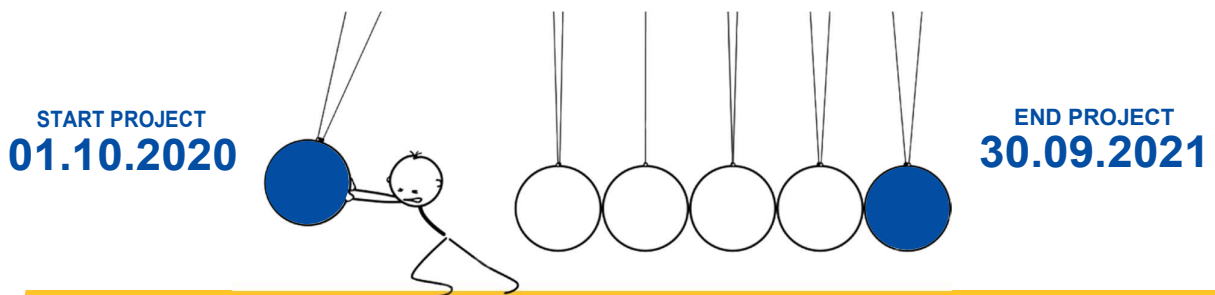


PUBLIC REPORT

wearIT4COVID

(INTERREG EMR 2014-2020)

“An optimized monitoring system with an emphasis on the monitoring of COVID-19 patients.”



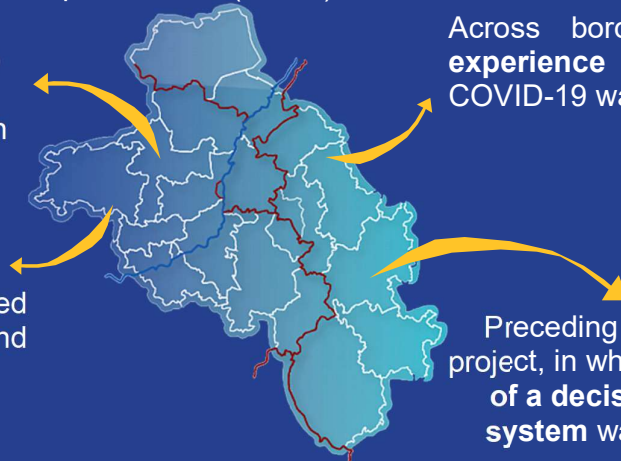
1

INTRO

This project received 1.076.230,94 EUR funding of which 968.607,84 EUR were granted by the European Regional Development Fund (ERDF).

Global pandemic due to a **new and unknown disease** associated with **high mortality**

Vital signs monitoring needed to detect early deterioration and aid in medical decisions



Across border **Hospital experience** in the first COVID-19 wave

Preceding wearIT4health project, in which a **prototype of a decision support system** was developed



Ambitions of wearIT4COVID:

Optimization of the wearIT4health system for COVID-19 patients

Development of COVID-19 warning scores algorithm and **integration** into the monitoring platform

Across border **clinical pilot testings** (Belgium, The Netherlands)



To make substantial improvements in the **care and remote follow-up of COVID-19 patients**, **Industry, Universities and Hospitals** have joined forces, resulting in the **wearIT4COVID PROJECT**



1

Optimization of the wearIT4health system for COVID-19 patients

Improving of:

- the measurement reliability of the most critical parameters related to COVID-19 patients: oxygen saturation and respiratory rate
- the casing design
- the printed circuit board and the firmware
- Algorithm optimization

2

Development of algorithms for COVID-19 warning scores and integration into the monitoring platform

Developing machine learning predictive models to predict the near future measurements of vital signs and hence predict disease worsening



3

Clinical pilot testing



A total of 45 patients were enrolled in the clinical study divided over the 3 participating hospitals.

The results are promising and the monitoring system was well received by both the patients and the caregiver.

3 main results:



1. 9 optimized prototypes delivered to hospitals:

Improving of the measurement reliability of the most critical parameters related to COVID-19 patients and allowing the start of the clinical study



2. Developing machine learning predictive models

Prediction performance of the main vital signs (heart rate, respiration rate, and oxygen saturation)



3. 45 patients enrolled in the clinical study:

Enrolling of ill COVID-19 patients in a multicentric, international prospective study of which the results are promising and the monitoring system was well received by both patients and caregivers

Supporting materials for raising awareness and provision of information

1. Article: <https://www.interregemr.eu/projects/wearit4covid-en#gallery>
2. Movie: <https://www.youtube.com/watch?v=gOlq3bWoRQ4>

Key milestones



01/10/2020: Start of the project



01/04/2021: Relevant retrospective COVID data collected from the hospitals to allow the development of algorithms for COVID-19 warning scores and their integration into the monitoring platform



01/08/2021: New optimized prototypes ready and start of the clinical multicentric pilot testing



30/09/2021: End of the project

CO-FINANCERS



<http://www.wearit4health.com/page/wearIT4COVID>

PROJECT PARTNERS

LEAD PARTNER:



PARTNERS:



Maastricht UMC+



Maastricht University

KU LEUVEN

UHASSELT

