



**HORIZON 2020**

**PHC-26-2014**

**Self management of health and disease: citizen engagement and mHealth**

**Grant agreement number: 643694**

**Project Title:**

**A co-operative mHEALTH environment targeting adherence and management of patients suffering from  
Heart Failure**



**Deliverable Number:** D2.1

**Title of Deliverable:** Project website, press release, lay summary and twitter account

**WP related to the Deliverable:** WP2

**Dissemination Level: (PU/PP/RE/CO)\*:** PU

**Nature of the Deliverable: (R/P/D/O)\*\*:** R

**Contractual Date of Delivery to the CEC:** 31/03/2015

**Actual Date of Delivery to the CEC:** 01/04/2015

**WP responsible for the Deliverable:** FORTH

**Author(s):** Dimitrios I. Fotiadis (FORTH)

Marta Esteban (LIP)

Georgia S. Karanasiou (FORTH)

## TABLE OF CONTENTS

1. Introduction .....	3
2. HEARTEN Lay Summary.....	4
3. HEARTEN logo .....	5
4. HEARTEN website .....	6
4.1 Overview of the website principles .....	6
4.2 Website preview .....	8
4.2.1 Main page .....	8
4.2.2 Objectives.....	9
4.2.3 Consortium.....	10
4.2.4 Work packages.....	12
4.2.5 Publications.....	13
4.2.6 Latest News.....	13
4.2.7 Partners internal area .....	15
5. HEARTEN press release .....	15
6. References .....	19

## **1. Introduction**

This document presents the deliverable D2.1 – “Project website, press release, lay summary and twitter account” and the related actions that have been taken in order to provide information about HEARTEN project and ensure its wide dissemination. A press release announcing the project has been created and is presented. A short description of HEARTEN website is given, presenting the website structure and its main components. Moreover, HEARTEN has recognised the need of following the rapid increase of social media and has created social media accounts to disseminate HEARTEN objectives and benefits.

## 2. HEARTEN Lay Summary

Heart Failure (HF) is a rapidly increasing cardiovascular chronic disease with 26 million patients globally and 3.6 million people diagnosed every year [1]. Extensive evidence shows that medication adherence, physical activity, healthy nutrition, normal blood pressure and ECG monitoring are among the critical factors for managing HF patients [2, 3]. Lack of proper management of HF patients results to undesirable effects and to loss of independence. Therefore, the recognition of non-adherent patients is of great importance. HF patients have at their disposal a plethora of guidelines and health-based knowledge, however the integration of this knowledge in their life seems to be difficult. HF patients do not just want more information, they want a relationship, an open line communication with all actors of the ecosystem.

HEARTEN will engage all actors related to the treatment and management of HF patients, including healthcare professionals, caregivers (formal/informal), healthcare providers, nutritionists, physical activity experts and health insurance experts, towards developing a multi-stakeholder patient centered mHealth ecosystem. To this end, HEARTEN will design, develop and validate an ICT co-operative environment that will assist the HF patients in achieving sustainable behavior change regarding their adherence, through enabling the ecosystem actors engagement in HF patients' management. The target population is patients with chronic and acute HF, post-ischemic or with dilated cardiomyopathy, requiring occasionally re-admittance into hospitals.

The main idea is to develop biosensors that will identify whether the patient adheres to the administered drugs. These biosensors will detect novel breath and saliva HF biomarkers and will be integrated into the smartphone and into the patient's cup, respectively. For monitoring the ECG, the blood pressure and the physical activity, additional sensors will be integrated to the patient's sensor kit. In addition, nutrition information, weight monitoring and patient's profile, as well as information directly added by the caregivers and the healthcare professionals will complement the patient's input data. The multi-parametric data is automatically analyzed. Critical information, alerts, trends and predictive models are provided to the HF patient and the other ecosystem actors. This way the HF patient is monitored and empowered in self-management using his/her smartphone, while the healthcare professionals and caregivers can communicate with the patients, coordinate their therapies, provide warnings and improve adherence to prevent frailty incidences.

### 3. HEARTEN logo



**Figure 1:** HEARTEN logo.

In order to ensure that the project is well-identified and boost the project's visual identity, a project logo has been designed. The choice of HEARTEN logo has been considered in depth based on the following criteria;

- (i) Simplicity
- (ii) Relevancy
- (iii) Distinctiveness
- (iv) Memorability
- (v) Depth of meaning
- (vi) Timelessness.

The minimalistic lines and unique shape, in conjunction with the appropriately selected colors, give emphasis to HEARTEN logo feature. HEARTEN logo will be included in all documents (websites, deliverables, posters, presentations, etc).

## 4. HEARTEN website

Nowadays, internet websites has been recognized among the most important activities for disseminating the project's vision and outcomes. To this end, the design and setup of HEARTEN website has received great attention and was one of the key elements after the project's kick off meeting. Through HEARTEN website, all the necessary information regarding project's activities are provided to all the interested parties in an efficient and cost-effective way.

### 4.1 Overview of the website principles

HEARTEN website structure has been designed in such a way that it targets three main goals;

- (i) Project communication and presentation of project's progress to the Commission and all related stakeholders
- (ii) Dissemination of the project's outcomes to the wide audience
- (iii) Communication and collaboration between project's partners.

In order to make HEARTEN website effective, appealing and user-friendly, a variety of characteristics were taken into consideration; (i) Content requirements, (ii) Appearance, (iii) Functionality and usability, (iv) Access control, (v) Legal issues.

#### Content requirements

Internet users are in need of an easy readable, clear and understandable content. HEARTEN partners have been strategically created the content aiming to create a strong value proposition and a clear conversion path. The information provided is accurate, updated and appropriate, and in relevance with the content quality criteria.

#### Appearance

HEARTEN website aims at attracting and keeping user's attention and in general generate a positive impression to the internet visitors. Since unattractive websites can be a turn off, HEARTEN placed much effort in creating an appropriate website appearance that will evoke certain emotions in users, assist in trust building, while giving emphasis on the content.

#### Functionality and usability

Website usability can be defined as the extent that a user can easily use and interact with the website without formal training. In addition, usability is concerned as a critical factor in website's acceptability. Therefore, functionality and usability are interrelated in HEARTEN website, based on the following characteristics of evaluation; (i) Navigation, (ii) Ease of use, (iii) Efficiency, (iv) Satisfaction, (v) Categorization of information.

### Access control

HEARTEN website design is based on the following modes of access: (i) Open access information, (ii) License restricted information and (iii) Privileged information. Open access information refers to the freely information, such as project main concept, Work packages, news, press releases, etc. License restricted information refers to controlled access through user identification key, while privileged information refers to controlled access based on hierarchy. HEARTEN website provides users with open access information and has an internal area accessibly only by the consortium partners (license restricted information).

### Legal issues

The legal issue of HEARTEN website will be taken into consideration in order to protect the information provided by different user categories based on the provided type of access; public and non- public content.

## 4.2 Website preview

HEARTEN website includes the following main sections; (i) Project Overview, (ii) Objectives, (iii) Consortium, (iv) Project activities, (v) Publications and (vii) Latest News. In the following Figure a preview of HEARTEN website is presented.



Figure 2: HEARTEN website (<http://www.hearten.eu/>).

### 4.2.1 Main page

In the main page of the website, the overall approach of HEARTEN project is presented. The main target is to summarize the key elements of HEARTEN approach, in an easy and understandable language. HEARTEN gives special emphasis to empower the HF patient and puts him/ her in the center of the ecosystem, as depicted in the website main page.



## 4.2.2 Objectives

In this webpage, the technological and scientific objectives of HEARTEN are presented. The user can separately select each objective in case he/she wants a more detailed description.

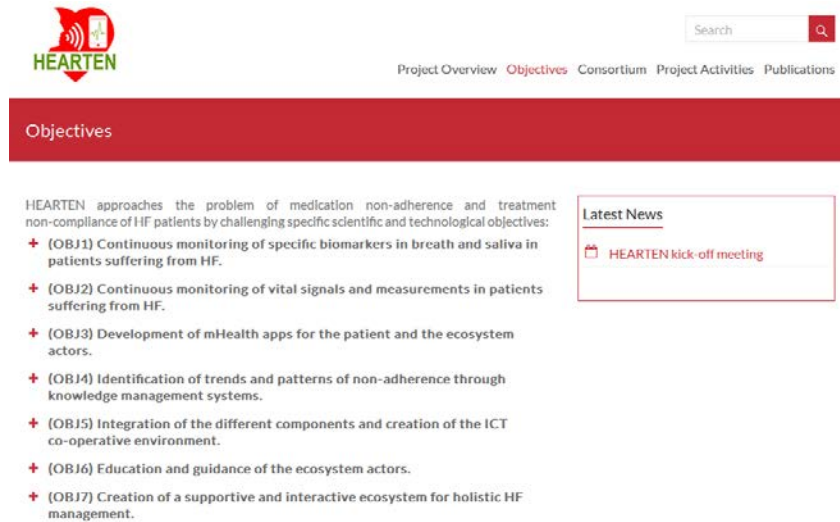


Figure 3: HEARTEN website objectives' overview.

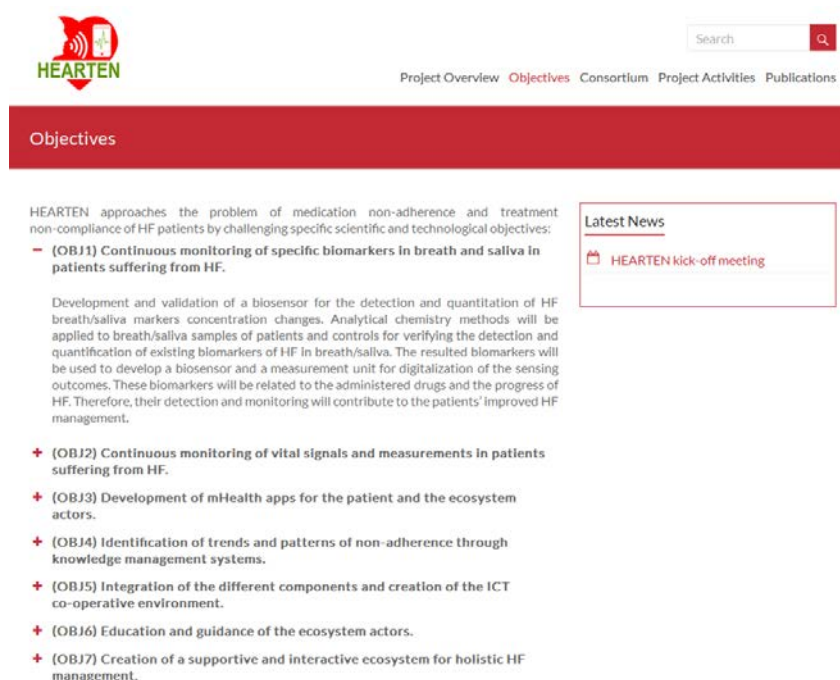
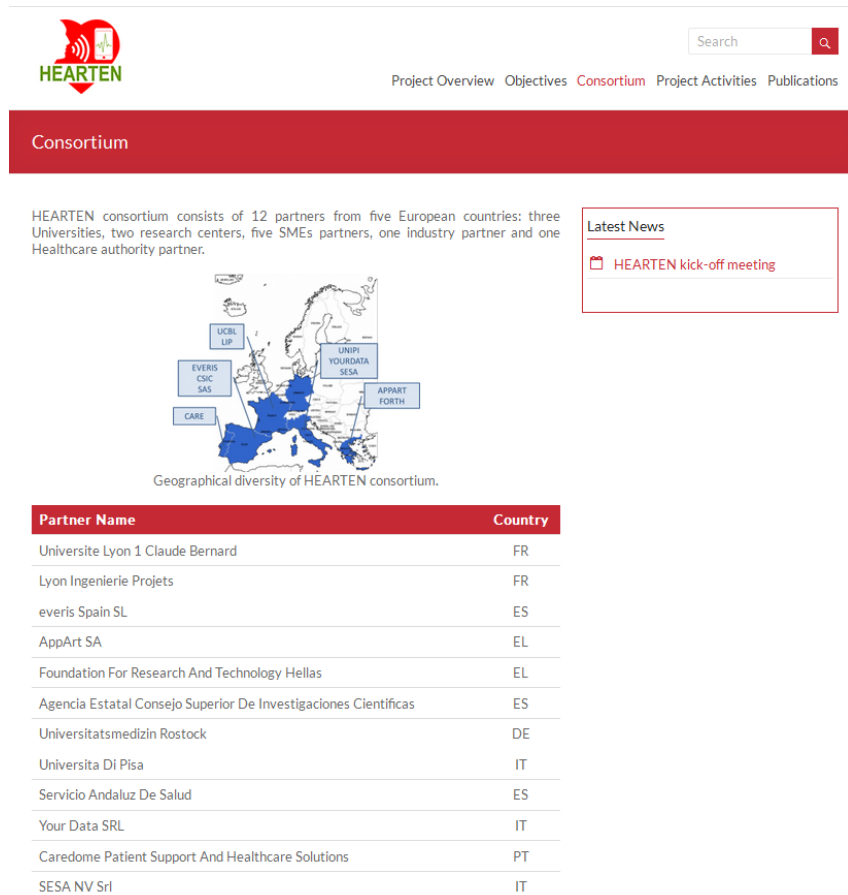


Figure 4: HEARTEN website objectives' detailed overview.

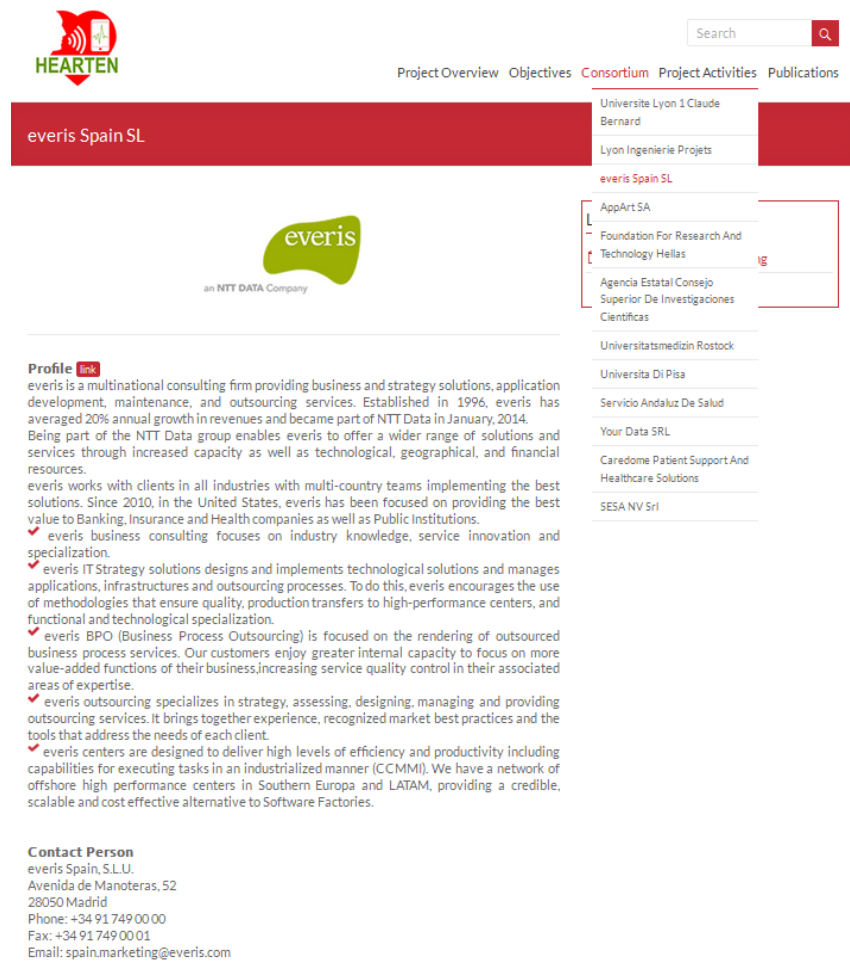
### 4.2.3 Consortium

The “Consortium” webpage presents HEARTEN partners and the geographical diversity.



**Figure 5:** HEARTEN website Consortium overview.

The user can also have access to partners' profile, expertise and to their professional website.



**everis Spain SL**

**everis**  
an NTT DATA Company

**Profile** [link](#)

everis is a multinational consulting firm providing business and strategy solutions, application development, maintenance, and outsourcing services. Established in 1996, everis has averaged 20% annual growth in revenues and became part of NTT Data in January, 2014. Being part of the NTT Data group enables everis to offer a wider range of solutions and services through increased capacity as well as technological, geographical, and financial resources.

everis works with clients in all industries with multi-country teams implementing the best solutions. Since 2010, in the United States, everis has been focused on providing the best value to Banking, Insurance and Health companies as well as Public Institutions.

- ✓ everis business consulting focuses on industry knowledge, service innovation and specialization.
- ✓ everis IT Strategy solutions designs and implements technological solutions and manages applications, infrastructures and outsourcing processes. To do this, everis encourages the use of methodologies that ensure quality, production transfers to high-performance centers, and functional and technological specialization.
- ✓ everis BPO (Business Process Outsourcing) is focused on the rendering of outsourced business process services. Our customers enjoy greater internal capacity to focus on more value-added functions of their business, increasing service quality control in their associated areas of expertise.
- ✓ everis outsourcing specializes in strategy, assessing, designing, managing and providing outsourcing services. It brings together experience, recognized market best practices and the tools that address the needs of each client.
- ✓ everis centers are designed to deliver high levels of efficiency and productivity including capabilities for executing tasks in an industrialized manner (CCMMI). We have a network of offshore high performance centers in Southern Europa and LATAM, providing a credible, scalable and cost effective alternative to Software Factories.

**Contact Person**  
everis Spain, S.L.U.  
Avenida de Manoteras, 52  
28050 Madrid  
Phone: +34 91 749 00 00  
Fax: +34 91 749 00 01  
Email: [spain.marketing@everis.com](mailto:spain.marketing@everis.com)

**Partners List:**

- Universite Lyon 1 Claude Bernard
- Lyon Ingenierie Projets
- everis Spain SL
- AppArt SA
- Foundation For Research And Technology Hellas
- Agencia Estatal Consejo Superior De Investigaciones Cientificas
- Universitätsmedizin Rostock
- Universita Di Pisa
- Servicio Andaluz De Salud
- Your Data SRL
- Caredome Patient Support And Healthcare Solutions
- SESA NV Sri

Figure 6: HEARTEN website partners' presentation.

#### 4.2.4 Work packages

In the following, some indicative screenshots from HEARTEN Work Packages are presented.

In each Work Package, the following information is provided;

- Small description
- Main objectives
- Related tasks

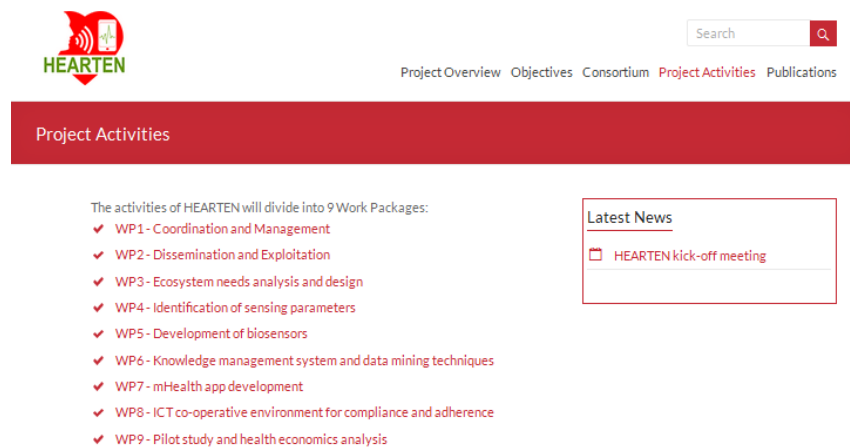


Figure 7: HEARTEN website Work Packages overview.

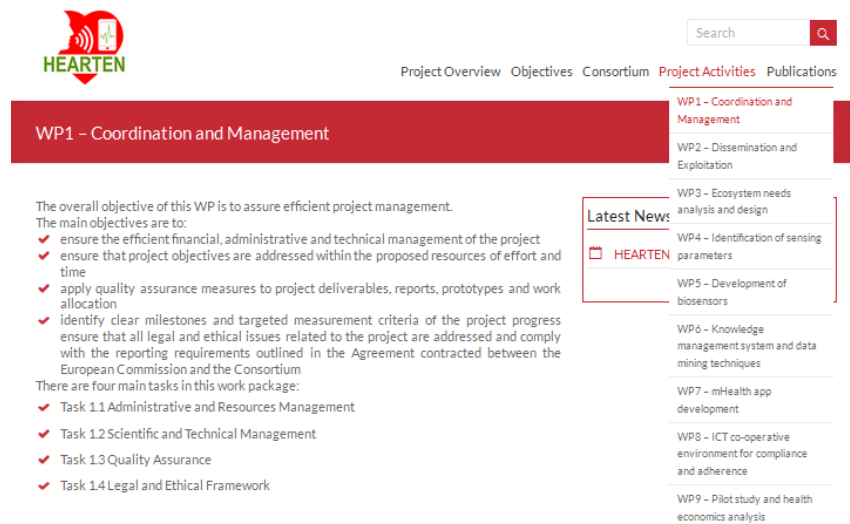


Figure 8: HEARTEN website Work Packages and Tasks detailed overview.

#### 4.2.5 Publications

This section will include the list of deliverables and any other related material for disseminating HEARTEN findings; journal papers, posters, presentations, etc.

#### 4.2.6 Latest News

The “Latest News” section presents important activities, news and other events related to HEARTEN project. In the following Figure, information about the HEARTEN “Kick off meeting” is provided.



Figure 9: HEARTEN website Latest News.

In case the user needs further information, he/she has access to “Kick off meeting agenda” and “Photos”.

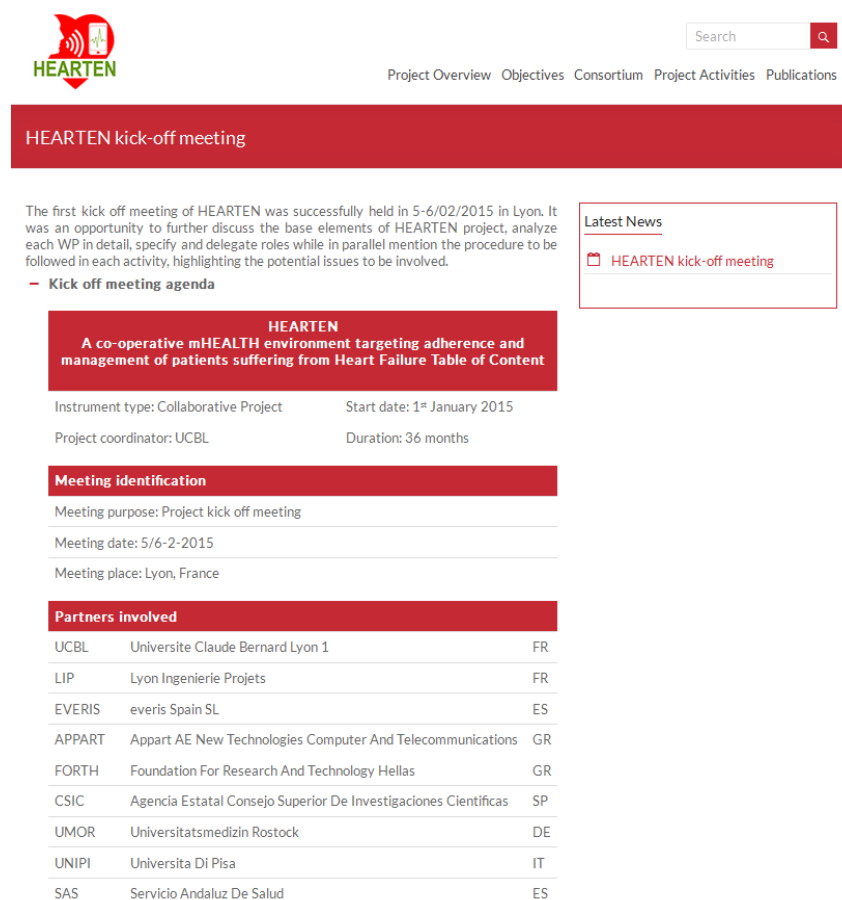


Figure 10: HEARTEN website Kick off meeting overview.

In the bottom of HEARTEN website, the user can find additional links related to:

- Europe's Information Society eHealth
- Horizon2020
- eHealth News
- Digital agenda for Europe
- HEARTEN in Social media
  - Facebook account

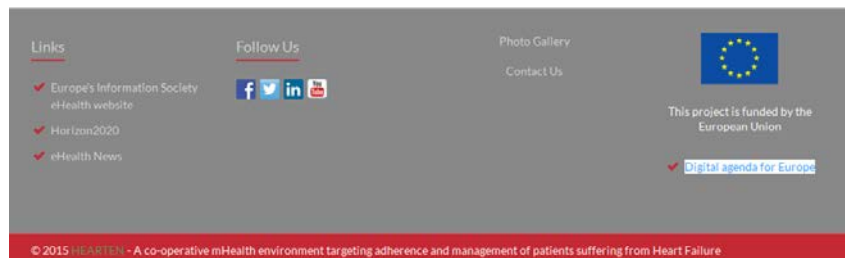
(<https://www.facebook.com/pages/HEARTEN-Project/605460052917539>)

- Twitter account

(<https://twitter.com/heartenh2020>)

- LinkedIn account

(<https://www.linkedin.com/in/heartenproject>)



**Figure 11:** HEARTEN website additional links.

HEARTEN has perceived that social media could provide a great benefit in disseminating the project's objectives and outcomes. Twitter is an online social network that enables the users to post news, as well as, send and receive text-based messages, called tweets. In the following Figure, HEARTEN twitter page is presented.

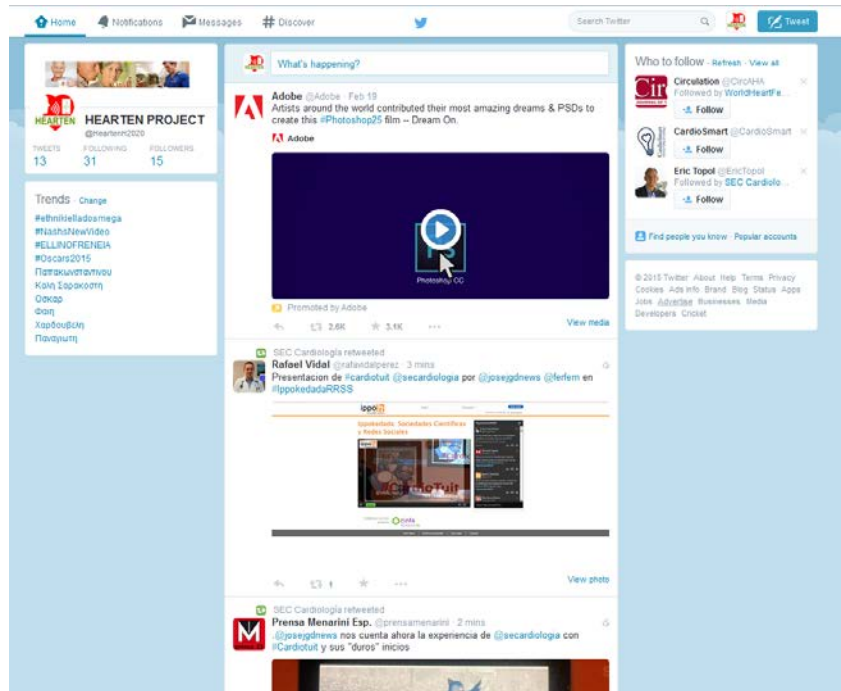


Figure 12: HEARTEN twitter page (<https://twitter.com/heartenh2020>).

#### 4.2.7 Partners internal area

HEARTEN project has established an internal area where all partners can upload any material related to the project's activities. This tool enables the communication between the consortium in an efficient and effective way.

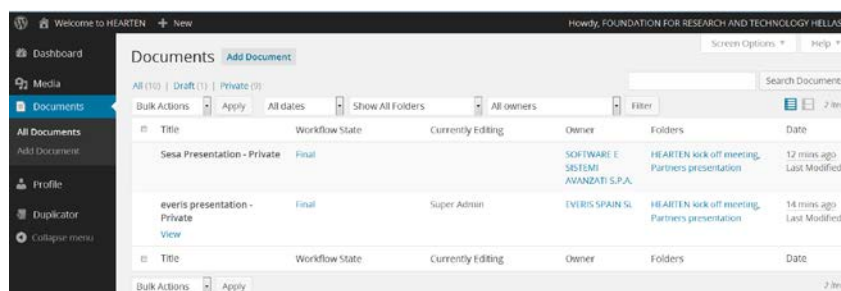


Figure 13: HEARTEN website partners' internal area.

## 5. HEARTEN press release

HEARTEN press release incorporated the key elements of the project, and was created in such a manner that could be understandable to those who are not experts in Heart Failure specific domain. The press release was sent to the European Commission.



This project is funded by  
the European Union

**HORIZON 2020**

**PHC-26-2014**

**Self management of health and disease: citizen engagement and mHealth**

**Grant agreement number: 643694**

**Project Title:**

**A co-operative mHEALTH environment targeting adherence and management of patients suffering  
from Heart Failure**





## HEARTEN press release announcing the project

HEARTEN is a project funded by the European Union, with twelve partners from six European countries; three Universities, two research centers, five SMEs, one industry partner and one Healthcare authority partner. HEARTEN consortium join forces to engage all actors related to the management of patients suffering from Heart Failure (HF), towards developing a multi-stakeholder patient centered mHealth ecosystem.

The three-year project targets HF, a disease experienced globally by 26 million people with an annual cost to insurers estimated to be approximately 6.000€ per person. The recognition of non-adherent HF patients is important since, even if these patients are fortunate to have at their disposal a plethora of guidelines and health-based knowledge, the integration of this knowledge in their life becomes difficult. Developing and delivering an ICT co-operative environment that will enable the HF patients to achieve sustainable behavior change regarding their adherence and compliance is an significant challenge.

### **Breath/saliva and other patient monitoring sensors**

The project will develop biosensors that detect and quantify novel breath and saliva HF biomarkers that reflect the health status of the patient and identify whether the patient adheres to the administered drugs. The breath biosensor will be integrated into the smartphone while the saliva biosensor will be integrated into the patient's cup. Additional sensors for monitoring the ECG, the blood pressure and the physical activity constitute the sensor kit of the patient. The input data are complemented with nutrition information from the patient's smartphone, weight monitoring through wireless weight scales as well as the patient's profile and information directly added by the caregivers and the healthcare professionals.

### **Hearten knowledge management system**

These multi-parametric data are transmitted to HEARTEN cloud reference architecture, where a knowledge management system analyses them and delivers critical information at hand, provides alerts, guidelines, trends and predictive models to the patient and the ecosystem actors. HF patients are empowered in self-management, by using their smartphones and tracking their medical vital signs, while the healthcare professionals and the caregivers can issue warnings, coordinate therapies, improve adherence and intervene before frailty incidences occur.

### **Patient empowerment**

HEARTEN targets the management of the patients suffering from HF, empowering a healthy lifestyle and the adherence to the medical prescriptions, in order to avoid critical situations, resulting both from medical guidelines non-compliance and drug prescription non-adherence. In HEARTEN, the patient has a central role in the corresponding ecosystem and is empowered through easy to use sensor kit and apps to manage his/her status. The target is secondary prevention, in order to avoid comorbidities (renal dysfunction, cerebral dysfunction, anaemia, liver dysfunction, chronic obstructive pulmonary disease, diabetes and sleep apnoea) and frailty conditions. As the newly developed personalized system empowers direct and immediate indication of disease conditions such as metabolic or oxidative stress, it will not only help to avoid critical situations but also support and educate the patient to reduce conditions leading to such situations and therefore support health education and self-management in general.

**Hearten partners**

UNIVERSITE LYON 1 CLAUDE BERNARD (France), LYON INGENIERIE PROJETS (France), EVERIS SPAIN SL (Spain), APPART SA (Greece), FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS (Greece), AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (Spain), UNIVERSITÄTSMEDIZIN ROSTOCK (Germany), UNIVERSITA' DI PISA (Italy), SERVICIO ANDALUZ DE SALUD (Spain), YOUR DATA SRL (Italy), CAREDOME PATIENT SUPPORT AND HEALTHCARE SOLUTIONS (Portugal), SESA NV Srl (Italy).

## 6. References

- [1] "Heart Failure today," *Medicographia*, vol. 33, no. 4, 2011
- [2] R. Belardinelli, D. Georgiou, G. Cianci, A. Purcaro, "10-year exercise training in chronic heart failure: a randomized controlled trial," *J. Am. Coll. Cardiol.*, vol. 60, no. 16, pp. 1521–1528, 2012.
- [3] J.Wu, D. Moser, T. Lennie, A. Peden, Y. Chen, S. Heo, "Factors influencing medication adherence in patients with heart failure," *Heart Lung J. Acute Crit. Care*, vol. 37, no. 1, pp. 8–16.e1, 2008.