

# PARKINSON - MONITOR. Monitoring of patients with Parkinson's disease

Wearable sensors and WEB platform enables remote monitoring, evaluation and daily monitoring of patients with Parkinson's disease.



## Contact information

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## Technological Offers type

Technological solutions

## Research and innovation areas

- Digital Technologies, Artificial Intelligence, Cybersecurity, 5G, Robotics
- Health and Wellbeing

## ODS



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## Where?

[Center for Biomedical Technology Life Support Technologies](#)

Keywords: | [Health](#) | [Parkinson's](#)

## Brief description of the technology solution and the added value it provides

Life Supporting Technologies group, belonging to the Universidad Politécnica de Madrid, has developed an innovative solution based on low cost wearable sensors that allow remote monitoring of patients with Parkinson's disease (PD). The system can detect and quantify the major motor symptoms of PD. The solution is built on an ICT platform, the processing is done in the cloud while doctors can view and manage all the information related to their patients using a web application. The system has been tested in three different European hospitals showing an accuracy of over 80% to quantify the severity of various motor symptoms. The system has been designed and validated with the feedback provided by both physicians and patients.

## Description of the technological base

The developed solution consist of a Web platform that automatically receives and processes daily motion information of patient with PD, gathered from a series of wearable sensors. The Web portal also includes a professional portal that allow medical professional to the remote follow-up of their associated patients.

This system aims to provide a tool for the objective and efficient monitor the status of patients with Parkinson's disease for the healthcare professionals.

Thanks to the continuous monitoring and the objective evaluation given by the system, physicians have a detailed information in order to improve the diagnose and personalize treatment for their patients.

*"The first intelligent ICT solution that enables remote monitoring, continuous evaluation and monitoring of Parkinson's Disease patients"*

## Market demands

- Parkinson's disease is the second most prevalent disease. PD affects around 7 million people worldwide. It is closely related with ageing and consequently its impact grows exponentially with the age.
- Due to the link between PD and age the incidence of the disease is specially remarkable on the most aged countries, such as US and the EU. Parkinson's disease contributes to 0.1% of the global disease burden and 0.6% burden on the EU [World Health Report - 2001, OMS].
- The healthcare system required novel and innovative tools to deal efficiently with chronic disease patients and specifically with Parkinson's disease patients. These new tools should reduce the costs and provide an efficient communication tool between patients and healthcare professionals.
- Pharma industry is also looking for monitoring tools able to provide a continuous monitoring and objective measure of the patient status in order to reduce cost in drugs trials

## Competitive advantages

- Allows the objective and quantitative monitoring and evaluation of Parkinson's patients .
- The continuous monitoring and the evaluation allows the treatment's personalisation
- The medical tool has been developed following the indications and the requirements suggested by the doctors of three different European hospitals.
- The system has been developed following an iterative process to analyze and improve the features according to the feedback

suggested by doctors.

***“This solution won the pHealth Innovation Award 2010 under the 7th International Conference on Wearable Micro and Nano Technologies for Personalised Health”***

### **Previous references**

- Tested with more than 100 patients, accuracy greater than 80% in quantifying the severity of motor symptoms.
- Research group with over 8 years of experience in the design, development and validation of tele-monitoring systems.

### **Development stage**

- Concept
- R&D
- **Lab-Prototype**
- Industrial Prototype
- Production

### **Contact**

#### **Contacto solución tecnológica**

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