

Flexible & Wearable Electronics Application Experiments



IDEA Soc. Coop.

Customized solutions, for industrial automation

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Problem to be solved

Blood transfusion is an essential part of modern health care: in 2018 alone, there were approx. 15 million donors in the EU, 20M units of blood donated and collected, and overall 25M units transfused. Despite the consolidated practice, a substantial lack of knowledge of the conditions that blood bags are undergoing during their handling, both in hospital and inter-hospital, is still assessed. No traceable and realtime method to record blood parameters and no reliable technology to monitor blood temperature along the cold chain exists: besides manual thermometers used by healthcare staff to monitor blood temperatures, the state of the art includes passive RFID tags where static information is recorded such as bag identifiers.

Solution provided by SmartEEs

BOSET is a reusable, real-time monitoring device ensuring traceability of blood bags and the maintenance of adequate cold chain conditions in hospitals, where blood units are stored in refrigerated blood banks before transfusion. It accurately records temperature, humidity, delivery and storage time, light exposure, expiry date and donor information; it communicates through NFC and BLE technologies with a cloud platform connected to the Integrated Transfusion Medicine Network. It is unique as it allows to reduce uncertainties on blood management and to make the final steps of the supply chain efficient, it supplies operators with reliable data and information on whether the blood bag is suitable for transfusion, it is flexible and keeps contact between sensors and bag anytime, it avoids the use of external rigid “bagging” limiting usability and performance, it is cost-effective and reusable multiple times for different blood bags.

Business model & impact

IDEA plans to implement a B2B model and will have two main revenue streams: sales of BOSET devices to blood donation centers, hospitals, clinics, labs and recurrent revenue from a SW platform service from hospitals, clinics, and labs. IDEA will perform sales nationally/internationally to blood donation centers and healthcare facilities via partnerships with several international distribution and commercial partners.

