabrina Baggioni, Head of the 5G Programme at Vodafone Italia. *"By monitoring the patient at home we can develop a new and more effective care model. 5G is the key enabling technology, making it possible to send and process huge amounts of data seamlessly and in real time from connected devices, but also to ensure the secure management of these sensitive data".*

Thanks to the involvement and clinical and technical coordination of Humanitas, during the next phases of the experiment a few patients suffering from heart failure will be selected in order to verify the feasibility of a technological and organisational model that is able to manage and enhance the acquisition of relevant physiological parameters identified by doctors.

"The possibility of integrating our devices with Vodafone's 5G network enables us to overcome one of the greatest limits of many wearable technologies, ensuring that they function correctly during the everyday lives of patients, when they are on the move or out of the house or hospital, and that they are able to send physiological data when these are generated", states Matteo Santoro, CTO of L.I.F.E.. *"As one of the first companies in the world to have obtained medical certification for our wearable devices, being a partner in this project also helps us to demonstrate, alongside Humanitas, its effectiveness in a highly complex context like heart failure."*

"The platform implemented by Exprivia | Italtel for Vodafone's 5G network ensures the integrated

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management of healthcare services that may be accessed from any device,” according to Dante Altomare, Vice Chairman of Exprivia SpA. “The patient, having been provided with wearable technology, is remotely monitored at all times thanks to an operations centre that coordinates and manages home care and detects alerts relating to specific vital signs. It also supplies information about the patient in real time and, by launching Teleconsultation and Videoconsultation sessions, enables specialists to examine clinical documentation and manage the care cycle. The platform broadens our range of solutions for the healthcare sector and we are proud that it was selected by Vodafone for the 5G telemedicine experiment project”.

Vodafone is the lead partner in the 5G experiment in Milan and its metropolitan area which aims to cover 80% of the population by December 2018, making the city the European 5G capital. It is working with 38 industrial and institutional partners to carry out 41 projects in the following fields: healthcare and well-being, safety and surveillance, smart energy and smart city, mobility and transport, manufacturing and industry 4.0, education and entertainment, and the digital divide.