

PUBLIC SAFETY

Zulu Medical

**Revolution in the communication of out-of-hospital emergencies:
in Italy an innovative model for the management of health care assistance**

/ The Challenge /

The Operations Centre of Pieve di Cadore ULSS 1 Dolomiti (Veneto Region - Italy), manages the out-of-hospital medical aid (118) of patients with medical nursing staff, volunteers and the participation of the Alpine Rescuers. This team is responsible of the immediate rescue of the patient and must take care of the correct transmission of patient data, both personal and clinical and pass this onto the emergency room that will handle the case. The intervention takes place outside, sometimes under stress and in critical weather conditions, therefore, the compilation of the clinical form on pre-printed paper in manual mode can cause errors and slow down the rescue interventions once the patient arrives at the hospital. The Suem 118 service of ULSS 1 Dolomiti had therefore the need to optimize the process of this information and identify a standardized path in order to improve the approach to the patient.

"In out-of-hospital care, 70% of the problems* encountered are related to communication difficulties. In order to exclude any problems in this delicate phase, we had to rethink a more efficient and secure model" said Dr. Giulio Trillò, Director of Suem 118 of ULSS 1 Dolomiti.

*JC Root Causes and Percentages for Sentinel Events

/ Solution /

The fully rugged Getac F110 tablet supported by the software of Zulu Medical, an Italian company specializing in the development of professional dedicated software in the field of digital medicine, is the perfect solution to govern the various complexities of first aid interventions, thanks to the combination of extremely lightweight and portability, resistance to vibration, humidity, rain, cold and heat, temperature changes and can also be sanitized. It is also well recognized for its adaptability in helicopters, because it does not interfere with the avionics of the helicopter and is resistant to electromagnetic interference. The long life of the replaceable battery during operation, the exclusive 11.6" LumiBond® 2.0 touch display guarantees use with stylus, fingertip or gloves, which are essential in healthcare environments, and the innovative secure features make it perfect for mobile operations.

/ Benefits /

The F110 tablet, positioned inside the rescue vehicles, collects data on the patient's clinical situation during transport and transmits them in real time through the platform of Microsoft Azure Cloud to the operation center and to the hospital Emergency Room.

From there, the doctor, other than supporting the rescue interventions live during the patient's transport, can guarantee that the patient, once brought to the hospital, has an easier access path to the emergency treatment. This is because the doctor knows the real conditions and related vital parameters. These aspects can sometimes make a difference in the care action of the patient brought to the ER.

/ Quotes /

"Thanks to the teamwork between all operators involved and the high quality of hardware and software solutions put in place, we believe we have taken an important step in the process of digitization in health care, always aimed at improving the management and protection of the patient and the confidence of the citizen in the health care system."

Dr. Giulio Trillò, Director of Suem 118 of ULSS 1 Dolomiti



Getac F110
Fully Rugged Tablet

/ The Challenge /

In Italy, the Emergency Health Service provides medical assistance to all citizens, 365 days a year, 24 hours a day. Often there are emergency situations in which a combination of factors can make a difference and save lives, so it is essential not to interrupt the rescue chain in order to properly manage the approach to the patient. This task is the responsibility of the medical nursing staff and volunteers who arrive at the rescue site, a scenario that is often highly critical, at high altitudes, in low light or direct sunlight and at variable temperatures. In addition to the rescue operations, the operators must take care of the transmission of patient data to the emergency room for subsequent hospitalization. Compiling data on a pre-printed paper template in manual mode and subsequent communication may cause errors and slow down rescue operations once the patient has arrived at the hospital. The operations center of ULSS 1 Dolomiti's 118 service in Italy handles 55,000 calls annually with 18,500 interventions, 650 of which through the helicopter rescue service. Certainly, a significant number, which led the 118 service of Pieve di Cadore to identify and introduce a new standardized path to improve the guided approach to patient rescue and the relative treatment protocol. The paper form relating to the patient's condition is filled in by the operators at the rescue site, often in stressful situations and in inaccessible areas. As a result this was sometimes incomplete or inaccurate, making the doctors on duty at the hospital Emergency Room lose precious time. In addition, this method did not protect the patient's privacy. These factors led to the need for the team to identify a system of information optimization, information security management and protection of sensitive data.

"In out-of-hospital care, literature tells us that 70% of the problems* encountered are related to communication difficulties. In order to exclude any problems in this delicate phase, we had to rethink a more efficient and safer model" said Dr. Giulio Trillò, Director of Suem 118 of ULSS 1 Dolomiti.

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The Getac fully rugged F110 tablet supported by software from Zulu Medical, an Italian company specializing in the development of professional dedicated software for digital medicine, is the perfect solution to govern the various complexities of first aid rescuers.

The medical software supplied by Zulu Medical - a result of teamwork and customization based on the needs of the ULSS 1 Dolomiti - integrated with the latest generation Getac fully rugged tablet, able to combine the latest technology and performance - has proven to be the perfect solution for managing the emergency medicine and out-of-hospital care in critical scenarios.

The large 11.6" LumiBond® 2.0 touch display readable under the sun and the rain guarantees the use with the stylus, fingertips or gloves which are indispensable in healthcare environments. In addition, the rugged tablet is MIL-STD810G and IP65 certified and able to withstand drops up to 1.20m and handle extreme temperatures varying from -21°C to 60°C. The device is also well recognised for its adaptability in helicopters, it does not interfere with helicopter avionics and it is resistant to electromagnetic interference. The Wi-Fi and 4G connectivity are fundamental for those who work outdoors and allows fast data transmission. The numerous security features are greatly appreciated and include integration with Windows 10 and the dual frequency reader (LF/HF) RFID that allows healthcare professionals to access the software quickly, without wasting time, through dedicated RFID bracelet and the long life of the dual battery which can be replaced without interrupting any workflows.

"This innovative healthcare management model can count on the reliability of rugged technology combined with secure patient data protection, made possible by the Microsoft Azure platform, which meets the most stringent global privacy standards," said Riccardo Furlanetto, Sales and Marketing Director at Zulu Medical.

/ Benefits /

In extreme emergency rescue missions even a loss of a few seconds can be fatal for the patient. Therefore, the Software installed on the fully rugged F110 tablet whose main functions are the patient's medical history, the acquisition of biomedical data from satellite devices through wireless connection, the detection of environmental data, the sharing of data acquired in real time on the rescue location, must not run into any inconveniences, which could compromise the success of the rescue mission. The Getac F110 tablet positioned inside the helicopter, collects this data during transport and transmits it in real time, through the platform of Microsoft Azure Cloud to the operation center and to the Emergency Room or to the destination department in case of critical patients. which in the first phase can support live rescue interventions and in a second phase, knowing the clinical situation of the incoming patient. can treat him/her in the best way and intervene accordingly. The timely communication of data, without the possibility of errors between the teams involved in the rescue and the Operation Centres can therefore make the difference in the care of the patient. The system has been in use since 2015, recording 3,300 interventions.

/ ZULU MEDICAL /

Zulu Medical is an innovative SME registered company operating in the field of digital medicine and was founded in July 2014. The company is active in the design and development of professional software in the field of digital medicine with the scope of creating and selling a platform for the integration of a series of medical devices for the collection, sharing and consultation of clinical and environmental medical data in the field of first aid and outpatient for the management of chronic patients in home care. The infrastructure has been registered with an international patent and has obtained CE marking as a medical device. Zulu Medical cooperates with the 118 emergency services in Udine, Treviso and Belluno (Italy).

