Press Release

End of the solitary part of the ADAPTATION scientific project

Critical data for defining the capacities of human adaptation

Neuchâtel, 20 March 2017 – Christian Clot has completed the solo part of his Adaptation scientific expedition, whose aim is to study the adaptive capacities of the human brain and body. From the arid Iranian desert to the icy-cold Siberian plains, via the suffocating sticky heat of the Amazonian forest, the Swiss explorer was the first person to cross four climatic regions highly hostile to Man. Thanks to a system developed by CSEM, he was able to monitor his vital life functions during the expedition, and to capture valuable data for this unique project.

How can a human being succeed in adapting to climates that are increasingly unstable and demanding? This is the burning question that Christian Clot and his scientific and technological colleagues are addressing in the Adaptation project. To bring together the elements of a response, the French-Swiss explorer went on four successive solo expeditions between 2016 and 2017, tackling extreme climatic environments: the Iranian desert of Dasht-E Lut, the sea-channels of Patagonia, the Amazon jungle and west Siberia. This physical and mental feat is a world "first".

Concentrated CSEM technologies for collecting vital data

The objective of the operation was to collect *in situ* the maximum amount of information to enable the understanding of human cognitive and physiological functioning when subjected to harsh changes or in a situation of crisis. As a technological partner, CSEM made available to Christian Clot its expertise and monitoring solutions to measure and gather his vital-signs parameters. This data is currently being analyzed by the scientific partners in the project.

From the desert to operating rooms

CSEM's monitoring solutions resisted well to the demanding environments faced by Christian Clot, as they were initially developed and tested for use in space. On Earth, these technologies and their spin-offs today show promising potential for medical applications. With new generations of ultra-miniaturized and wireless systems, medical monitoring can take place with a minimum of devices and cabling, and continuously if necessary. Critical data such as those from electrocardiograms, blood pressure and level of oxygen in the blood can be easily obtained from the wrist, the chest, or the fingertip.

From the solo part to the collective part of the expedition

The Adaptation project is now in its second phase. Christian Clot will go on the same expeditions, but this time accompanied by around twenty people. This will enable the integration in the study of the interactions between individuals and leadership mechanisms under these difficult conditions.

Concentrated CSEM technologies for collecting vital data in four extreme climatic environments.

Supplementary information

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About CSEM

CSEM—technologies that make the difference

CSEM, founded in 1984, is a Swiss research and development center (public-private partnership) specializing in microtechnology, nanotechnology, microelectronics, system engineering, photovoltaics and communications technologies. Around 450 highly qualified specialists from various scientific and technical disciplines work for CSEM in Neuchâtel, Zurich, Muttenz, Alpnach, and Landquart.

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