Project Acronym:	**VICINITY**
Project Full Title:	**Open virtual neighbourhood network to connect intelligent buildings and smart objects**
Grant Agreement:	**688467**
Project Duration:	**48 months (01/01/2016 - 31/12/2019)**

Deliverable D9.1

Project website

Work Package:	**WP9 – Dissemination of Results & Exploitation**
Task(s):	**T9.2 – VICINITY Web Portal, Dissemination Channels & Promotional Material**
Lead Beneficiary:	**CERTH**
Due Date:	**31 March 2016 (M3)**
Submission Date:	**31 March 2016 (M3)**
Deliverable Status:	**Final**
Deliverable Type:	**R**
Dissemination Level:	**PU**
File Name:	**VICINITY_D9.1_Project_website_v1.0.pdf**

VICINITY Consortium

This project has received funding from the European Union's Horizon 2020 Research and innovation programme under Grant Agreement n°688467

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8.	Climate Associates Ltd	CAL	United Kingdom
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12.	Tiny Mesh AS	TINYM	Norway
13.	HAFENSTROM AS	ITS	Norway
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Revision Control

Version	Date	Status	Modifications made by
0.1	26 February 2016 (M2)	Initial Draft	Tryferidis (CERTH)
0.2	11 March 2016 (M3)	First Draft formatted with contributions received	Tryferidis (CERTH)
0.3	16 March 2016 (M3)	Deliverable version for final review by partners	Tryferidis (CERTH)
0.4	22 March 2016 (M3)	Final improvements	Tryferidis (CERTH), Flemming (ITS)
0.5	23 March 2016 (M3)	Deliverable version uploaded for Quality Check	Tryferidis (CERTH)
0.6	31 March 2016 (M3)	Final Draft reviewed	Nigel Wall (CAL)
1.0	31 March 2016 (M3)	Submission to the EC	Tryferidis (CERTH)

Table of Contents

List of Tables

List of Figures

List of Definitions & Abbreviations

Abbreviation	Definition
AAU	Partner – Aalborg University
AIOTI	Alliance for Internet of Things Innovation
ATOS	Partner – ATOS Spain SA
BVR	Partner – bAvenir s.r.o.
CAL	Partner – Climate Associates Ltd
CHP	Combined Heat & Power
DER	Distributed energy resources
DSM	Demand Side Management
DG RTD	Directorate-General Research and Innovation (within EC)
EC	European Commission
ENERC	Partner – Enercoutim
ESCO	Energy Service Company
EU	European Union
GNOMON	Partner – Gnomon Informatics S.A.
GRN	Partner – Gorenje Gospdonjski Aparati D.D.
ICT	Information & communication technologies
IoT	Internet of Things
IR	Infra Red
IS	Partner – InterSoft A.S
ITI	Information Technology Information
ITS	Partner – Hafenstrom AS
KPI	Key performance indicatior
MPH	Partner – Municipality of Pylaia-Hortiatis
NFC	Near Field Communications
OTH	Partner – Hellenic Telecommunications Organisation S.A.
RES	Renewable Energy Source
RFID	Radio Frequency Identification
SAB	Stakeholder Advisory Board
TINYM	Partner – Tiny Mesh AS
UCD	User Centred Design
UNIKL	Partner – TU Kaiserslautern

UPM	Partner – Universidad Politecnica de Madrid
VNM	VICINITY Network Manager
WP	Work Package

1. Executive Summary

The present document is a deliverable "D9.1 – Project Website" of the VICINITY [1] project (Grant Agreement No.: 688467), funded by the European Commission's Directorate-General for Research and Innovation (DG RTD), under its Horizon 2020 Research and Innovation Programme (H2020), and presents the online dissemination channels of VICINITY as they were created and developed through the first three months of the project. The VICINITY Website will be periodically updated, so as to adhere to the overall dissemination strategy of the projects.

The VICINITY Consortium has established a wide variety of communication channels (official web portal, social media, etc.) in order to disseminate project's main objectives, achievements and events as well as to coordinate and facilitate the cooperation of the consortium. In this direction, and taking into consideration the high interest derived for the optimal management of the VICINITY portal, the deliverable is organised in five main sections.

The structure, format and functionalities of the website is explained and is illustrated using the initial set of web pages that were uploaded to the website. However, these illustrations represent a point in time, and the detail will be expanded and changed frequently throughout the life of the project. The objective of including this detail here is to provide guidance to the members of the consortium and all the related stakeholders.

All the social media channels used for the VICINITY project are presented.

2. Introduction

This report constitutes a detailed description of the VICINITY Web Presence and presents the functionalities of the webpage together with the accounts of social media accounts that have been assigned to the project. The web developments along with the established social channels will be enhanced with the essential dissemination material, which is expected to serve as a multiplier of the project's main ambitions and objectives through the engagement of all the related stakeholders groups and public audiences.

The following table outlines the online communication channels utilized for the online dissemination of the VICINITY project.

Table 1: Summary of VICINITY's main online communication channels

The VICINITY Website
http://www.vicinity2020.eu
The VICINITY account on Twitter
http://twitter.com/VICINITY2020
The VICINITY account on Facebook
http://www.facebook.com/vicinity2020
The VICINITY account on LinkedIn
http://www.linkedin.com/groups/8481580/profile
The VICINITY account on Google +
http://plus.google.com/116115201421556382451
The VICINITY account on YouTube
http://www.youtube.com/channel/UC7TNz7JosAqTWlR2-oq5w3A

Further accounts have already been reserved on the following channels, to be utilized as and if needed as the project progresses:

Table 2: VICINITY's secondary targeted channels

The VICINITY account on Pinterest
https://gr.pinterest.com/vicinity2020/
The VICINITY account on Disqus
https://disqus.com/by/vicinity2020/

All the above-mentioned online communication channels are expected to contribute greatly to the dissemination of the project results and outcomes. In this initial stage the communication channels were selected in order to cover the majority of online social media and are expected to be active during the entire timeline of the project and after its completion. If one of the above channels is found to have minimum influence on the online community the consortium can decide for its discontinuation based not only on data from its previous use but on the projected usefulness for the next goals of the project.

The detailed description of the VICINITY project in the above online resources is expected to be the basis for the cooperation with other EU projects and research or commercial

organizations. Moreover, the content aggregated on all the above platforms is expected to stimulate the discussions and cooperation between the consortium members and it is also intended to bridge the gap between the knowledge and experience background of the partners, towards the efficient and effective cooperation for the multidisciplinary goals of VICINITY.

The online dissemination tools can be accessed through three main levels of user hierarchy in order to provide the required safety and stability of the online resources.

a) The **Public Area**, which is accessible to the general public without the need for subscription and includes the project's website and social media.
b) The **Members Area**, which is accessible only by the VICINITY consortium, i.e. the project partners and close stakeholders. The access to the members section of the dissemination tools will be permitted after a successfully logged in procedure using an appropriate login user interface.
c) The **Administrator Area**, which is accessible only by the administrator of the project's web components, who is responsible for their proper function and the publication of news and relevant material provided by the project's consortium.

2.1. Relation to other Tasks and Deliverables

This deliverable is part of Task "*T9.2 VICINITY Web Portal, Dissemination Channels & Promotional Material*" and is not related to any other deliverable.

Printable leaflets and a letter are published on the website and are shown in Annex 1.

2.2. Deliverable Structure

The results of the work performed for the deliverable is organized in the following chapters:

Chapter 2 – Introduction states a brief description of the VICINITY Web Presence and presents the functionalities of the webpage together with the accounts of social media accounts that have been assigned to the project.

Chapter 3 – The VICINITY Website describes VICINITY's Website in order to support all the necessary horizontal activities of the project Note that the detail shown is for the initial version of the website, whilst the format is intended to remain for the life of the project, the detail will be updated frequently.

Chapter 4 – VICINITY Presence on Social Media describes the efficient dissemination of the projects' results through online social Media.

Chapter 5 – Conclusions details the deductions resulting from the development of the deliverable.

Annex I and II – Shows the first **VICINITY Leaflets** and **Introletter**

3. The VICINITY Website

The VICINITY Website is publicly available at www.vicinity2020.eu, and is held at UNIKL web server and maintained by CERTH/ITI. The website was designed during the early stages of the project, in order to support all the necessary horizontal activities of the project. It is planned that the website will be maintained for at least 4 years beyond the end of the project, as it forms the basis of VICINITY online presence and will be the key project communication tool.
The main goals of the VICINITY Website are:

a) To **raise awareness** on VICINITY and to **inform the public** and the various **interested stakeholders** about the VICINITY's progress;
b) To **stimulate** and **facilitate** the production of articles, reports and demonstrations of the **project results**;
c) To **encourage feedback** from all related stakeholders upon the project's aims, progress, methods and future work;
d) To **provide a common space** for the assessment of publicly available material created under the framework of the VICINITY project (e.g. public deliverables, scientific publications, presentations of the project);
e) To **bridge the gaps between the different knowledge and experience backgrounds** in the consortium towards the identification of innovative solutions;
f) To **formulate** and **structure the knowledge and experience** produced under the framework of the VICINITY project;

In the following sections, the structure and main functions of the Website are described followed by a short description of each web page, either static or dynamic.

3.1. Technical Infrastructure

The website has been designed using the Drupal CMS [3] deployed on an Apache web server powered by PHP and using a MySQL Database.

Drupal is an open source content management platform maintained and developed by a community of more than one million users and developers and it's distributed under the terms of the GNU General Public License [4]. It has been selected as the base technology for the implementation of the VICINITY Website mainly due to its flexibility and the modularity, the available tools for high level personalization of web content and the rich repository of plugins that allow the extension of its functionalities far beyond the features of the basic installation. All the above characteristics make Drupal ideal for the multidisciplinary purposes of VICINITY without imposing any risks to the stability of the final webpage.

Finally, it is important to mention that the design and development of the VICINITY Website have focused on the deployment on a variety of devices with different screen size such as tablets and smartphones.

3.2. Layout of the VICINITY Website

The VICINITY Website is based on a common layout that guarantees easy browsing through the sites web pages. More specifically the layout is presented in Figure 1 and Figure 2 and consists of:

a) The **Header** section, which contains the project logo, its full name, a global search field and short-links to all project social media channels.
b) The **Main Navigation Menu**, which facilitates the fast browsing between the different sections of the Website.
c) The **Main Content Area**, the main part of every page, presenting the users' information requested.
d) The **Sidebar,** containing a tweets feed of the VICINITY's latest tweets.

e) The **Footer**, which presents the structure of the website (sitemap), above the information about the project's funding by the European Union's Horizon 2020 framework. At the left side of the footer the logo of the European Union is displayed together with the required copyright disclaimer.

As already mentioned the layout of the project is responsive to smart device such as a smart phone or tablet in order to allow easy use and efficient presentation of information. In this case all the above sections are presented in series vertically (see Figure 3). The Main Navigation Menu is represented by a Menu button, which expands when pressed to present all the available choices (see Figure 4).

Figure 1: Default Webpage Layout (Top)

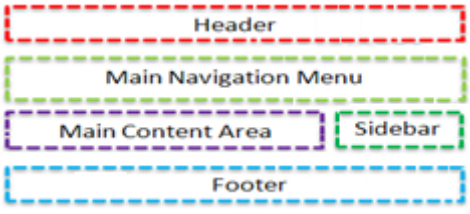


Figure 2: Default Webpage Layout

Figure 3: Default web page layout on Smart Device

Figure 4: Home page layout on Smart Device and expanded view of the Main Navigation Menu

3.3. Content

The content and structure of the VICINITY Website was organized and designed to have the presentation of the project, both in terms of goals and background, as well as the presentation of news related to VICINITY work. The following list presents the main sections of the page, and further analysed in the following subsections:

- **Home**: The homepage presents a slideshow, a short summary of the VICINITY project together with a YouTube video about VICINITY's Objectives, the latest project news and a tweets feed of the VICINITY's latest tweets. The main reason of this page is to summarize the project goals and its current state in a glance.
- **Project**: This section aims to present all the detailed information related to the project. More specifically, the subsections are presented below
  - ***Summary:*** This tab introduces the project to the visitors and provides project funding and duration details.
  - ***Concept & Approach:*** This section presents VICINITY's overall concept in a nutshell.
  - ***Objectives:*** The five cornerstone objectives that will define the outcomes of the project are summarized in this section.
  - ***Methodology:*** This section presents the VICINITY methodological approach and its interrelated phases.

- ***Ambition:*** This section outlines the foreseen outcomes and VICINITY's progress beyond the state-of-the-art.
- ***Impact:*** This section indicates the potential impact of VICINITY concept.
- ***Related Projects:*** This section presents a list of related projects that are expected to provide crucial support to the VICINITY project.

- **Partners:** The purpose of this section is to present the project's consortium
  - ***VICINITY Partners:*** This section illustrates a short description together with links to respective Websites of all the partners.
- **Pilot Use Cases:** An overview of the envisioned Pilot Use-Cases is highlighted in this section and each of them analysed in the subsections:
  - **Smart Energy Microgrids Community**
  - **Smart Energy Microgrids Neighbourhood**
  - **Intelligent Transport And Smart Parking**
  - **EHealth At home**
  - **Smart House Test-bed**

  The VICINITY platform will be demonstrated on many different real-case scenarios, addressing cross-domain applications, revealing the applicability of the proposed solution in different IoT ecosystems.
- **Results**
  - ***Publications:*** List of scientific publications based on the work of VICINITY.
  - ***Public Deliverables:*** List of public deliverables together with downloading links for each one after its successful completion.
  - ***Presentations:*** List of presentations related to the work of VICINITY. Downloading links for the assessment by the website visitors.
  - ***Press Kit:*** In this section all the other types of dissemination materials such as leaflets will be available for download by the user.
- **News & Events:**
  - ***News:*** This VICINITY blog contains a list of news related to the goals of the project and publication of project results. This section will be used to share experiences and research outcomes between the partners and the community of website users. In this area, partners will be able to publish intermediate results, experience and photos from related events.
  - ***Events:*** List of events that are related to the project or events that are part of the project's work plan. In addition, the project's calendar can be displayed including all the published events and links to their short description.
  - ***Newsletter:*** In this section the website visitors are presented with the possibility to subscribe to the project newsletters and receive them through mail when they are available.
- **Contact:**
  - ***Contact Us:*** In this section the website visitors are able to provide feedback regarding a part of the project or even the functionalities of the Website. The contact information of the VICINITY project coordinator *Prof. Dr. Christoph Grimm* is also available in this section.
  - ***Imprint:*** In this section details about privacy policy are depicted, as well as contact information of the Website Responsible *Prof. Dr. Christoph Grimm* and the Webmaster *Thanasis Tryferidis*.

All the above links/buttons will automatically redirect users to the respective page and present the relevant information as it is analytically reported in the following sections of this chapter.

3.3.1 Home

The **Home** page of the VICINITY Website provides a slideshow, a short description about the project, a YouTube video about VICINITY's Objectives, as well as a short overview of the latest project news that have been published on the Website (Figure 5). The system administrator is responsible for defining the number of news and events that will be shown to the visitor and these teasers will include extended information mentioning the specific item (news or event) title, the posting date, an image related to the article, a short description of the item, and finally, a hyperlink to the item's main source for its full information content. Furthermore, a tweets feed of the VICINITY's latest tweets is depicted.

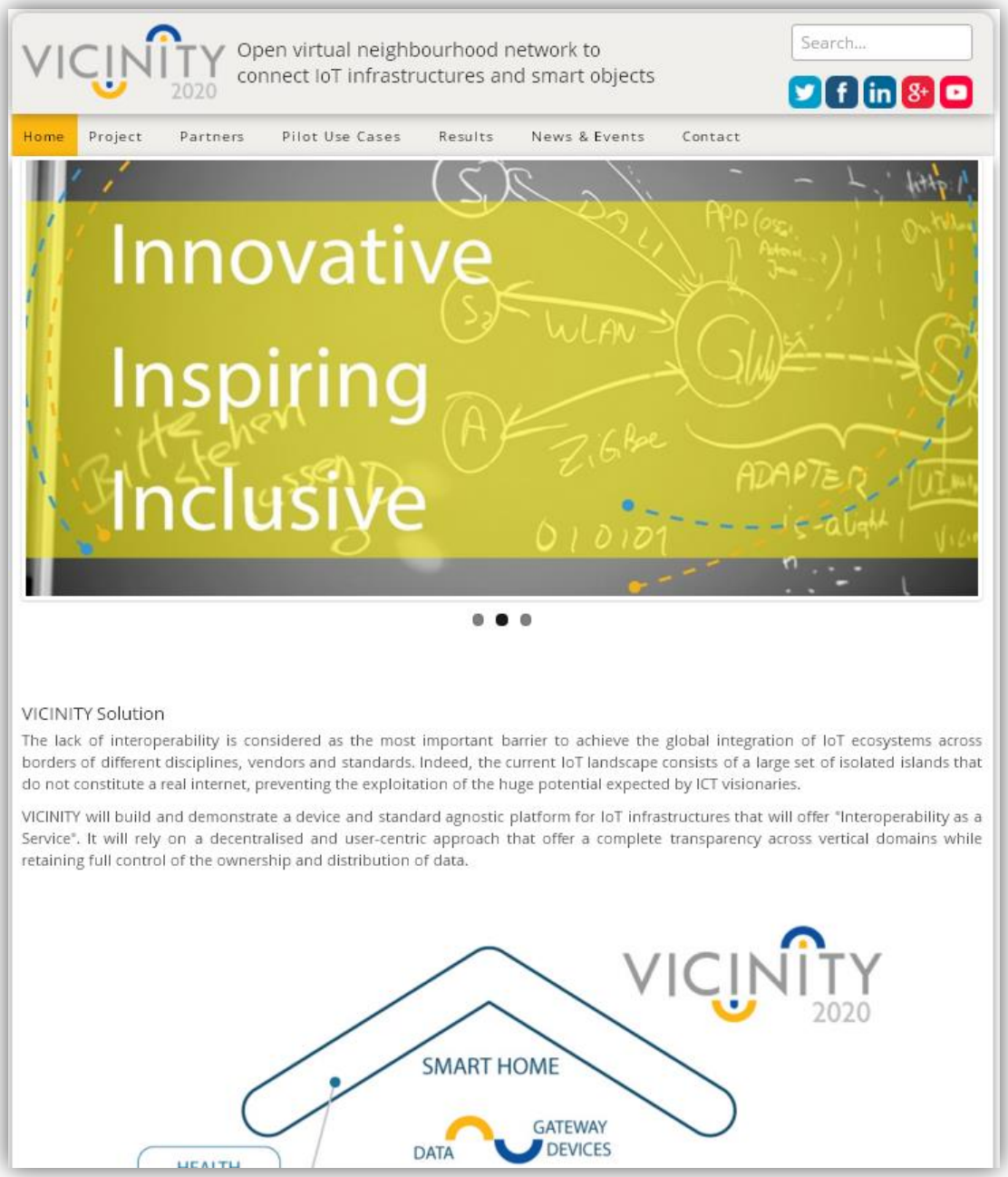


Figure 5: The homepage of the VICINITY Website

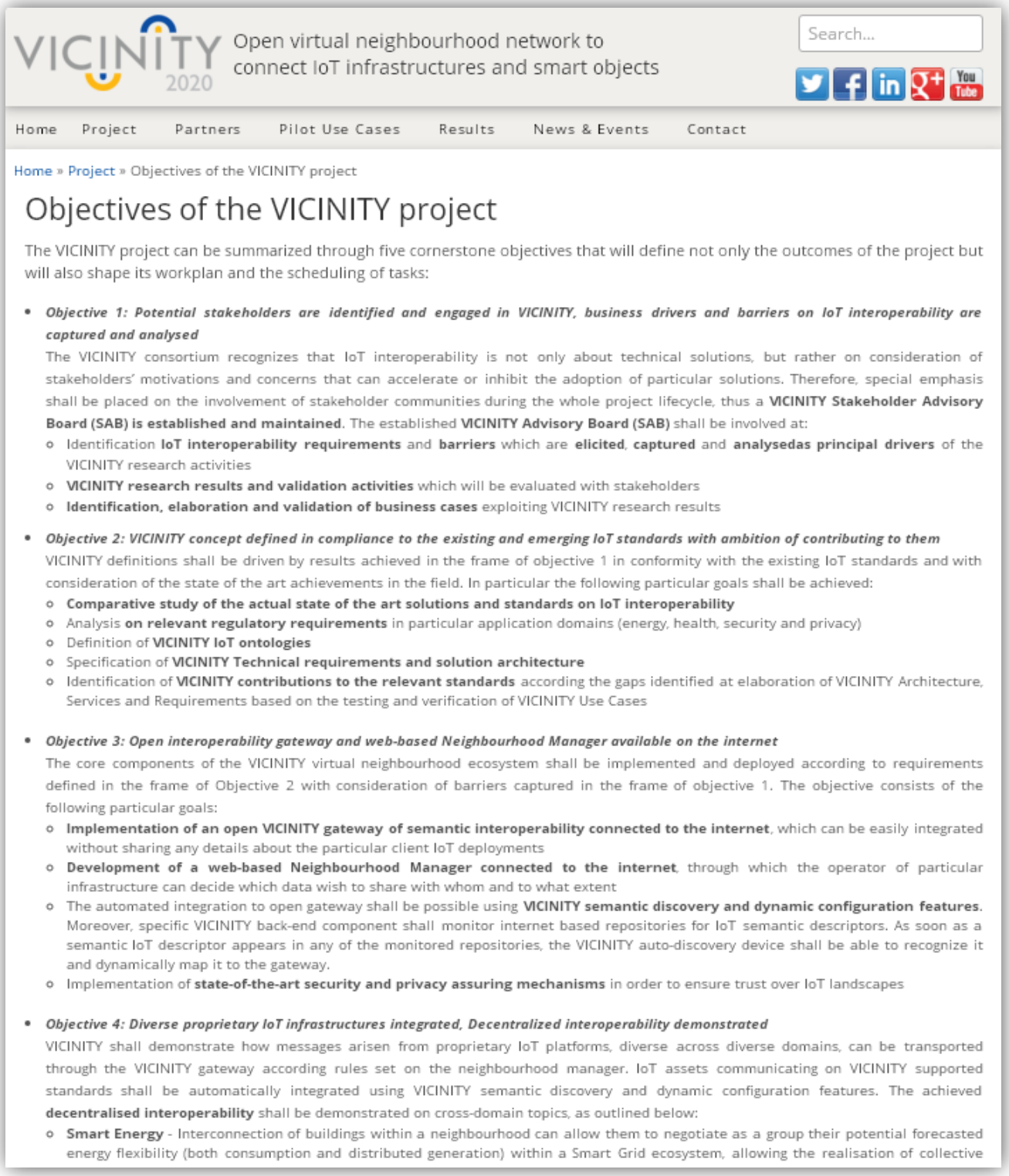
3.3.2 Project

This area presents comprehensive information about the project, such as its concept, objectives, VICINITY methodology that will be followed in order to deliver the project objectives, ambition and the overall VICINITY impact.

The user will be able to browse the contents of this section by clicking on the following tabs: ***Summary*** (Figure 6), ***Concept & Approach*** (Figure 7), ***Objectives*** (Figure 8), ***Methodology*** (Figure 9), ***Ambition*** (Figure 10), ***Impact*** (Figure 11) and ***Related Projects*** (Figure 12).

Figure 6: Summary Tab

Figure 7: Concept & Approach Tab



VICINITY 2020 Open virtual neighbourhood network to connect IoT infrastructures and smart objects

Search...

Home Project Partners Pilot Use Cases Results News & Events Contact

Home » Project » Objectives of the VICINITY project

Objectives of the VICINITY project

The VICINITY project can be summarized through five cornerstone objectives that will define not only the outcomes of the project but will also shape its workplan and the scheduling of tasks:

- ***Objective 1: Potential stakeholders are identified and engaged in VICINITY, business drivers and barriers on IoT interoperability are captured and analysed***
  The VICINITY consortium recognizes that IoT interoperability is not only about technical solutions, but rather on consideration of stakeholders' motivations and concerns that can accelerate or inhibit the adoption of particular solutions. Therefore, special emphasis shall be placed on the involvement of stakeholder communities during the whole project lifecycle, thus a **VICINITY Stakeholder Advisory Board (SAB) is established and maintained**. The established **VICINITY Advisory Board (SAB)** shall be involved at:
  - Identification **IoT interoperability requirements** and **barriers** which are **elicited**, **captured** and **analysedas principal drivers** of the VICINITY research activities
  - **VICINITY research results and validation activities** which will be evaluated with stakeholders
  - **Identification, elaboration and validation of business cases** exploiting VICINITY research results
- ***Objective 2: VICINITY concept defined in compliance to the existing and emerging IoT standards with ambition of contributing to them***
  VICINITY definitions shall be driven by results achieved in the frame of objective 1 in conformity with the existing IoT standards and with consideration of the state of the art achievements in the field. In particular the following particular goals shall be achieved:
  - **Comparative study of the actual state of the art solutions and standards on IoT interoperability**
  - Analysis **on relevant regulatory requirements** in particular application domains (energy, health, security and privacy)
  - Definition of **VICINITY IoT ontologies**
  - Specification of **VICINITY Technical requirements and solution architecture**
  - Identification of **VICINITY contributions to the relevant standards** according the gaps identified at elaboration of VICINITY Architecture, Services and Requirements based on the testing and verification of VICINITY Use Cases
- ***Objective 3: Open interoperability gateway and web-based Neighbourhood Manager available on the internet***
  The core components of the VICINITY virtual neighbourhood ecosystem shall be implemented and deployed according to requirements defined in the frame of Objective 2 with consideration of barriers captured in the frame of objective 1. The objective consists of the following particular goals:
  - **Implementation of an open VICINITY gateway of semantic interoperability connected to the internet**, which can be easily integrated without sharing any details about the particular client IoT deployments
  - **Development of a web-based Neighbourhood Manager connected to the internet**, through which the operator of particular infrastructure can decide which data wish to share with whom and to what extent
  - The automated integration to open gateway shall be possible using **VICINITY semantic discovery and dynamic configuration features**. Moreover, specific VICINITY back-end component shall monitor internet based repositories for IoT semantic descriptors. As soon as a semantic IoT descriptor appears in any of the monitored repositories, the VICINITY auto-discovery device shall be able to recognize it and dynamically map it to the gateway.
  - Implementation of **state-of-the-art security and privacy assuring mechanisms** in order to ensure trust over IoT landscapes
- ***Objective 4: Diverse proprietary IoT infrastructures integrated, Decentralized interoperability demonstrated***
  VICINITY shall demonstrate how messages arisen from proprietary IoT platforms, diverse across diverse domains, can be transported through the VICINITY gateway according rules set on the neighbourhood manager. IoT assets communicating on VICINITY supported standards shall be automatically integrated using VICINITY semantic discovery and dynamic configuration features. The achieved **decentralised interoperability** shall be demonstrated on cross-domain topics, as outlined below:
  - **Smart Energy** - Interconnection of buildings within a neighbourhood can allow them to negotiate as a group their potential forecasted energy flexibility (both consumption and distributed generation) within a Smart Grid ecosystem, allowing the realisation of collective

Figure 8: Objectives Tab

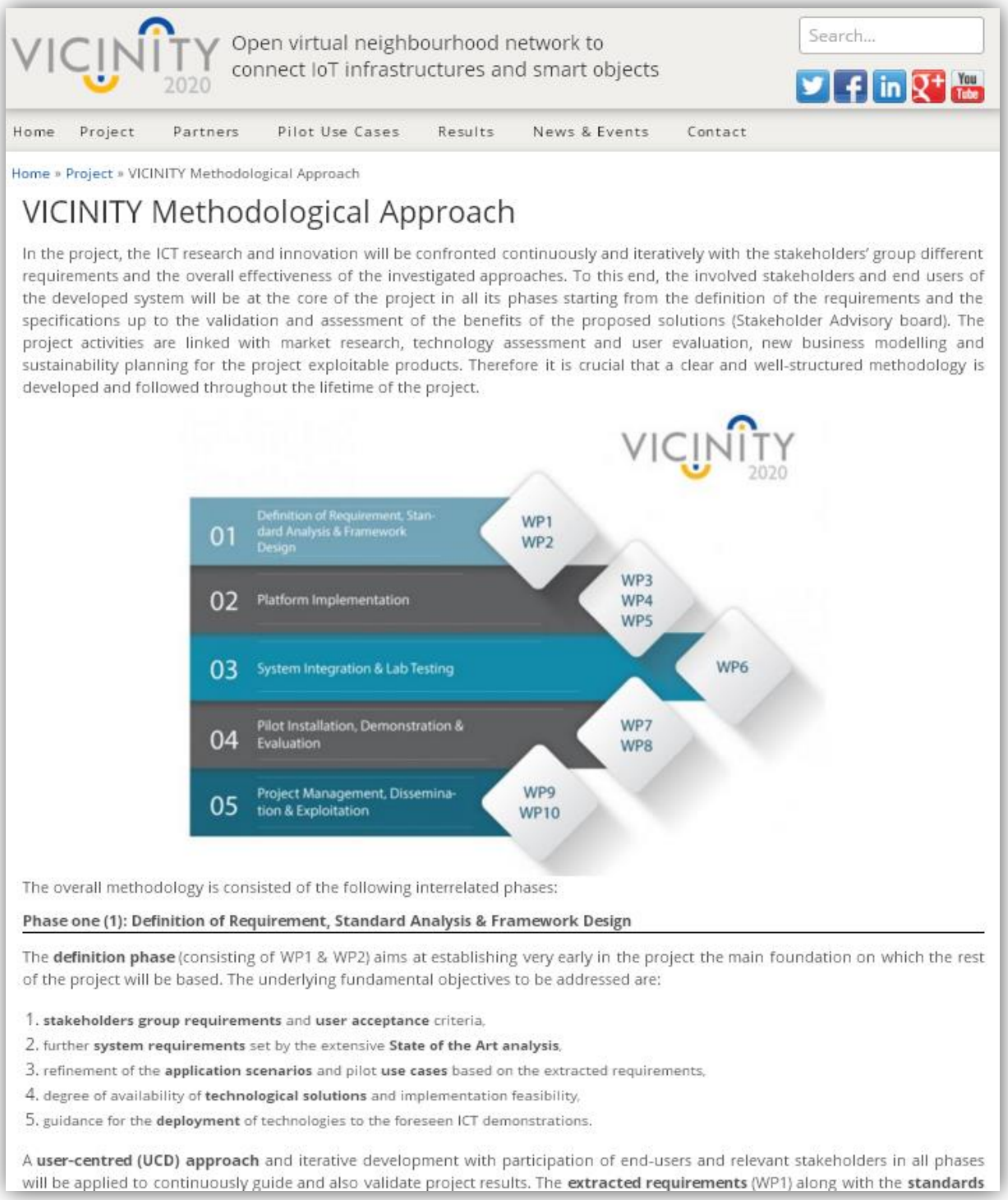


Figure 9: Methodology Tab

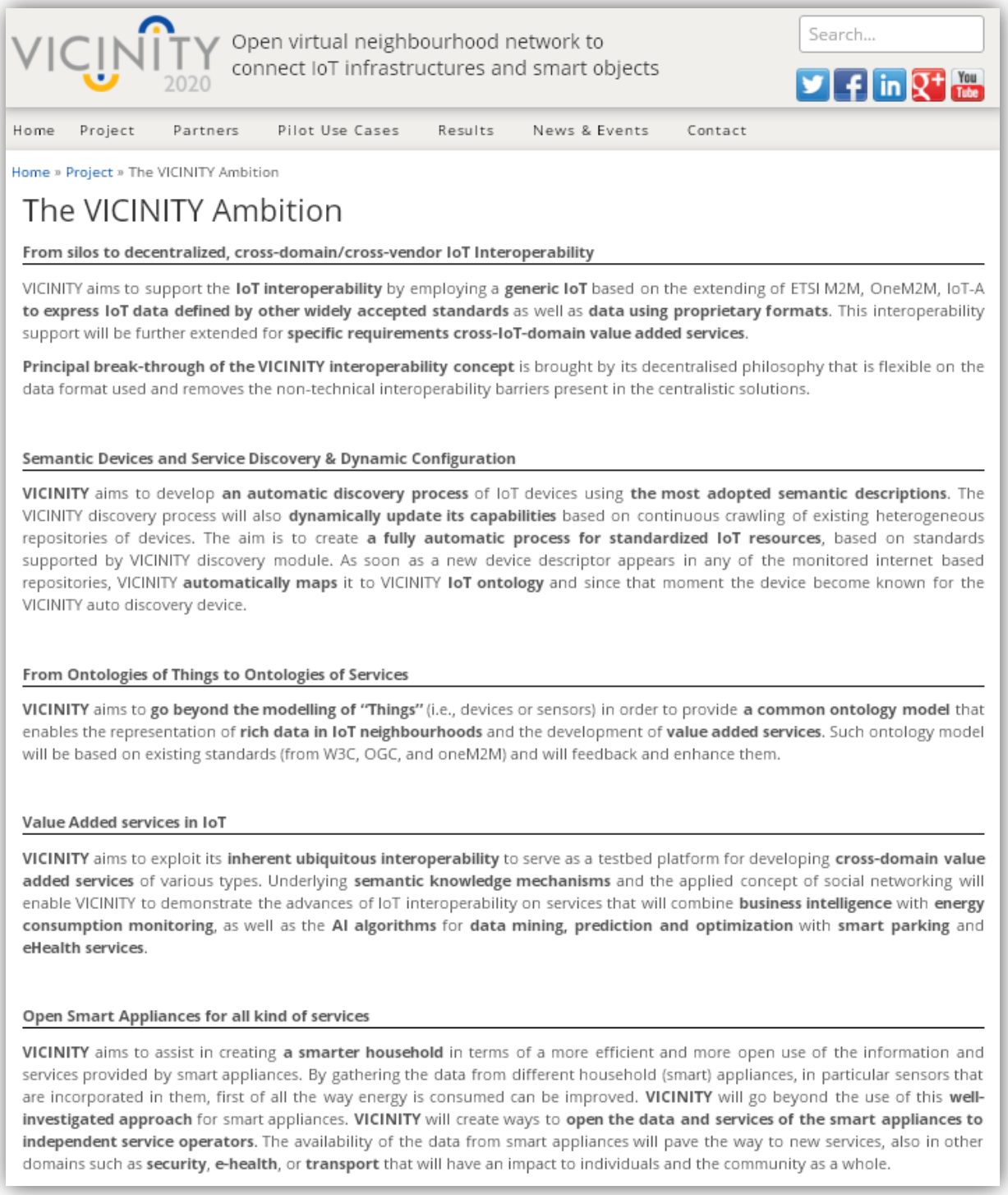


Figure 10: Ambition Tab

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Search...

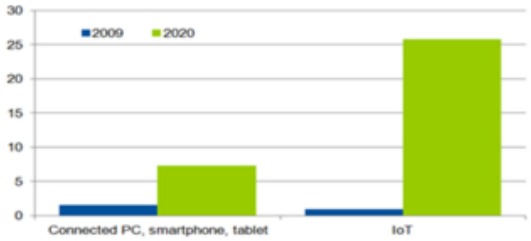
Home Project Partners Pilot Use Cases Results News & Events Contact

Home » Project » The VICINITY Impact

The VICINITY Impact

According to **Peter Sondergaard**, Senior vice president at Gartner:

> *"...while in 2015 the combined IT and telecom market will hit nearly $4 trillion, the incremental revenue generated by the Internet of Things' suppliers is estimated to reach $309 billion per year by 2020. Half of this activity will be new start-ups and 80 percent will be in services rather than in products. The Internet of Things is a strategically important market. It will accelerate fast and will drive both revenue and cost efficiencies."*



Furthermore, according to **M2M.World.News surveys:**

> *"...hundreds of multinational corporations, start-ups and SMEs in the space, IoT Nexus found that 77% of respondents saw **interoperability as the biggest challenge facing the Internet of Things**"*

The above two public claims clearly indicates the **potential impact of VICINITY concept** which brings a new, user centric view on interoperability avoiding the barriers that are present in the existing interoperability solutions beyond the pure technical considerations. The reason that VICINITY will generate its potential impact is the following:

- According VICINITY concept the participants can decide with whom they wish to cooperate and to which extent. Thus, **each participant can set up the conditions for himself in his own maximal favour**.
- No central databases with sensitive data will be deployed (everything is negotiated between the peers) and therefore VICINITY preserves **user's privacy by design**.
- To integrate, the **vendors of IoT assets do not need to share their intellectual property** such as specifications and source codes. They simply open gateway API and with the help of open source samples for adapter implementations they can easily gain interoperability with any of the other already connected IoT assets.
- Users with limited IT literacy can take benefits of the provided semantic discovery and dynamic configuration features to **automatically integrate standard IoT assets** placed into range of VICINITY auto-discovery device.
- VICINITY concept decentralism provides **flexibility on creating well-defined business models for all stakeholders** and releases the vendor locks present in the current IoT landscape. This will enable independent **cross-domain value-added service providers** to enter the existing and emerging IoT ecosystems.

Clear ambition of VICINITY concept is connecting the isolated islands; the current global IoT landscape is consisting of, into a large continent regardless on the vendors of the particular IoT assets.

VICINITY generates more types of social and environmental impact:

Environmental impact on energy saving and low carbon economy

Figure 11: Impact Tab

Figure 12: Related Projects Tab

3.3.3 *Partners*

The user can catch this section by clicking the corresponding "***Partners*** tab" in the horizontal menu of the upper level of the Website as this has been described above. The user will be able to navigate through all project participants and to redirect to the partners' Website (Figure 13).

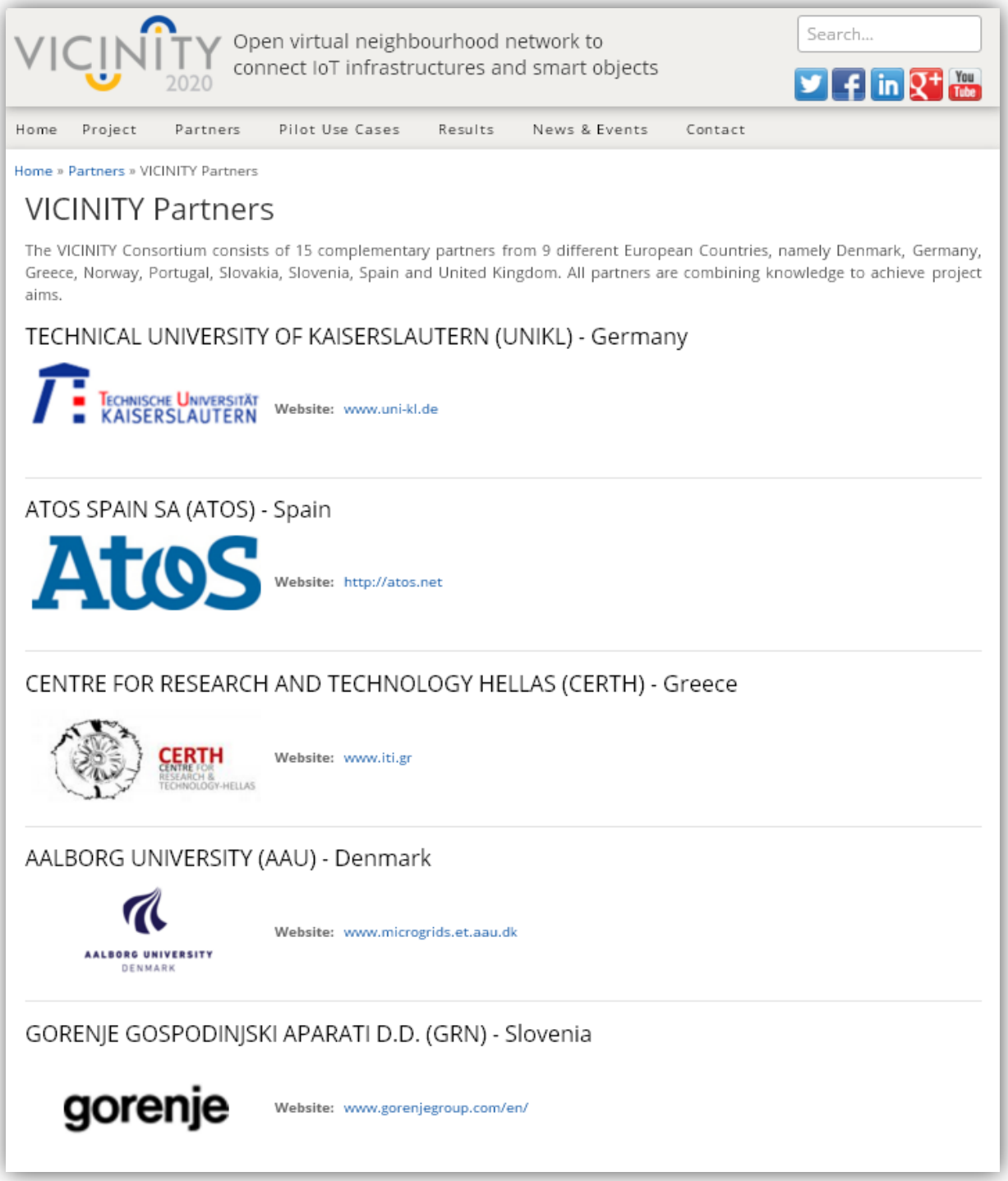


Figure 13: VICINITY Partners

3.3.4 Pilots

The VICINITY platform will be demonstrated on many different real-case scenarios, addressing cross-domain applications, showing the applicability of the proposed solution in different IoT

ecosystems and revealing the value-added services that can be achieved (see

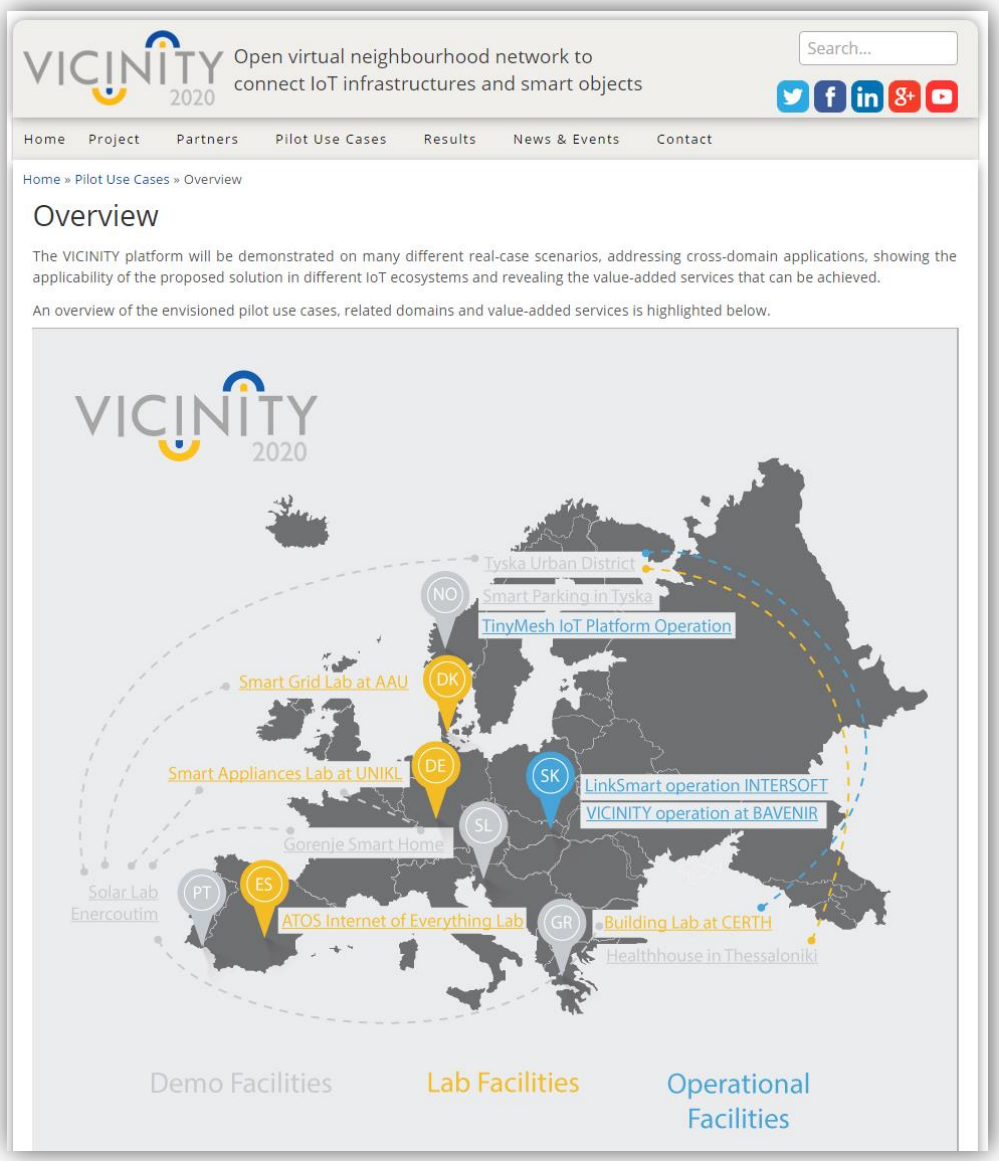


Figure 14). An overview of the envisioned Pilot Use-Cases is highlighted in this section and each of them analysed in the subsections: a) **Smart Energy Microgrids Community**, b) **Smart Energy Microgrids Neighbourhood**, c) **Intelligent Transport & Smart Parking**, d) **EHealth At home and** e) **Smart House Test-bed.** Each of the Pilot Use Cases consists of the above Sections:

- A brief use case description
- Demonstration Pilot Site Demonstration
- Actors involved & related aspects addressed
- IoT devices
- VICINITY value-added Services

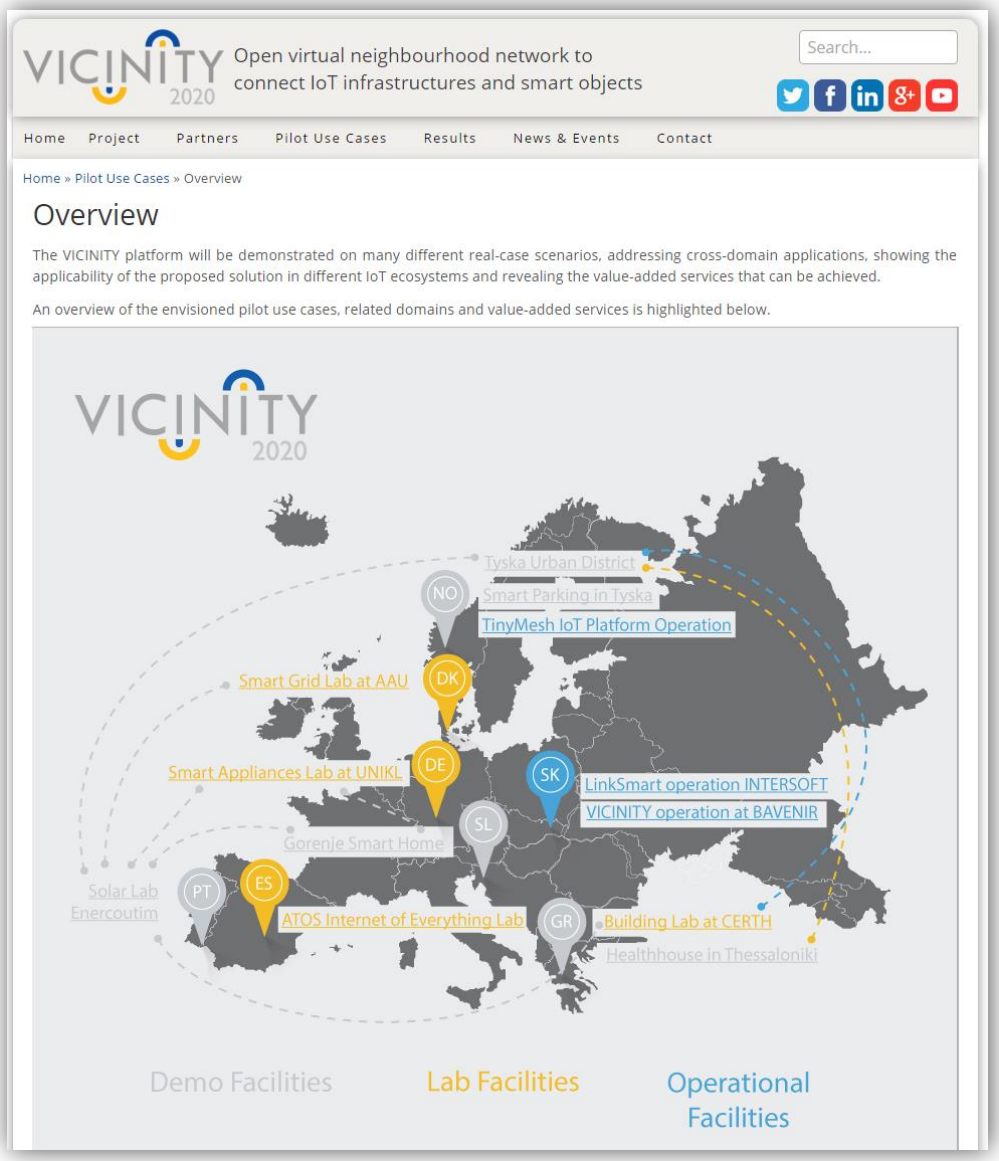


Figure 14: An overview of VICINITY Pilot Use Cases

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Home Project Partners Pilot Use Cases Results News & Events Contact

Home » Pilot Use Cases » Smart Energy Microgrids Community

Smart Energy Microgrids Community

Use Case Description

The current Use Case will target **the management of a community-scale microgrid** implemented within the **municipal setting**. The microgrid serves with **a cluster of Municipal buildings** with its power and heat requirements. The Energy flows through the microgrid-enabled energy network, from both the Generation and Demand sides, must be managed and maintained at maximum cost and technical efficiency levels. Effective management can only be obtained from knowledgeable and informed decisions. This will be achieved by gathering data from sensors and building information models that will reduce the amount of time needed to elaborate on a decision.

Demonstration Pilot Site

The municipality of Martim Longo in the Algarve region, Portugal, the most populous urban center in the municipality, with over 1300 inhabitants, was the chosen location for the pilot. The microgrid targets a differentiated cluster of municipal buildings, composed of sports, social and educational facilities.

- The aim for the municipality is to serve part of its needs via RES energy generation, mainly solar production
- **The buildings include**: a sports pavilion, an indoor swimming pool, a nursing home and an elementary school.
- The aggregated complementary loads and the 1.2:1 Heat-Power ratio are inviting of cost-efficient investments in reliable renewable-fuelled and CHP-capable DER.
- Investment **on renewable energy based** on associated Business Intelligence.
- Additional possible synergies are being explored that would allow **the microgrid to supply public lighting infrastructure** in the town urban centre.
- The addition of a residential development to the cluster is being considered. This has potential to impact considerably the whole load dynamics of the proposed system.

Photos

Actors involved & related aspects addressed

- **Municipality Buildings**: Management, employees, visitors, citizens
- **Energy production stakeholders**: Management, Technical personnel, citizens
- **External data, energy generation predictive models**: Management, Technical personnel, citizens
- **Thermal comfort predictive models**: Management, Technical personnel, Employees, visitors, citizens

IoT Devices

- **Building Operational**: HVAC settings, Light dimming levels etc.
- **Network operations (Microgrid) Management**: Production and aggregated consumption side
- Microgrid PCC switch equipment

Figure 15: Smart Energy Microgrids Community Use Case

VICINITY 2020 Open virtual neighbourhood network to connect IoT infrastructures and smart objects

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Home » Pilot Use Cases » Smart Energy Microgrids Neighbourhood

Smart Energy Microgrids Neighbourhood

Use Case Description

The current use case will target **the interconnection of smart objects** under a "**virtual neighbourhood**" of intelligent buildings, addressing **both geographical proximity** as well as **energy profile relevance aspects** that will allow them to negotiate as a group their potential **forecasted energy flexibility within a Smart Grid ecosystem**, allowing the realisation of dynamic **Demand Side Management (DSM)** strategies. This will be achieved by correlating **low level Distributed Energy Resources (DER) information** (devices energy consumption, operational status & user actions, local Renewable Energy Sources (RES) production etc.) together with **contextual information** (environmental aspects, occupancy etc.) delivering **"context-aware" spatio-temporal** energy profiles of participating building's DERs.

Demonstration Pilot Site

This particular use case will be deployed and demonstrated in Tyske, a new urban district in the city of Halden in Norway. The selected city neighbourhood, comprising of 220 homes, has been designed to support assisted living and intelligent transport systems in the city of Halden, Norway. Norwegian Helsehus plan to make the neighbourhood of Tyska into a showcase for a sustainable future living. Material, equipment and adaptations for different types of services covering different phases of life will create a smart and future oriented district.

- **Construction** is planned to start in **less than a year** and buildings will be planned to be integrated with **smart solutions** in line with construction schedule.
- Tyska is in **close proximity to university** therefore part of the 220 dwelling should be housing for **students**, while an important part of residents will be for **older people** who need **daily assistant**.
- **Devices and sensors** will be integrated in these apartments to **facilitate people's assisted living**.
- **Modern management systems** designed for **efficient energy** and **climate management** integrated with **safety, health** and **care services**.
- **Smart logistics** for waste and passengers and goods to and from also constitutes a part of the image as well as **smart maintenance program**.
- Norwegian Helsehus is committed to create a **Zero emissions Neighbourhood**, within **sound economic** and **living frameworks**.

Photos

Actors involved & related aspects addressed

- **Building Facility Managers**: Real-time monitoring & control, enhanced with occupancy and user profiling
- **Municipal district managers**
- **Residents** (adults, students, children, older residents) /residents with needs for health assistance (disabled users, dements, wheelchair users, cancer patients, elderly residents who need some help in daily life)

Figure 16: Smart Energy Microgrids Neighbourhood Use Case

VICINITY 2020 Open virtual neighbourhood network to connect IoT infrastructures and smart objects

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Home » Pilot Use Cases » Intelligent Transport and Smart Parking

Intelligent Transport and Smart Parking

Use Case Description

In the demonstrated solution, **prioritized parking space, booking, heating management, traffic analysis, customized** and **messaging services** based on biometric data will be adjusted according stored rules. **The sensors** will report proximity and temperature, which will be accessible for the health house and made available to the virtual neighbourhood. **Mobile app** will report status for the parking space and report status from the health home. Both booking and configuration of units in the virtual neighbourhood will be available through the mobile app.

- **Intelligent parking for residents with particular needs** is especially suited for health buildings and clusters of housing estates tailored for user groups like cancer patients and people with various physical disabilities like wheelchair dependent.
- **Parking space** and **proximity** to access points
- **Access control** and **appraisal systems**
- **Healthcare** and **blue lights agencies**

Demonstration Pilot Site

This pilot use case (together with the previous use case) are planned to be deployed and demonstrated in Tyske, a new urban district in the city of Halden in Norway. The smart parking approach will be an integrated part of smart cities, consisting of:

- A **network of sensors**, traffic data from different sources (Traffic Control Centrals, camera monitoring the traffic, open traffic data from Google, Tom-tom etc.) establish a picture of the current traffic situation.
- **Camera based** detection of **occupancy** and identification of **traffic load** on key points at the infrastructure
- **Biometric system** allowing adapting available parking space as well as privileges and time slot
- Ground based sensor detecting **proximity, temperature** & **humidity**
- Sensor communicates through mesh-technology with repeaters mounted on roadside installation. The smart grid supplies real time info about availability and position of vacant areas. Expert systems assists in balancing the load, offering prioritized parking space tailored for specific user groups based on identification, restrictions, and needs.

All parking space elements will be stored and presented in a format that adheres to the ISO/PDTS 21219-14 draft: "Intelligent transport systems — Traffic and travel information via transport protocol experts group, generation 2 (TPEG2) — Part 14: Parking information (TPEG2-PKI)".

Photos

Figure 17: Intelligent Transport and Smart Parking

VICINITY 2020 Open virtual neighbourhood network to connect IoT infrastructures and smart objects

Search...

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Home » Pilot Use Cases » eHealth at Home

eHealth at Home

Use Case Description

Electronic medical care services will be provided to **elderly** people living alone, people with long term needs (such as people with hypertensive, dementia, and obesity) and their relatives, to obtain a **better quality** and **independent life**. The envisaged eHealth at home concept can comprise of a number of services such as:

- An **emergency button** connected with the user's telephone device that enables the direct automated contact **with the specialist staff on a 24-hour call-centre**, so that the owner **does not feel unsafe** when being alone at home. This button can also recognize potential unpredicted accidents (**fall detection**), and after some seconds of immobility, it automatically activates the emergency call.
- **Location detection device**, which is currently exploited to assist elderly residents with Alzheimer disease and combines the basic functions of a GPS as well as a mobile device.
- **Weight measurement device**, which demonstrates user's weight recordings (weight measurement, fat and muscle rate and classification, metabolism, physical age etc.) and enables the specialized Municipality doctor to remotely assess patients advance through correlating graphical plots.
- **Heart pressure measurement device**, which demonstrates user's heart pressure recordings and enables the specialized Municipality doctor to remotely assess patients advance.

Demonstration Pilot Site

This use-case will be demonstrated in the municipality of Pilea-Hortiatis in Northern Greece, with the participation of a number of all above targeted people, identified through municipality health care services. Since there is a similar program already installed and running at some pilot houses with around 50 already participating homes, we will be able to assess the improvement in terms of ease of installation/integration with existing systems and extension with more sensors as brought by the VICINITY platform, to compare to the current "baseline" scenario and indicate the advancements brought by VICINITY. Further people's homes will be identified, extending the list of targeted end-users, in order to deploy and validate more value-added services.

Photos


Phone connected to Call Centre


Emergency Button


Location detection device


Weight measurement device


Heart pressure measurement device

Actors involved & related aspects addressed

- **Addressed end-users**: elderly people, people with long term needs (such as people with hypertensive, dementia, obesity)
- **Doctors/ relatives**: Remote communication devices (mobile apps or dedicated devices) for communicating signals/alerts produced from the end-users' devices
- **Call Centres**: Automatically reception of signals from home devices, including identification parameters, sensor values, GPS position etc.
- **Health service providers**: To be either automatically contacted by call-centres or directly by the home communication infrastructure to immediately dispatch ambulance to people asking for help (e.g. in the case of a fall-detection)

Figure 18: eHealth at Home Use Case

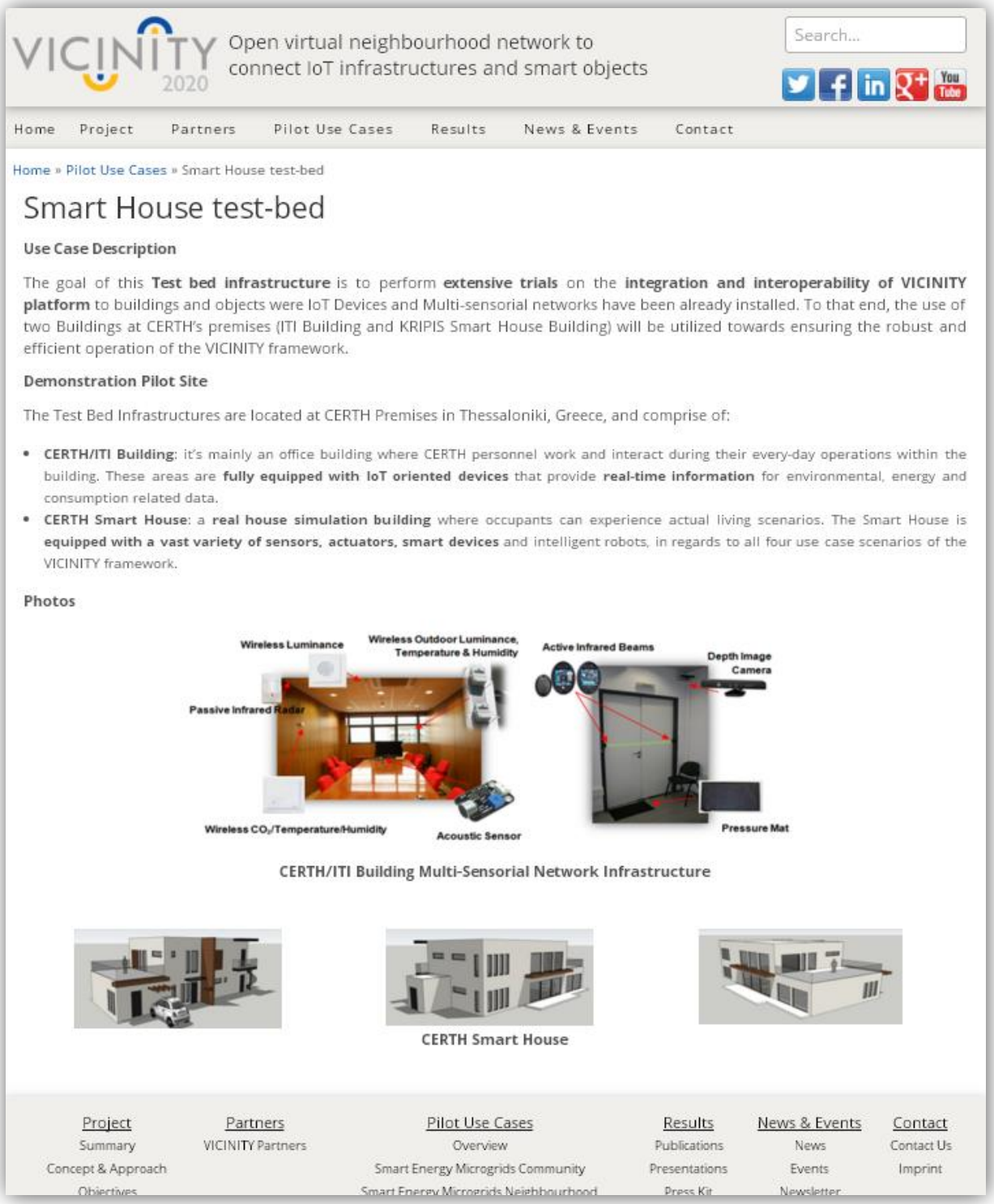

Figure 19: Smart House Test-bed Use Case

3.3.5 Results

The main project results are presented in this section, which will contain all the publications, public documents, deliverables or reports (Figure 20), as well as various formal presentations (Figure 21) that the VICINITY partners want to deliver to the wider public. In addition the main dissemination material (Press Kit) that has been published under the partial or full support of the VICINITY project will also be presented and will be available in electronic format. This

section will contain **dynamic content** that will be updated as soon as a new public deliverable is produced or when a new publication has been accepted. The first Leaflets are listed in Annex I.

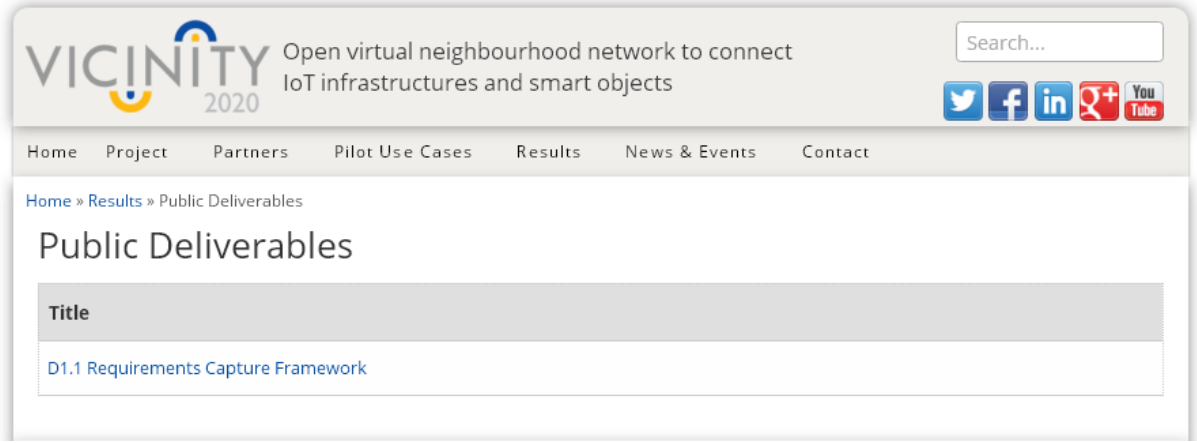

Figure 20: Public Deliverables

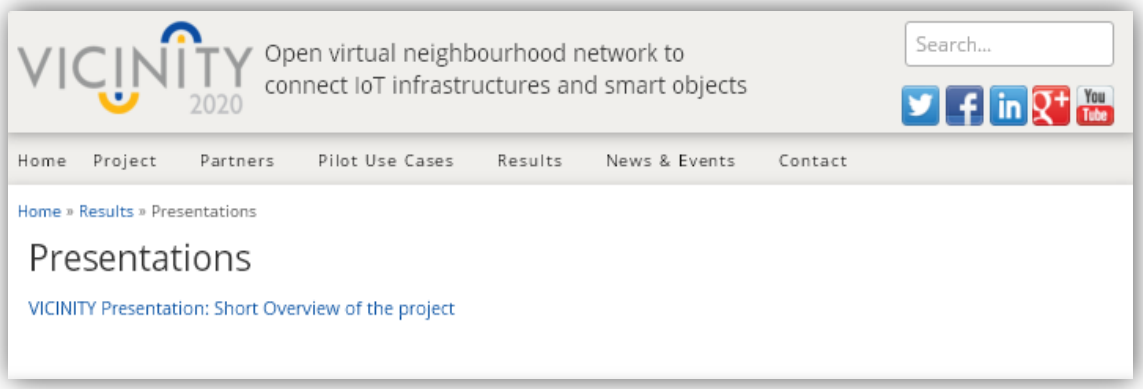

Figure 21: Various Formal Presentations

3.3.6 *News & Events*

This section will provide information about the latest news of the project meetings, participation to events, workshops, conferences, seminars, etc. to the wider public and visitors of the Website, while the contents of this area will be **dynamic** and will be often updated. The News & Events Section divided into three categories:

- ***News***
- ***Events***
- ***Newsletter***

Each of these web links, navigate the user to the specific news page, in which only the news for the selected category are shown. A short description about the content of each category is provided:

- ***News***: This page will show to the visitors of the web site the latest news in chronological order. The user can access the specific news either from the **News & Events** section, where the user will be able to see more details for a specific article, or from the **Project News** area of the home page of the Website (Figure 22). The visitor will be able to

retrieve more information for the **Project News** of the Website by clicking on an article of the list and then he/she will be redirected to a page providing more details for the specific topic (Figure 23).

Figure 22: Project News

Figure 23: Project News: "*VICINITY kick-off meeting"*

- ***Events:*** This section will provide the user with the links for each event or conference that the VICINITY project will participate, thus a continuous refresh of event news will take place (e.g. Figure 24, Figure 25). Each event of the list has a title, date, location, a summary and a preferable image. Further information about the content of events or conferences will also be provided by clicking on an event of the list.

Figure 24: Project Events

Figure 25: Detailed Information about "*AIOTI Open Day in Athens, Greece*" Event

- ***Newsletter:*** This section will provide the user with the links for each newsletter that is created within the VICINITY project. The Newsletter will be provided in chronological order (i.e. from the most recent to the oldest one). The user will be able to select a specific newsletter and then he/she will be redirected to a page providing more details for the specific item along with a hyperlink to download it in PDF format.

3.3.7 Contact

The last part of the navigation menu is delivered in order to provide further information about the Project Coordinator, as well as a contact form, which can be used from the users to send questions and mentions to the Official VICINITY Contact Person via email. A screenshot of this **static** content is presented in Figure 26.

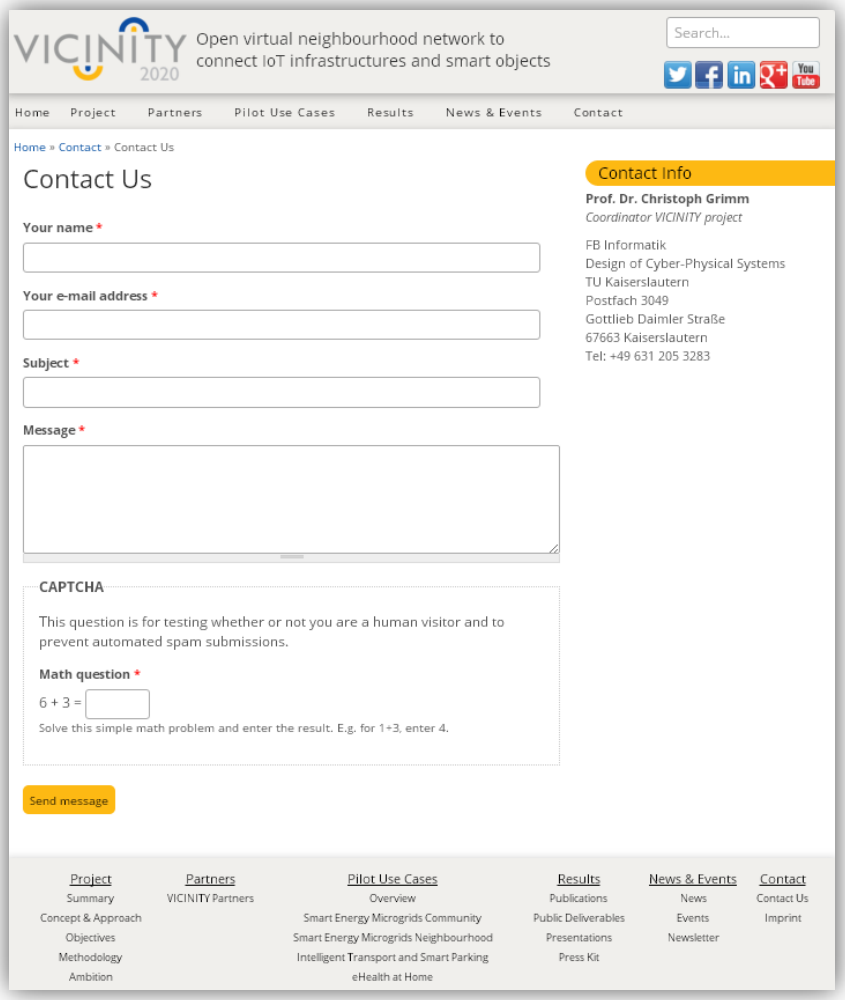

Figure 26: VICINITY project Contact page

4. VICINITY Presence on Social Media

In recent years, online social media has become ubiquitous and a crucial part of social networking and content sharing. In this direction the presence of the VICINITY project in all the well-known social media promises the efficient dissemination of the projects' results to all the targeted user groups and stakeholders. Furthermore, the continuous interaction with other research or commercial organizations through these communication networks is expected to

initiate useful discussions for the cooperation of VICINITY project with other projects in Europe and also worldwide.

Based on the social networking trend, the presence of the project on major social networks and content platforms such as Facebook, Twitter, LinkedIn, YouTube, Google + etc. has been delivered from the early project phases. As aforementioned there are short-links to all project social media channels in VICINITY Website (see Figure 27).

Figure 27: Short-links to all VICINITY social media channels

In conclusion, it is worth noting that the web portal remains the core dissemination channel for the project, but important project related news will also be available through the VICINITY social media channels. A quick overview of the main social media channels created for further disseminating the project results and enhancing the active involvement of and/or synergy with the online and web2.0 community follows.

4.1. VICINITY on Twitter

The VICINITY account on Twitter
http://twitter.com/VICINITY2020

Twitter is an important means of communication in modern society offering the possibility to gather the publications from a variety of users or organisations and publish news and events. The VICINITY consortium puts great value on these functionalities and for this reason a Twitter account was created for the VICINITY project and is expected to reach the full spectrum of stakeholders targeted by VICINITY. Since Twitter allows for the provision of short and easy to understand messages (micro-blogging) to the followers of the project, dedicated project tweets will be referred to the project news and content along with a live information feed from the project's meetings and organized events. Moreover, through Twitter, VICINITY findings will be presented to policy-makers in a direct way. Figure 28 presents an indicative image of the Twitter presence of VICINITY with tweets related to innovation in IoT technologies. Furthermore, below picture presents an indicative subsection of the Twitter accounts followed by VICINITY, such as related projects, technology and research organisations and finally EU institutions related to the project.

Figure 28: Twitter Page of VICINITY Project

4.2. VICINITY on Facebook

The VICINITY account on Facebook
http://www.facebook.com/vicinity2020

Facebook is maybe the most influential social network, thus it is of great importance for VICINITY to maintain a Facebook page, where project news and events can be uploaded. The VICINITY Facebook page was created as an interactive discussion space that will concentrate on topics relevant to the project stakeholders and recent project advancements. The VICINITY Facebook group will continuously engage the European Community during the entire project duration, in order to raise project awareness in a friendly and attractive manner to increase interest and expectations about the project outcomes.

A shortcut of the VICINITY Facebook homepage is presented in Figure 29.

Figure 29: VICINITY Facebook Homepage

4.3. VICINITY on LinkedIn

The VICINITY account on LinkedIn
http://www.linkedin.com/groups/8481580/profile

LinkedIn is widely recognized as one of the most popular platforms for the communication and interaction with a broader professional community. The VICINITY project needs to be visible in LinkedIn and communicate with scientific target groups and online communities of ICT professionals, researchers, engineers and other people from innovative and technical regions of interest in order to identify possible collaborators. Towards this direction, a group has been created on LinkedIn, aiming to disseminate project results and additional content.

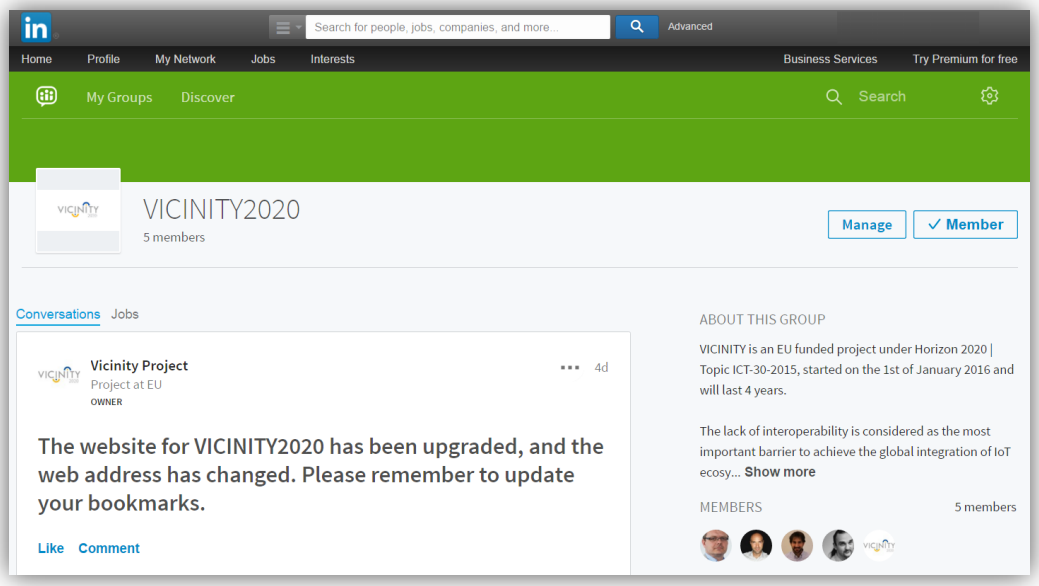

Figure 30: LinkedIn Group of VICINITY Project

4.4. VICINITY on Google+

The VICINITY account on Google +
http://plus.google.com/116115201421556382451

Google+ is another well-known network of online social interactions, which is utilized for the dissemination purposes of the VICINITY project. The following Figure 31 presents the VICINITY profile.

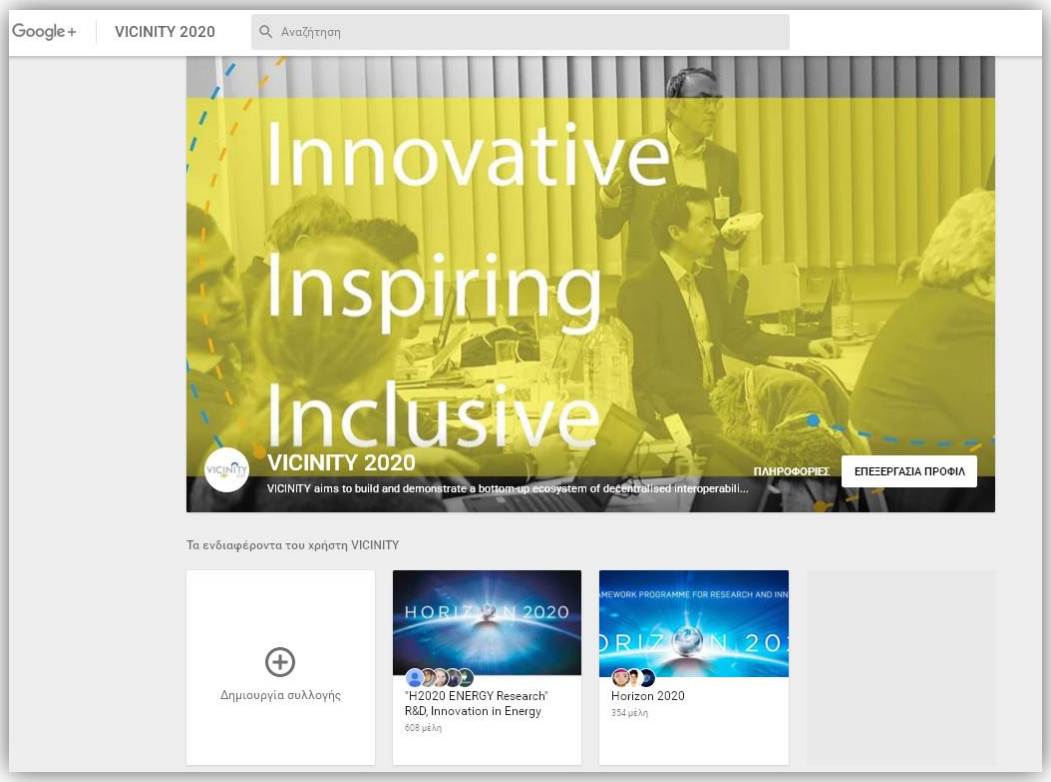

Figure 31: VICINITY Google + Homepage

4.5. VICINITY on YouTube

The VICINITY account on YouTube
https://www.youtube.com/channel/UC7TNz7JosAqTWIR2-oq5w3A

YouTube is the multimedia crossroad of modern society, concentrating an extraordinary number of videos. A YouTube account was assigned to the VICINITY project in order to disseminate and promote projects results and outcomes through various videos. The presence of VICINITY on YouTube is aiming to create an online multimedia library that will gather useful material for researchers in the domain of IoT technologies (see Figure 32).

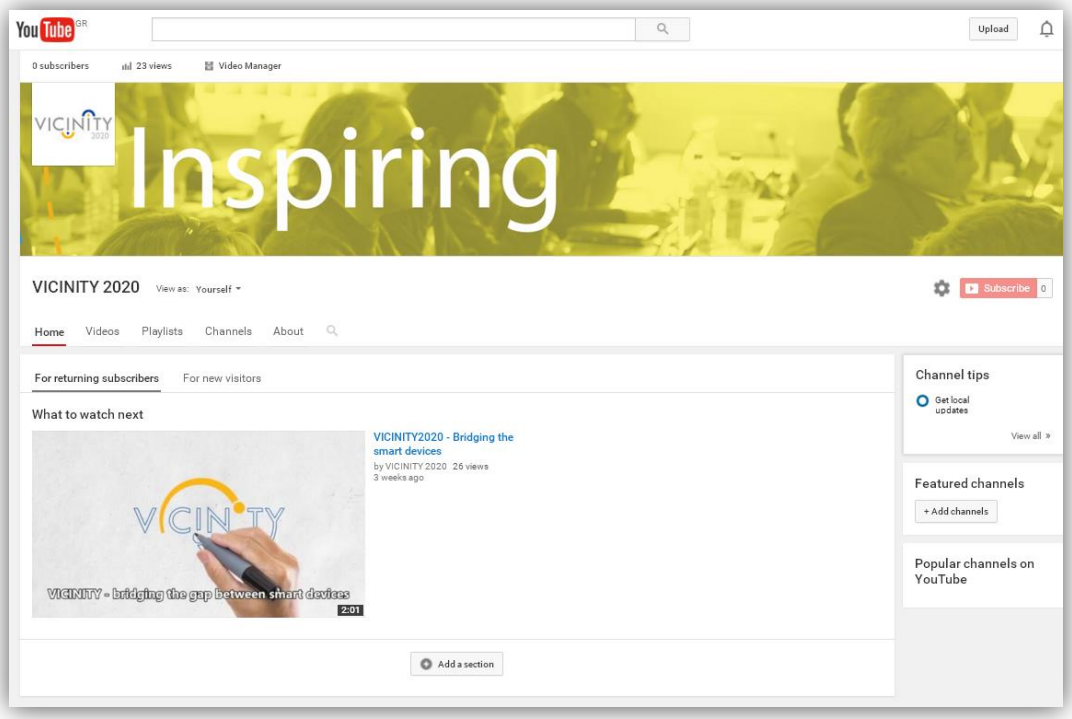

Figure 32: YouTube account of the VICINITY project and indicative Video

5. Conclusions

The main objective of this deliverable is to establish a multi-dimensional dissemination approach that will address all relevant target groups and raise public awareness among them of the developed technologies and solutions in order to make them aware of VICINITY concept. This plan will ensure that the project results, both research outcomes and developed tools, are widely disseminated towards relevant target groups: stakeholders groups, potential end-users that will be impacted by and benefit from the VICINITY results (like Distribution System Operators, Aggregators, ESCOs, facility operators) as well as also the general public.

During the first year of the project's lifetime, the VICINITY project has started to spread its scientific scope on different fields of dissemination, i.e. presentation of the 1st year project results through number of VICINITY related Events, Workshops, and Presentations. Thus, this limited number of dissemination activities will be multiplied, when the pilot testing results will be available for mass exploitation.

This document has been illustrated with detail from the website. The information provided on the website will change frequently, but the structure of the website should be consistent throughout the project.

6. References

[1] http://www.vicinity2020.eu

[2] ICT 30 – 2015: Internet of Things and Platforms for Connected Smart Objects - http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/914-ict-30-2015.html

[3] Drupal: Open Source Content Management Platform. Available at: https://drupal.org Assessed: 2016

[4] GNU General Public License. Available at: http://www.gnu.org/copyleft/gpl.html. Assessed: 2016

ANNEX I: Views of the VICINITY Leaflets

Figure 33: First Page of VICINITY Leaflet (booklet version)

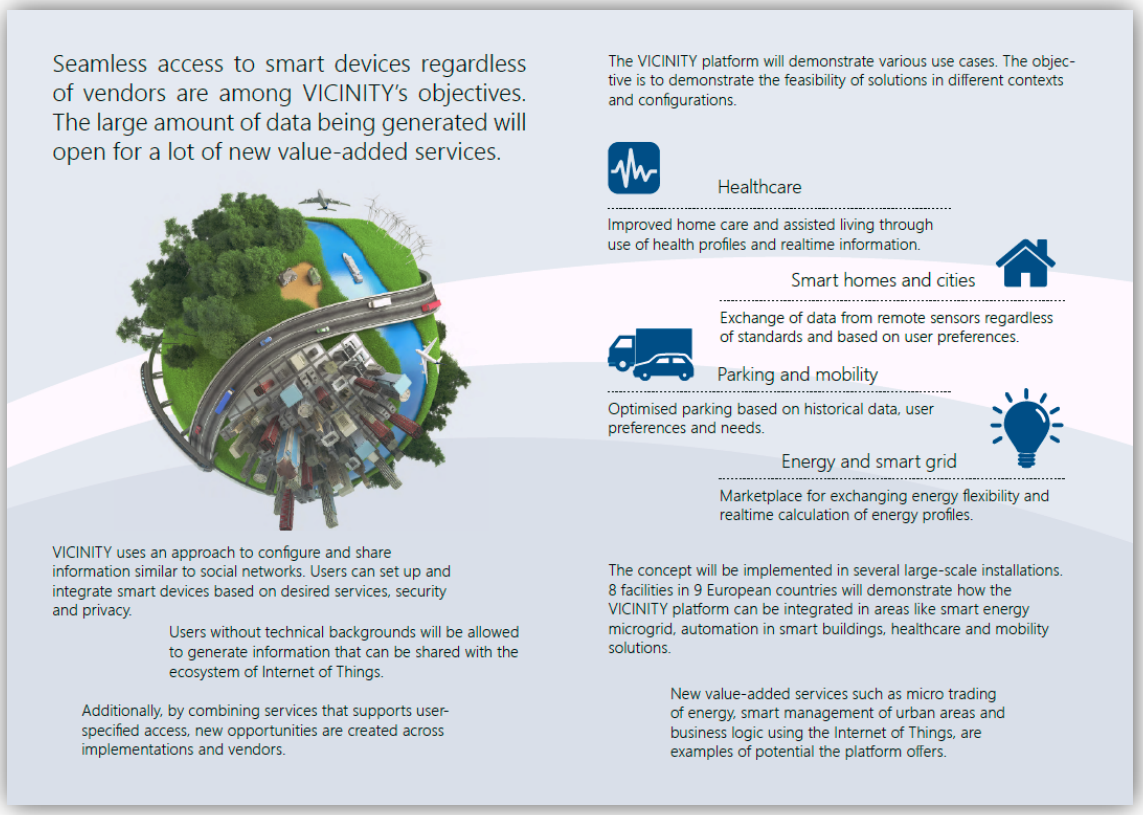

Figure 34: Second Page of VICINITY Leaflet (booklet version)

Figure 35: First Page of VICINITY Leaflet (Portrait version)

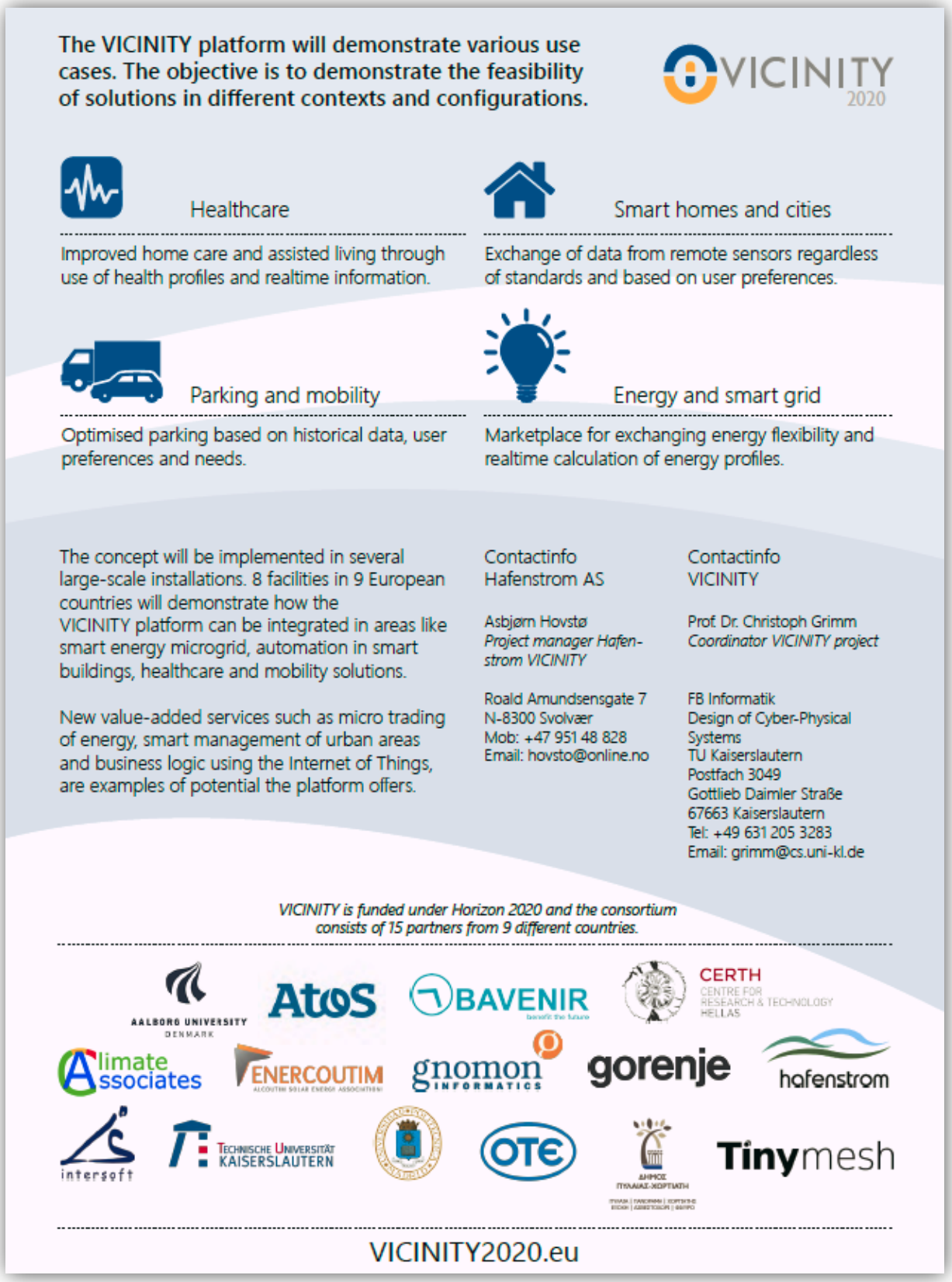

Figure 36: Second Page of VICINITY Leaflet (Portrait version)

ANNEX 2: Views of the VICINITY Intro-letter

Figure 37: First Page of VICINITY Introletter

The VICINITY platform will demonstrate various use cases. The objective is to demonstrate the feasibility of solutions in different contexts and configurations.

VICINITY 2020

Healthcare

Improved home care and assisted living through use of health profiles and realtime information.

Smart homes and cities

Exchange of data from remote sensors regardless of standards and based on user preferences.

Parking and mobility

Optimised parking based on historical data, user preferences and needs.

Energy and smart grid

Marketplace for exchanging energy flexibility and realtime calculation of energy profiles.

The concept will be implemented in several large-scale installations. 8 facilities in 9 European countries will demonstrate how the VICINITY platform can be integrated in areas like smart energy microgrid, automation in smart buildings, healthcare and mobility solutions.

New value-added services such as micro trading of energy, smart management of urban areas and business logic using the Internet of Things, are examples of potential the platform offers.

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VICINITY is funded under Horizon 2020 and the consortium consists of 15 partners from 9 different countries.

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Figure 38: Second Page of VICINITY Introletter