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www.sensorart.eu

Project Information

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Start date: March 1st, 2010

Duration: 48 months

Total cost: € 8,551,897

EU contribution: € 6,240,00

Grant Agreement No.: 248763

Call: ICT Challenge 5.1

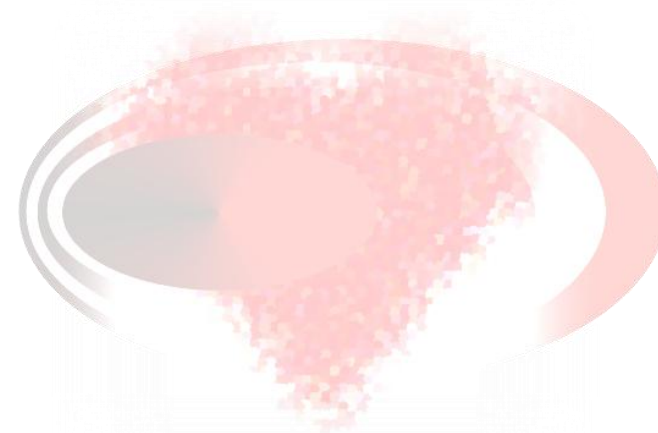
The SensorART project involves **13 partners** from **10 European countries**: Italy, Spain, Belgium, Germany, United Kingdom, Turkey, Greece, Romania, Poland, France



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SensorART

**A remote controlled Sensorized
ARTificial heart enabling patients
empowerment and new therapy
approaches**



**Large-scale Integrated Project
FP7 GA 248763**



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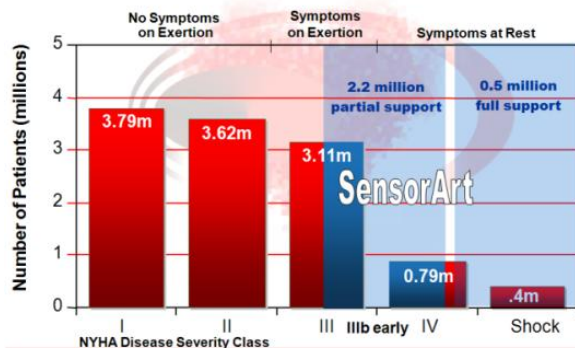


Project objectives

Current treatment of heart failure consists of ventricular assistive devices (VADs), mechanical pumps implanted in the patient's body used to restore blood circulation. At present, however, VADs are used mainly to bridge heart transplantation. The SensorART project intends to turn VADs from mechanical devices to intelligent systems, by endowing them with dedicated sensors (i.e. flow, pressure). In this way, VADs could adjust autonomously to the patients' physical needs and monitor his/her status. Most importantly, intelligent VAD systems could be used not only as a bridge to transplant, but also as destination therapy.

Increasing number of LVAD implants as destination therapy

Older patients

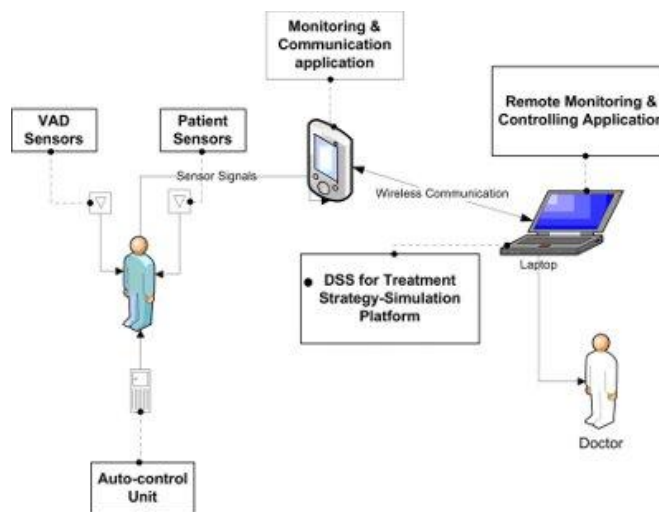


Data from US. Adding Europeans will double the numbers.

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SensorART Scenario

Patient with implanted sensorized artificial heart: the device is linked wirelessly to an external control unit, applied to the waist by means of a belt. The artificial heart will be powered wirelessly by an innovative system for energy transfer via the skin. Thanks to different assembled sensors, as well as to special algorithms, the control unit can monitor the patient's physiological condition and optimize support from the pump. In this way, the empowered patient can lead a normal life. Moreover, via wireless Internet communication the control unit will allow doctors to monitor the patient's status in real-time and remotely, and to take immediate action when required. Specific training of health care providers The project will also aim at providing scientists with new knowledge of heart recovery



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Expected Results & Impact

- ✓ Shift the application from bridge to transplantation to definitive device also for elderly people
- ✓ Abolish power supply cables by Transcutaneous Energy Transfer with improved outcomes and increased patient acceptance
- ✓ Extend the use of VADs to less severe state of heart failure with a possibility of application in more than 5 million people
- ✓ Understand the natural heart recovery mechanism
- ✓ Extend the application of intelligent artificial heart devices for transient therapeutic treatment
- ✓ Empower patients by means of user-friendly ICT devices

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