



Demonstration of **5G** solutions for  
**SMART** energy **GRIDs** of the future

Deliverable **7.1**

**Project Website**

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# D7.1 – Project Website

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Author(s)	Vasileios Samarinas, Despoina Gkatzioura, Dimitris Nodaros
Reviewers	Daniele Porcu – ENEL, Marina Koulaloglou - INF

## Revision History

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0.1	25/02/2021	Vasileios Samarinas, Despoina Gkatzioura, Dimitris Nodaros	First Draft available for review from project coordinator and dissemination leader
0.2	03/03/2021	Vasileios Samarinas, Despoina Gkatzioura, Dimitris Nodaros	Addition of most recent screenshots of project website
0.3	19/03/2021	Vasileios Samarinas, Despoina Gkatzioura, Dimitris Nodaros	Removal of LinkedIn plugin section, use of updated template
0.4	24/03/2021	Vasileios Samarinas	Change of font type
1.0	29/03/2021	Vasileios Samarinas, Dimitris Nodaros	Version ready for approval

## Executive summary

The main goal of Smart5Grid project is to complement contemporary energy distribution grids with access to 5G network resources through an open experimentation 5G platform and innovative Network applications. For the purpose of the project, four use cases will be administered for the energy vertical ecosystem to validate efficiency, resilience and elasticity which 5G networks are offering. Moreover, an open environment will be provided to third parties for experimentation, which will be able to support development, testing, and validation of 5G Network Applications specialised for the energy industry.

The “D7.1 Project Website” deliverable report, composed within the scope of “Work Package 7: Exploitation and Impact Creation”, provides information regarding the design, specifications, content and delivery of the Smart5Grid project website and its functionalities. Screenshots of the pages and content, that is currently available on the website, are included in this report. The website will be constantly updated during the project lifecycle. Furthermore, the website will be monitored for its performance to ensure that it efficiently communicates the Smart5Grid objectives and disseminates its results to the external stakeholders.

The design of the website is in line with the branding policy of Smart5Grid.

The current report is a working document and will be updated throughout the lifecycle of the project based on the provided feedback, dissemination needs and activities of the project. A final version will be submitted at the end of the project.

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# 1. Introduction

## 1.1. Purpose

The objective of the website is to become the main source of information regarding the Smart5Grid project for the general public, the project partners and the EC, as well as to contribute to both its awareness creation and marketing foundation stage. Moreover, the consortium is responsible to keep a record of the website visitors as well as to update its content and posts in the Smart5Grid subsections/pages.

This report includes relevant material about the design and structure of the Smart5Grid website whose purpose is to promote the goals and concepts of the project, along with highlighting its impact in order to:

A. Ensure that achievements and results of the project are promoted to the wider community of relevant stakeholders and potential new shareholders through various dissemination activities such as:

- Papers, open access journal with reference to Smart5Grid.
- Webinars, trainings, to incubators and associations.
- Publications in conferences, journals, workshops, international events, relevant fora.
- Presentations in scientific events and conferences.
- Quarterly newsletters.

B. Engage external stakeholders by promoting and communicating events such as:

- Trials/Showcases.
- Exhibitions in industrial and scientific events.

## 1.2. Scope and Intended Audience

A high quality, well-structured website is an essential tool to create awareness of project objectives and results. Additionally, the dissemination activities can be communicated in a proper manner to have a real impact on external stakeholders and potential shareholders in the energy vertical mainly, but not limited to them.

The scope of website is to define the fundamentals of an effective promotion and communication of the project and its potential benefits which will lead to possible collaborations with various organizations mainly in Europe, but also internationally. Furthermore, one of the most significant goals of the website is to expand the visibility of the project to a wider ranged and diversified audience as well as to disseminate its plans, actions and results by keeping up to date the relevant stakeholders.



The promotion of the above goals will be enhanced by the presence of Smart5Grid to the social media networks alongside with an efficient branding strategy, newsletters and videos that will be also available on the website.

## 1.3. Development Information

The website was created by Eight Bells LTD and is on air at the following url: <https://smart5grid.eu>.

### 1.3.1. Notations, abbreviations and acronyms

Item	Description
ADA	Americans with Disabilities Acts
API	Application Programming Interface
ATAG	Authoring Tool Accessibility Guidelines
CDN	Content Delivery Network
EC	European Commission
EU	European Union
MySQL	My Structured Query Language
PHP	Hypertext Preprocessor
RSS	Rich Site Summary
SPF	Sender Policy Framework
SSL	Secure Sockets Layer
URL	Uniform Resource Locator
WCAG	Web Content Accessibility Guidelines
WP	Work Package
WPR	WordPress

**Table 1: Acronyms list**

## 1.4. Structure

This report contains the following sections:

- Section 1 - **Introduction**: In this section, a summary and brief overview are provided to describe the scope and the objectives of the website.
- Section 2 - **Policy and Identity**: This chapter includes a brief description of the visual identity of the website.
- Section 3 - **Smart5Grid website**: This section describes the structure and the logic that this website has been created.
- Section 4 – **Conclusion**: The last section of the report summarizes the purpose of the document providing possible future work based on website statistics and feedback from the external stakeholders.

## 2. Policy and Identity

### 2.1. Smart5Grid Dissemination Framework

The dissemination activities that are linked to the completion of the Smart5Grid objectives and results are highly served by external web-based means, that will communicate the actions to the wide and heterogenous audience. To this end, a project website has been developed to disseminate the project outcomes, objectives, significant achievements and public documentation such as deliverables and scientific publications. The website will support this purpose throughout the whole duration of the project and beyond as well.

#### 2.1.1. Logo visual Identity

The logo has been designed on the rationale of a vibrant and unique icon that reflects both its mission and values.

The logo is consisted of two parts:

- Icon part: contains a grid which represents the energy grids, the curved lines cascade outwards represents 5G and the text represents the project acronym.
- Text part: contains the title of the project.



**Figure 1: Final logo with text**

#### 2.1.2. Website visual Identity

The Smart5Grid website URL address is <https://smart5grid.eu> .

The choice of the eu-domain was crucial to enhance their project visibility both within the EU single market and globally and highlight its impact as well as the funding by the EC [6].

The main colours that have been used on the website are in line with the colours of the logo which is the Pantone 295 U and black. More specifically, blue is associated with power and success while

the both blue and black connote sober authority, something that tech pioneers were hesitant to communicate.

The relevant communication and dissemination activities of Smart5grid have to comply with the logo and the colours that have been identified on the visual identity section.

### 3. Smart5Grid Website

The Smart5Grid website aims to become an effective tool for communicating project's activities, innovation results and relevant content to different stakeholders such as energy vertical industry participants, interested third parties and public. The website has been designed to provide an easy navigation, accessible and user-friendly experience for its visitors, as well as to display project information in a fine-looking format to engage stakeholder interest.

Additionally, text and pictures have been chosen with consideration to ensure the proper communication of the project's objectives. Furthermore, consideration has been given to link appearance and feel of the website in conjunction with the project logo and brand to ensure congruity. This website will be updated and maintained on a regular basis not only during its lifetime, but also as a static webpage even after the completion of the project.

This section of the deliverable shows the technical infrastructure that was used for hosting and running the website. Furthermore, this section presents the features, functionalities and content of the Smart5Grid website.

#### 3.1. Website Technology & plugins

The project website is built in WordPress (WPR) [1]. WPR is a tool that offers loads of possibilities in order to construct a functional, accessible, responsive and modern website that adequately promotes the Smart5Grid project.

In the below table we see some important WPR related specifications.

Item	Content
<b>Site URL:</b>	<a href="https://smart5grid.eu">https://smart5grid.eu</a>
<b>WPR Version:</b>	5.6.1
<b>PHP Version:</b>	7.4.11
<b>MySQL Version:</b>	5.5.5

**Table 2: WordPress - related specifications.**

The website is structured in a way to allow a navigation through the major points of the project. On the one hand, it comprises static pages, with in varying content, that give an overview of the project, describe its objectives and use cases and present the consortium. On the other hand, it comprises blog pages, dynamically updated with new posts that aim to provide a picture of the project's current status, inform the end users on activities related to the project etc.

A number of plugins have been installed in order to satisfy the multitude of requirements that emerge in order to build a functional and attractive website, that offers high quality user experience. Following we present the functionalities of some of the most important plugins:

1. Accessibility: a WPR plugin that helps the site become more accessible increasing compliance with Web Content Accessibility Guidelines (WCAG 2.1), Authoring Tool Accessibility

Guidelines (ATAG 2.0), Americans with Disabilities Acts (ADA) and Section 508 requirements of the U.S. General Services Administration [2].

2. Responsiveness: since nowadays the number of mobile users has undergone a tremendous rise and so has the variety of devices with internet access (tablets, laptops, PCs, mobiles etc.), one of the most important features of a modern website is to be responsive; that is to adapt to the screen size of each possible type of device, through which the user may access the website. For that reason, a responsive slider was selected, along with several other WPR settings, that ensure the responsiveness of the Smart5Grid website.
3. Anti-Spam: a WPR plugin that protects the website from spam.
4. Google Analytics: a WPR plugin that connects Google Analytics with the website, enabling the administrators to see how visitors find and use the website, discover possible shortcomings or sources of enthusiasm in the website and manage it in way to increase user satisfaction [3].
5. WPR Caching: a WPR plugin that enables caching through generating static html files from the dynamic WPR blog. After an html file is generated the webserver serves that file instead of processing the comparatively heavier and more expensive WPR PHP scripts [4]. This plugin also supports page compression and use of a content delivery network (CDN), which provides high availability and performance by distributing the service spatially relative to end users. Page compression is enabled, while the use of CDN is not deemed relative at the moment.
6. Database Management: a WPR plugin that manages the WPR database, allowing its optimization, repair, backup, restore and delete backup. Additionally, it permits to drop or empty tables and run selected queries. Moreover, it supports the automatic scheduling of backing up, optimizing and repairing of database.
7. Sweeping: a WPR plugin that allows to clean up unused, orphaned and duplicated data in WPR. It cleans up revisions, auto drafts, unapproved comments, spam comments, trashed comments, orphan post meta, orphan comment meta, orphan user meta, orphan term relationships, unused terms, duplicated post meta, duplicated comment meta, duplicated user meta and transient options. It also optimizes the database tables.

The last three plugins combined, along with several manual interventions empower the Smart5Grid website to be fast and efficient, offering an even greater experience to its users.

Naturally, a website is a vivid part of the project, that needs constant care, optimization and update. The interaction of the website with its users will be closely monitored, through Google Analytics and comments, therefore new features will be added, if deemed necessary. Moreover, the website will be constantly updated with new posts, in order to keep track of the project's activities and accomplishments and increase users' interest in the project.

Finally, the pictures that are included in the project website have been acquired by 8BELLS, royalty free and licensed by WordPress Consulting as well as are in line with the dissemination strategy.

## 3.2. Detailed Technology profile

In order to achieve the functionalities presented in the previous section and fulfil the purposes of the website, the following technology profile has been used.

- Widgets
  - WPBakery
  - Wordpress Plugins
  - Contact Form 7
  - Font Awesome
  - Google Font API
  - reCAPTCHA
  - Instagram Feed for WordPress
  - Visual Composer
  - Recent Tweets Widget for WordPress
  - Slider Revolution
- Frameworks
  - Consulting
- Mobile
  - Apple Mobile Web Clips Icon
  - Viewport Meta
  - iPhone / Mobile Compatible
- Content Management System
  - WordPress 5.6
  - WordPress
- JavaScript Libraries and Functions
  - jQuery
- SSL Certificates
  - SSL by Default
  - LetsEncrypt
- Web Hosting Providers
  - Liquid Web
- Email Hosting Providers
  - SPF

- Web Servers
  - Apache
  - Apache 2.4
- Operating Systems and Servers
  - Limiter Modules
  - OpenSSL
- Syndication Techniques
  - Live Writer Support
  - Pingback Support
  - Really Simple Discovery
  - RSS

### 3.3. Website Structure

The website is designed to achieve the easy navigation of both the pages and information that the users request.

The Smart5Grid website has one horizontal menu as described in Figure 1.



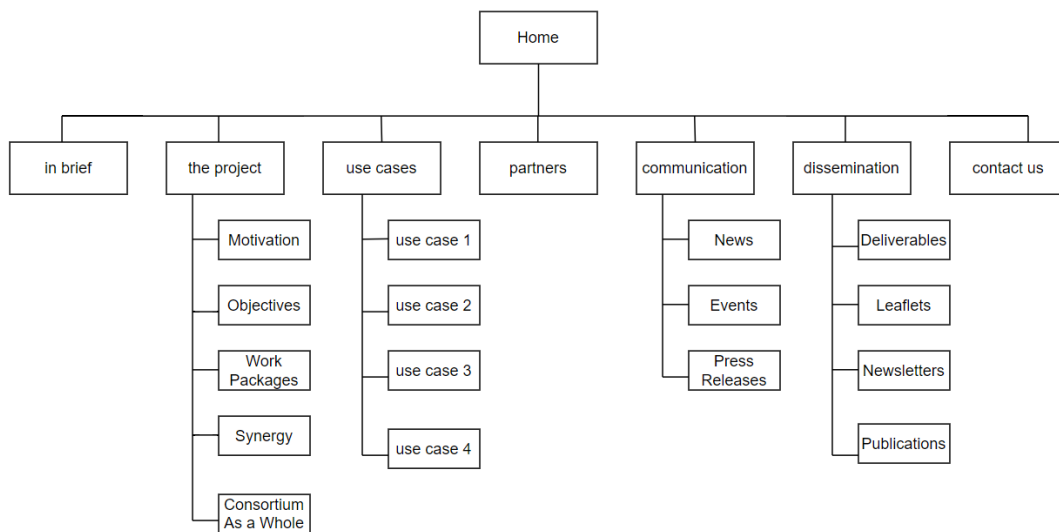
**Figure 2: Main Horizontal Menu**

The main menu of the website has the following links:

- Home
- In Brief
- The project
- Use cases
- Partners
- Communication
- Dissemination
- Contact us

Furthermore, the website includes four sub-pages to facilitate its navigation to the visitors.

The structure of the project website can be seen in the following figure 2.



**Figure 3: Website structure**

The main pages of the SMART5GRID website are the following:

### 3.3.1. Home



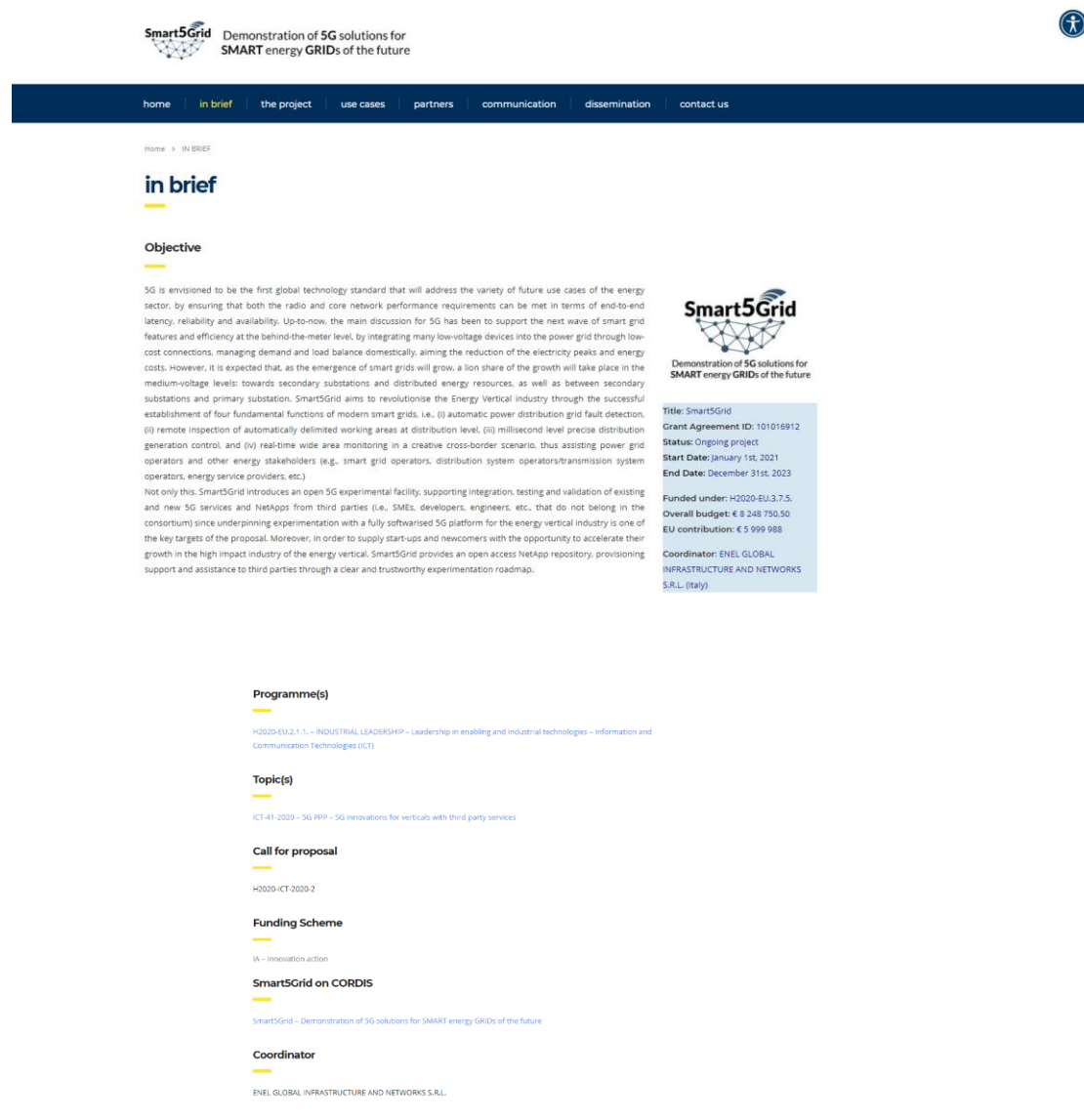
**Figure 4: “Home” page**

The visitor can get useful information about the project such as the main pillars of it and the involved partners and countries via the Smart5Grid homepage. The project logo is presented on the header area while the social media links are located on the bottom of the homepage.



### 3.3.2. In brief

The “in brief” section contains a short summary of the objective and other useful information about the project.



**Smart5Grid** Demonstration of 5G solutions for SMART energy GRIDs of the future

home in brief the project use cases partners communication dissemination contact us

Home > IN BRIEF

## in brief

### Objective

5G is envisioned to be the first global technology standard that will address the variety of future use cases of the energy sector, by ensuring that both the radio and core network performance requirements can be met in terms of end-to-end latency, reliability and availability. Up-to-now, the main discussion for 5G has been to support the next wave of smart grid features and efficiency at the behind-the-meter level, by integrating many low-voltage devices into the power grid through low-cost connections, managing demand and load balance domestically, aiming the reduction of the electricity peaks and energy costs. However, it is expected that, as the emergence of smart grids will grow, a lion share of the growth will take place in the medium-voltage levels: towards secondary substations and distributed energy resources, as well as between secondary substations and primary substation. Smart5Grid aims to revolutionise the Energy Vertical industry through the successful establishment of four fundamental functions of modern smart grids, i.e., (i) automatic power distribution grid fault detection, (ii) remote inspection of automatically delimited working areas at distribution level, (iii) millisecond level precise distribution generation control, and (iv) real-time wide area monitoring in a creative cross-border scenario, thus assisting power grid operators and other energy stakeholders (e.g., smart grid operators, distribution system operators/transmission system operators, energy service providers, etc.)

Not only this, Smart5Grid introduces an open 5G experimental facility, supporting integration, testing and validation of existing and new 5G services and NetApps from third parties (i.e., SMEs, developers, engineers, etc., that do not belong in the consortium) since underpinning experimentation with a fully softwareised 5G platform for the energy vertical industry is one of the key targets of the proposal. Moreover, in order to supply start-ups and newcomers with the opportunity to accelerate their growth in the high impact industry of the energy vertical, Smart5Grid provides an open access NetApp repository, provisioning support and assistance to third parties through a clear and trustworthy experimentation roadmap.

**Smart5Grid**  
Demonstration of 5G solutions for SMART energy GRIDs of the future

Title: Smart5Grid  
Grant Agreement ID: 101016912  
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Funded under: H2020-EU.3.7.5.  
Overall budget: € 8 248 750.50  
EU contribution: € 5 999 988

Coordinator: ENEL GLOBAL INFRASTRUCTURE AND NETWORKS S.R.L. (Italy)

### Programme(s)

H2020-EU.2.1.1. – INDUSTRIAL LEADERSHIP – Leadership in enabling and industrial technologies – Information and Communication Technologies (ICT)

### Topic(s)

ICT-41-2020 – 5G PPP – 5G innovations for verticals with third party services

### Call for proposal

H2020-ICT-2020-2

### Funding Scheme

IA – Innovation action

### Smart5Grid on CORDIS

Smart5Grid – Demonstration of 5G solutions for SMART energy GRIDs of the future

### Coordinator

ENEL GLOBAL INFRASTRUCTURE AND NETWORKS S.R.L.

**Figure 5: "In Brief" page**

### 3.3.3. The project

This page and the respective sub-pages summarize the motivation, objectives, work packages, synergy and consortium as whole information of Smart5Grid project



Figure 6: “The project” page

### 3.3.4. Use Cases

The use cases page includes a brief summary and the demonstration setup for each of the four use cases respectively.

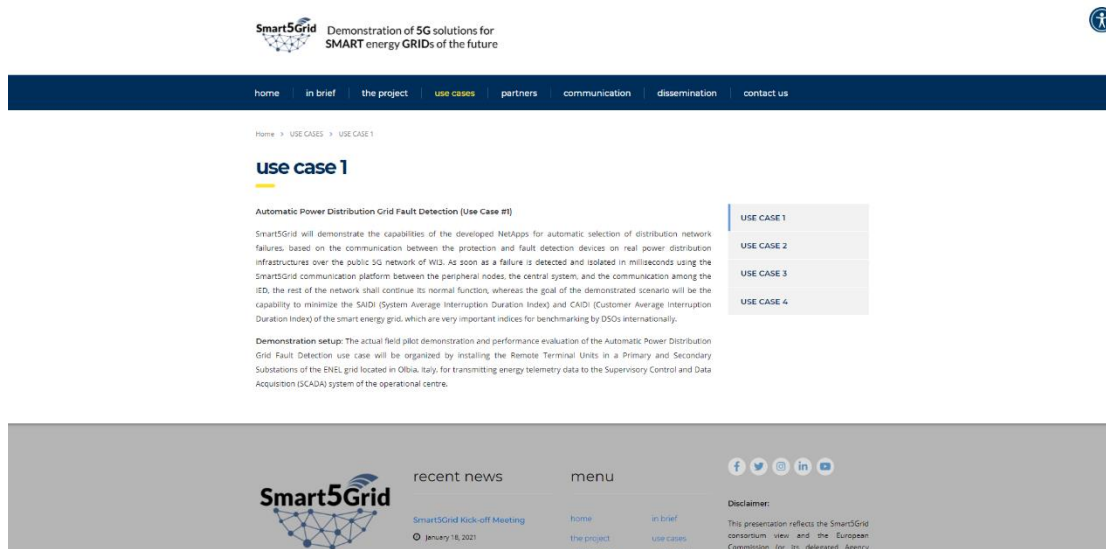


Figure 7: An example use case page: “use case 1” page.

### 3.3.5. Partners

Using this page, website users have access to the general profiles and the official logos of the partners involved in the Smart5Grid project, as well as their role and contribution on it.

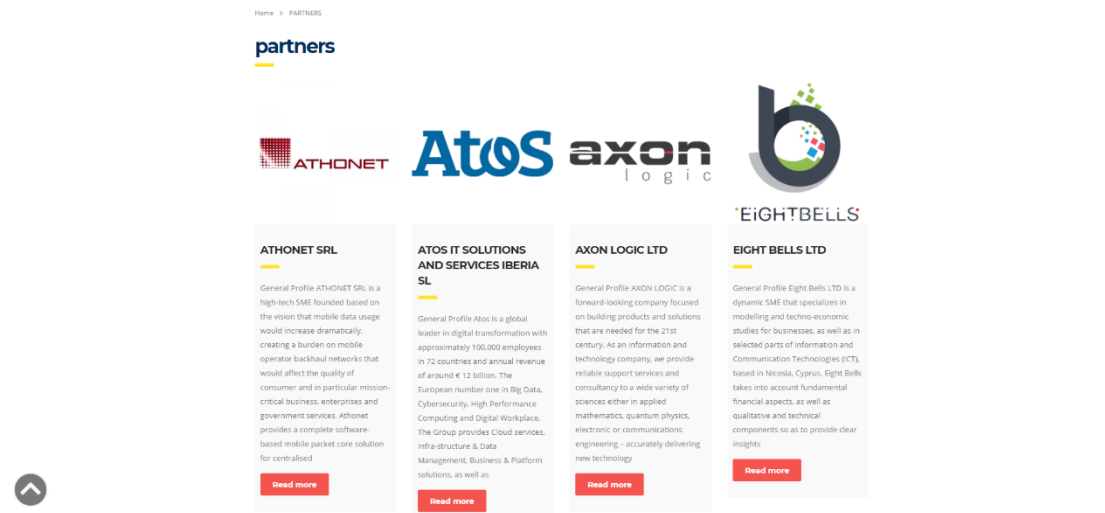


Figure 8: "Partners" page

### 3.3.6. Communication

At the communication page and its subsections, there is a summary about the communication activities of Smart5Grid and separate sections for events, news and press releases.

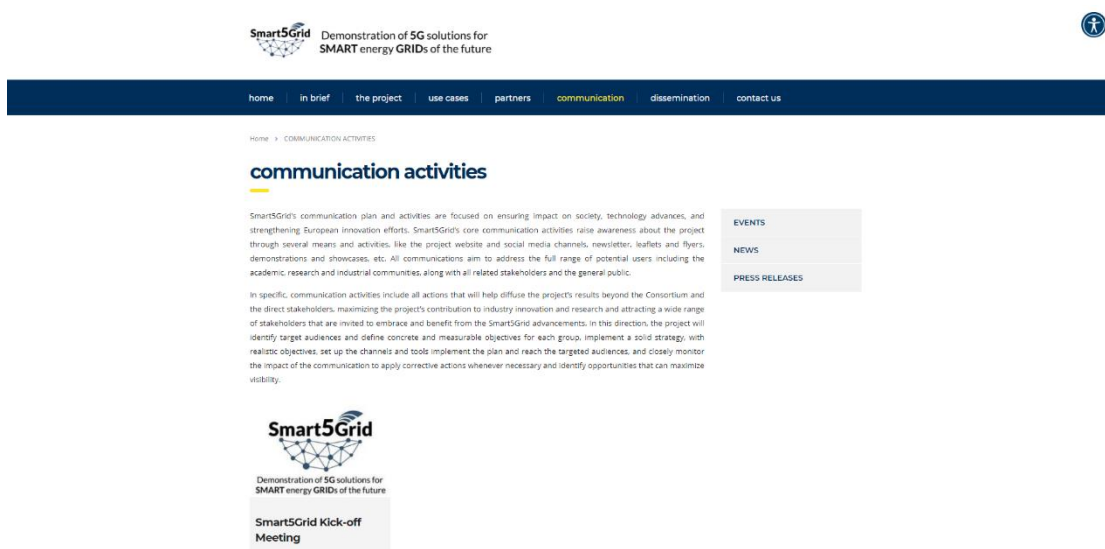
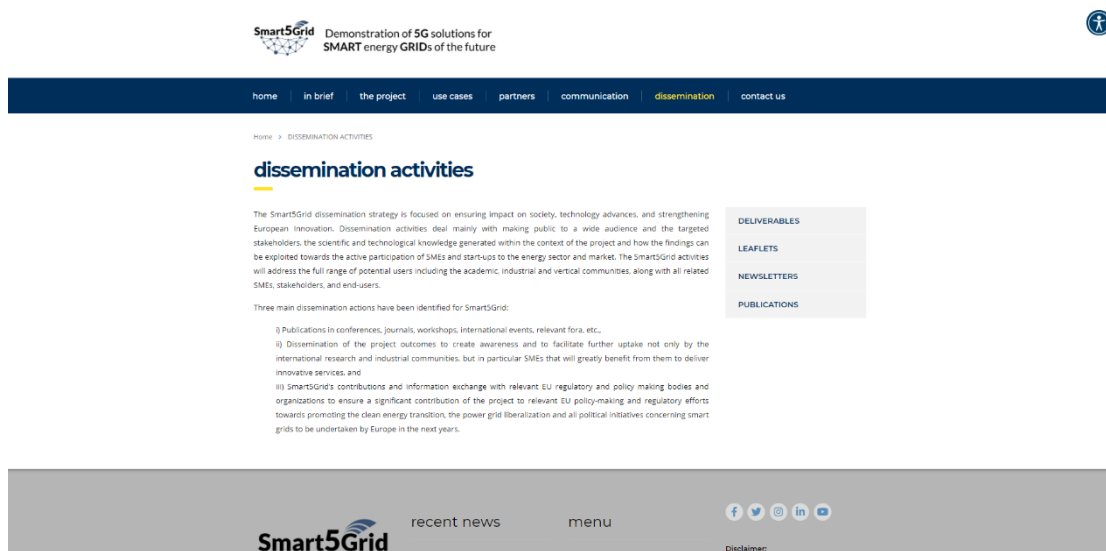


Figure 9: "Communication" page

### 3.3.7. Dissemination


Using this page including the relevant sub-pages, comprises a description of dissemination actions summary as well as the deliverables, leaflets, newsletters and publications related to the Smart5Grid dissemination activities.



**Figure 10: "Dissemination" page**

### 3.3.8. Contact us


By navigating this page, website users can communicate directly to the Project Coordinator either via email or form to provide general feedback or questions regarding the project and the website as well as the dissemination team via the dedicated email address.



[home](#) | [in brief](#) | [the project](#) | [use cases](#) | [partners](#) | [communication](#) | [dissemination](#) | [contact us](#)


## contact us

### Contact Coordinator



Daniele Porcu – [coordinator@smart5grid.eu](mailto:coordinator@smart5grid.eu)  
EU Project Coordinator and Program Manager – Energy industry expert at Enel Global Infrastructure and Networks Srl.

### Contact Dissemination Team



For any dissemination activity or purpose, please contact us at [dissemination@smart5grid.eu](mailto:dissemination@smart5grid.eu).

---

### Contact us

Your name

Your email

Subject

Your message (optional)

Submit

**Figure 11: “Contact us” page**

### 3.3.9. Accessibility menu

One of the most significant functionalities of the website, is the dedicated section with accessibility features which allow the user to facilitate customize the content representation based on the special needs of each visitor ensuring that the project does not exclude anyone from accessing its results and updates.



**Figure 12: Accessibility website menu**

### 3.3.10. Social Media Links

Through the website navigation, the user can easily access the social media accounts of Smart5Grid.

The respective links for each of the social media are the below:

- Facebook : <https://www.facebook.com/smart5grid>
- Twitter: <https://twitter.com/smart5grid>
- Instagram: <https://www.instagram.com/smart5grid>
- LinkedIn: <https://www.linkedin.com/in/smart5grid-project>
- Youtube: <https://www.youtube.com/channel/UC3B4D0B2iw16FFbgiP4BJ4g>

A more detailed section regarding the Smart5Grid social media channels is included in the D7.2 - Plans for dissemination and communication, standardisation, and interaction with 5G PPP.

## 4. Conclusions

The main purpose of the current deliverable, "D7.1 Project Website", is the creation of a reliable report that defines:

- a) the main functionalities, features and content of the Smart5Grid website,
- b) its visual identity and the technology that was used for the development of the website, alongside with its core functionalities.

The Smart5Grid website was created taking under consideration the following two main pillars:

- 1) to provide a high-quality user experience to both experts and non-experts by combining accessibility, nice graphic design and optimal usability and
- 2) to provide a comprehensive picture of the achievements and updates of the project. The Smart5Grid website contains all the relevant information related to the project such as objectives, consortium contacts, news and use cases details to contribute to the purposes of WP7.

Furthermore, it is significant to realize that the project website is in a very early stage by keeping its capacity to be adapted depending on the dissemination strategy and project branding.

As one of the most significant dissemination tools, the website will be regularly updated by the Dissemination Manager with the latest news, information and relevant documents even after the completion of the project.



## 5. References

- [1] WordPress available at <https://wordpress.com/>
- [2] <https://www.w3.org/standards/webdesign/accessibility>
- [3] Google analytics available at <https://developers.google.com/analytics>
- [4] PHP: Hypertext Preprocessor available at <https://www.php.net/>
- [5] MySQL available at <https://www.mysql.com>
- [6] <https://ec.europa.eu/digital-single-market/en/the-top-level-domain-eu>