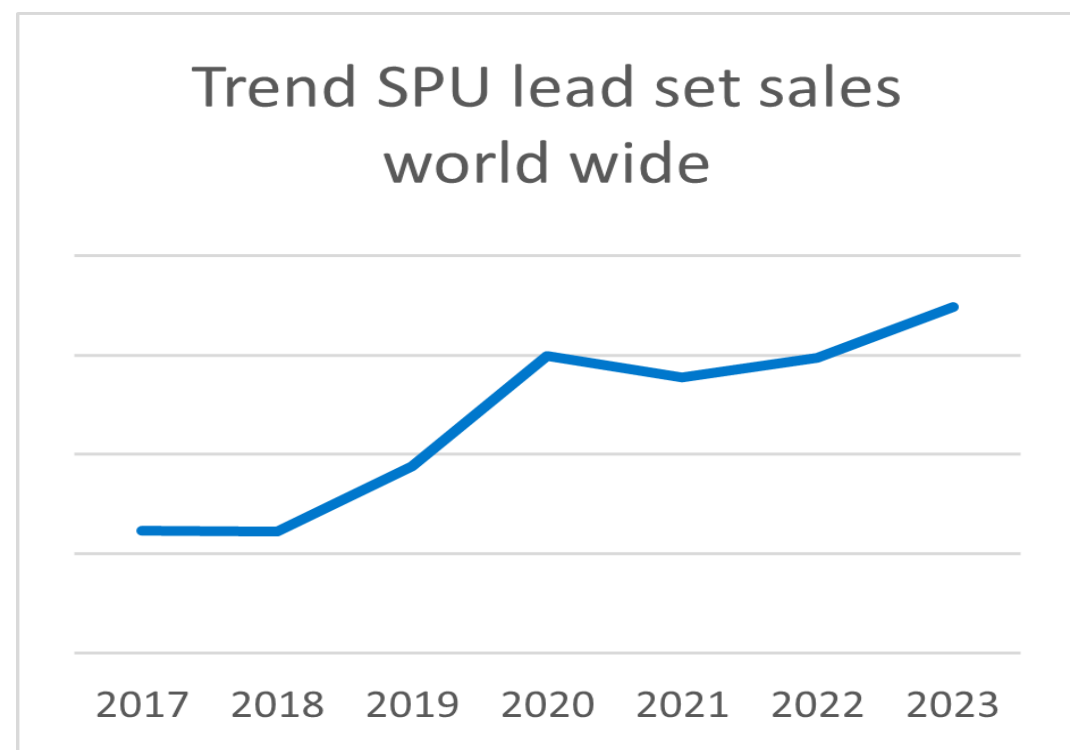


FROM SINGLE USE TO REUSE

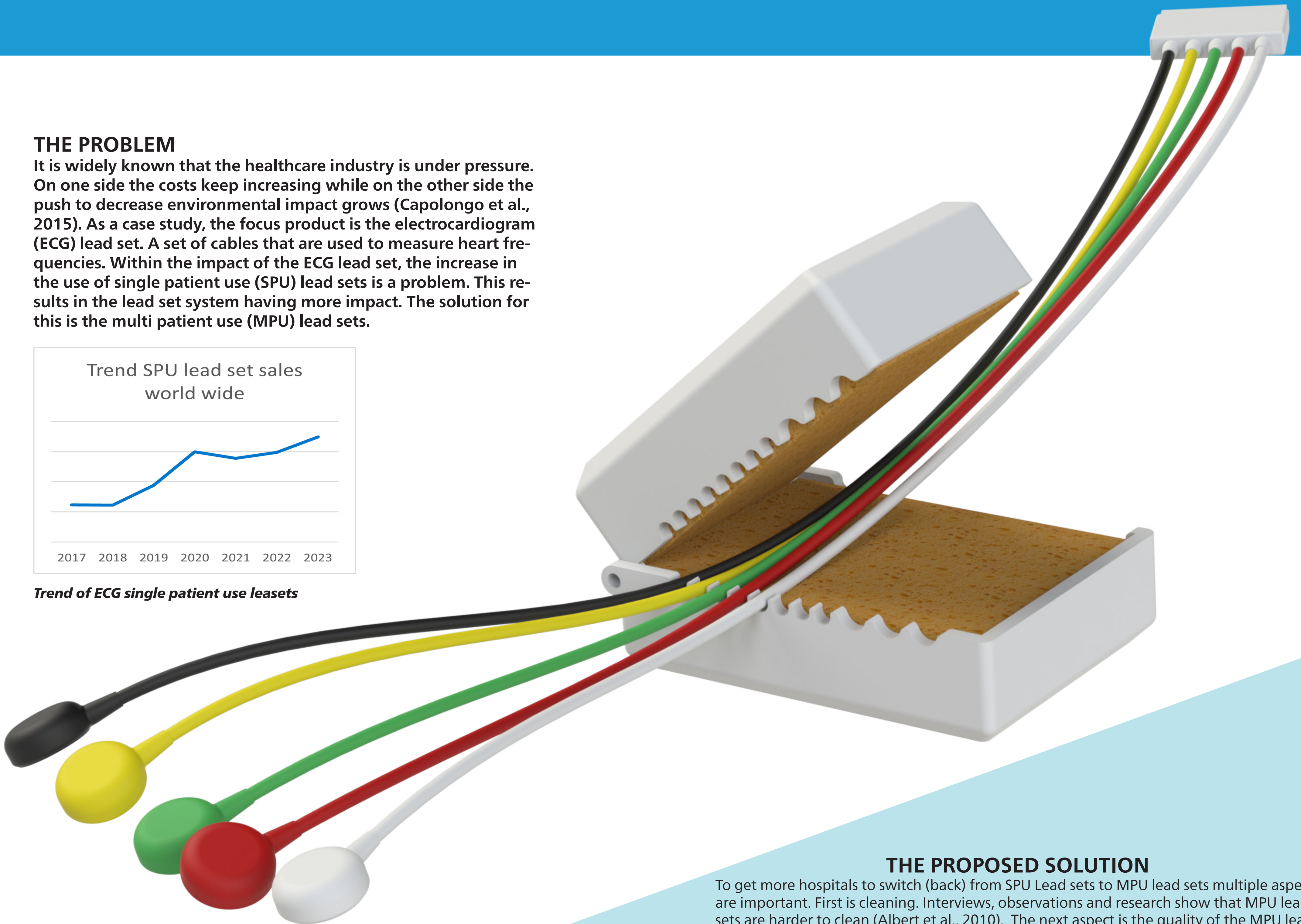
How to design the ECG lead set to be used over and over again

THE PROBLEM

It is widely known that the healthcare industry is under pressure. On one side the costs keep increasing while on the other side the push to decrease environmental impact grows (Capolongo et al., 2015). As a case study, the focus product is the electrocardiogram (ECG) lead set. A set of cables that are used to measure heart frequencies. Within the impact of the ECG lead set, the increase in the use of single patient use (SPU) lead sets is a problem. This results in the lead set system having more impact. The solution for this is the multi patient use (MPU) lead sets.



Trend of ECG single patient use leasets



THE PROPOSED SOLUTION

To get more hospitals to switch (back) from SPU Lead sets to MPU lead sets multiple aspects are important. First is cleaning. Interviews, observations and research show that MPU lead sets are harder to clean (Albert et al., 2010). The next aspect is the quality of the MPU lead set. Prolonged use increases the risk of a lower quality lead set. Which could result in needless extra alarms and so in dangerous alarm fatigue for the nurses (Albert et al., 2014). To ensure quality a quality control system on lead sets will need to be implemented. Further important aspects for designing for a MPU lead set in a circular proposition would be the durability of the lead set and the ease of use within a hospital system. The proposed concept tackles these problems in the following way. The lead sets are monthly deep cleaned and checked on quality by a centralized cleaning department. The MPU lead set itself is redesigned to be easier to clean and a special cleaning tool is developed to help with cleaning. Combined this will create a system in which the MPU lead set will be a viable solution for hospitals again. Shown is a visual of the whole system.

