

## News release

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## CAST Project one year of technological development

### The Portuguese - German consortium reviews the highlights of the last 12 Months of development

**Heidelberg, 30<sup>th</sup> of June 2017** - The first anniversary of the CAST project is celebrated in June 2017. In this occasion we take to our team to evaluate the progress achieved and plan future development.

In this period we reached the first milestone with the conclusion of the system specifications. The six months followed by this milestone we produced the first validation tests of the embroidered moss ECG sensors and prepared the scientific publication of these results. We have tested several electro-conductive yarns and their properties to assert their value for our requirements, specifications and proposed use-case. We have in this process produced different tests and designs. We have successfully read ECG signals from a healthy volunteer and validated their operation.

The development of the electronics to acquire the ECG with multiple communication interfaces was successful. These communication channels have been tested and the electronic prototype is functional.

We have created the database storage model as specified in the requirements and specifications documents that preceded the first Milestone. In this platform we used state-of-the-art cloud providers to implement these features and requirements. The implemented architecture is ready to start receiving the ECG signals and interpret it.

Our outreach efforts have created a few followers in our social media accounts but it was the first public presentation at the CeBIT 2017 of the project that attracted the most attention from our stakeholders, apart from cardiologists and patients.

Our technical progress has exceeded expectations, and the project is going according to plan. We are currently focusing our attention on further ECG-sensors development and integration with the electronics, as well as in establishing a reliable communication line between the electronics and the on-line platform.

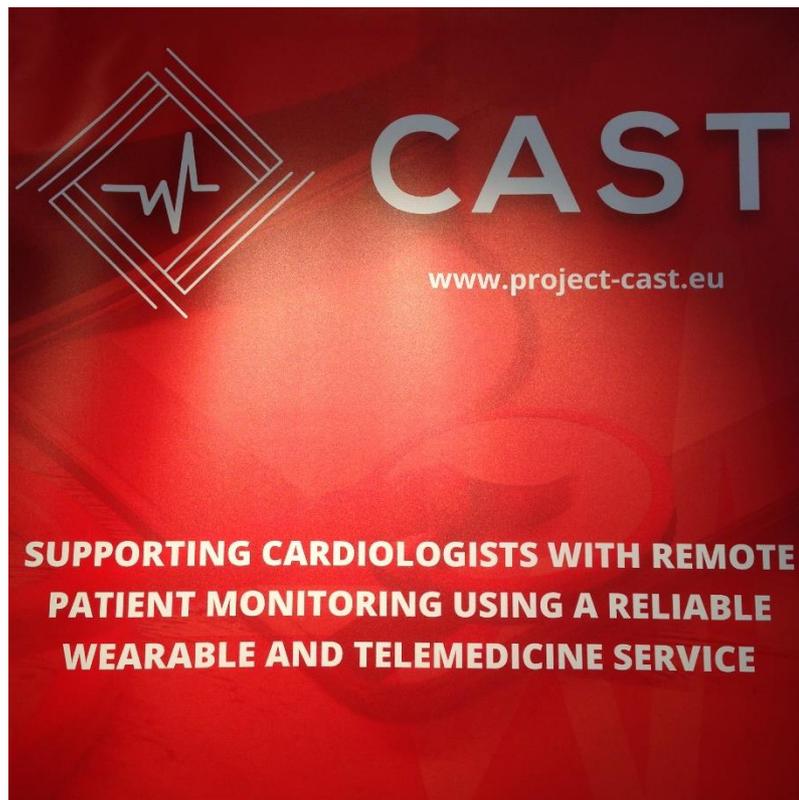


Figure 1 - CAST poster at increase Time stand.



Figure 2 - CAST poster with visitors on the CeBIT 2017 stand.

One year later, it is also important to remember that the need that has driven this project further has not changed. Heart diseases are still the leading cause of death for both men and women of all ages and especially atrial fibrillation is the most common complication after cardiac surgery (postoperative atrial fibrillation), recurring in about 40% of patients<sup>1</sup>. This published data from our cardiology partner further stresses the needs for improvement in current support infrastructure and remote monitoring. Logically more and more solutions keep being presented and compete for ECG data, but we have hardly found a technically-viable alternative solution or scientific match to our proposed work.

Congratulations to whole team and let's keep up the good work!

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<sup>1</sup> Fragão-Marques, C Sousa-Mendes, AF Leite-Moreira, I Falcão Pires, "Fibrosis and morphometric characterization of right atrial tissue in atrial fibrillation following aortic valve replacement surgery" Revista Portuguesa de Cirurgia Cardiorácica e Vascolar. 2016; 1-2