



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 773715

Grant Agreement No.: 773715

Project acronym: RESOLVD

Project title: Renewable penetration levered by Efficient Low Voltage Distribution grids

Research and Innovation Action

Topic: LCE-01-2016-2017

Next generation innovative technologies enabling smart grids, storage and energy system integration with increasing share of renewables: distribution network

Starting date of project: 1st of October 2017

Duration: 36 months

D7.2 Website

Organization name of lead contractor for this deliverable: UdG	
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Dissemination Level		
PU	Public	X
CO	Confidential, only for members of the consortium (including the Commission Services)	

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Deliverable reviews

Revision table for this deliverable:		
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Executive summary

This document describes the website that has been designed and implemented in the context of the task *T7.1 Project communication and promotion*. It includes, not only a guide for all the different webpages composing the site, but also a brief description of the technical issues related to the web development framework and installation requisites.

1. Introduction

1.1. Objectives

The project website is active since the M1 of the project. It was initially deployed with limited information but from M2 onwards it has become fully operative and contains complete information of the project. Nevertheless, as the project advances, more information will be added.

The main objectives of this deliverable consist on defining the site map, the main sections that form the complete website, i.e., *Home, About, Publications, Documents, News & Events and Contact*.

The purpose of the project website is to give a space of visibility to RESOLVD; so that users on the Internet can know more details about it and be constantly updated if necessary. The website, which is accessible for everyone, represents the interface between RESOLVD project and the rest of the world.

1.2. Contributions of partners

Partner	Contribution
UdG	UdG, as leader of T7.1 has developed the website and therefore has
UPC	Website reviewer. It has provided information about its entity to be included in the website.
SIN	Website reviewer. It has provided information about its entity to be included in the website.
JR	Website reviewer. It has provided information about its entity to be included in the website.
ICOM	Website reviewer. It has provided information about its entity to be included in the website.
EYPESA	Website reviewer. It has provided information about its entity to be included in the website.
CS	Website reviewer. It has provided information about its entity to be included in the website.

1.3. Document structure

The document is mainly structured in the following sections:

Section 2 is devoted to describe the main sections in the website. Section 3 describes the technical issues and framework for deploying the website. Final sections 4 and 5 include information about the criteria in which the web site is based to achieve a high quality ranking in the main search engines.

2. Website map

The project website is accessible to the following link: <https://resolvd.eu/>

The following subsections describe the content and include screenshots of the main sections of the web at the time of delivering this document.

2.1. Home

Home is the landing page of the project, hence it has been designed to be the most visible and attractive (eye candy) to the user. The *Home* landing page has been divided into different subsections.



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The top section displays static information that will remain the same throughout all the sections of the website. It includes the RESOLVD logo and the EU grant information as well as the navigation menu including the *Home, About Resolvd, Publications, Documents, News & Events and contacts.*

It was determined that the first thing at eyesight should be the background image and an animated text displaying cyclically the objectives of the project. Below that, 5 sections have been included: project overview, the program under grant agreement, Partners, News & Events (only the last two posts are on display) and social networks (twitter profile on display).

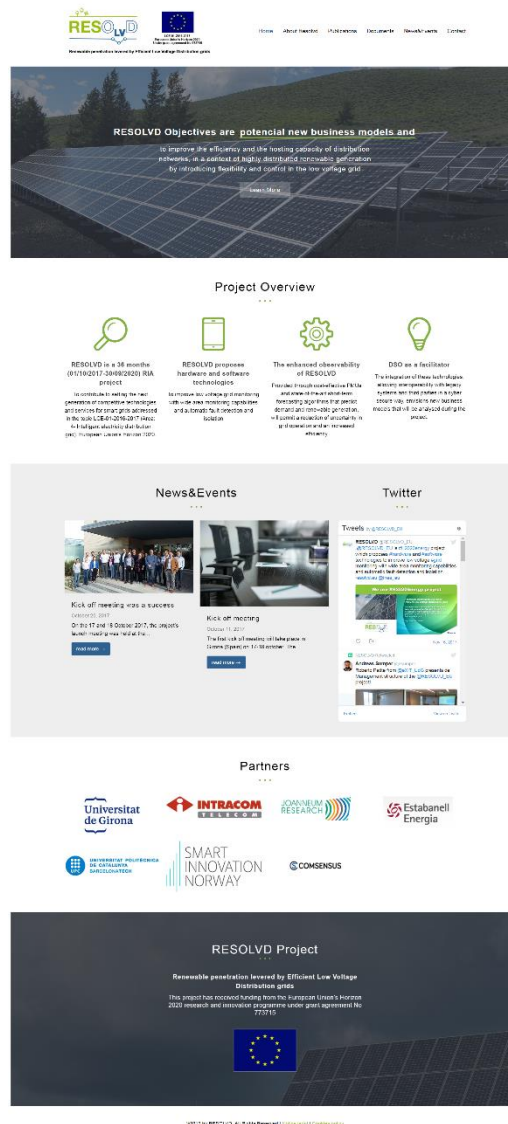


Figure 1. Home: <http://resolvd.eu/>

2.2. About RESOLVD

When trying to navigate to the About Resolvd section through the navigation menu on the top, the page will not change. Instead of that, a dropdown menu will appear showing that exists three different subsections that can be selected regarding the information of the project. This subsections are *About*, *Project Plan* and *Consortium*.

2.2.1. About

The *About* subsection introduces the project objectives and focuses the purpose of the research within its context. A diagram representing the workflow of the proposed approach is shown as well as a description of how the systems will be interconnected.



LCE-01 2016-2017
European Union's Horizon 2020
Under grant agreement No 773715

Renewable penetration levered by Efficient Low Voltage Distribution grids

[Home](#) [About Resolvd](#) [Publications](#) [Documents](#) [News&Events](#) [Contact](#)

About the project

[Home](#) > [About the project](#)

RESOLVD project is coordinated by UdG which aims to contribute to setting the next generation of competitive technologies and services for smart grids addressed in the topic LCE-01-2016-2017 (Area: 4- Intelligent electricity distribution grid).



To improve the efficiency and the hosting capacity of distribution networks

of highly distributed renewable generation by introducing flexibility and control in the low voltage grid.

An innovative advanced power electronics device, with integrated storage management capabilities, will provide both switching and energy balancing capacities to operate the grid optimally. Continuous power flow control between storage and the grid, and also between phases, will result in a flatter and reduced demand curve at the substation level with an associated loss reduction and an improved voltage control and quality of supply.

The enhanced observability of RESOLVD, provided through cost-effective PMUs and state-of-the-art short-term forecasting algorithms that predict demand and renewable generation, will permit a reduction of uncertainty in grid operation and an increased efficiency. RESOLVD proposes hardware and software technologies to improve low voltage grid monitoring with wide area monitoring capabilities and automatic fault detection and isolation.



This improved observability and monitoring system combined with the capability of actuating on the grid will benefit from robust scheduling methods to support self-healing and grid reconfiguration.

This will allow efficient grid operation and a maximised renewable hosting capacity. The integration of these technologies, allowing interoperability with legacy systems and third parties in a cyber secure way, envisions new business models that will be analysed during the project.

Some of them focused on the role of the DSO as a facilitator, but others simply to exploit a second-life of certain types of batteries.

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Figure 2. About page: <http://resolvd.eu/about-the-project/>

2.3. Project Plan

The *Project Plan* subsection states how the execution of RESOLVD project is organized, showing each one of the work packages and how they are interconnected. Here, users can find the information about the 9 work packages, responsibilities and the basic methodological principles to execute the project.



Figure 4: Project plan: <http://resolvd.eu/project-plan/>

2.4. Consortium

This section displays the partners of the project including the logo and a short description of each of the partners:

Universitat de Girona (UdG)
 Intracom (ICOM)
 Joanneum Research (JR)
 Estabaneil Energia (EYPESA)
 Universitat Politècnica de Catalunya (UPC)
 Smart innovation Norway (SIN)
 Comsensus (CS)

Finally, at the end of the website, there is a table containing all the partners's expertise and main contribution in the project.



Figure 5. Consortium: <http://resolvd.eu/project-team/>

2.5. Publications

This section is devoted to disseminate the publications of the project. It will contain publications delivered during years 2017, 2018, 2019 and 2020, which is the duration of the project.



Figure 6. Publications: <http://resolvd.eu/publications/>

2.6. Documents

All public documents and deliverables of the project will be placed in this section according to the proposed structure:



Public Documents (downloads)
Home > Documents

WP1 - Specifications and design of LV smart grids and interaction
...

D.1.2 Functional and operational requirements	30/05/2018
D.1.3 Interoperability and integration analysis and requirements.	30/09/2018

WP2 - Grid actuation, control and flexibility
...

D.2.1 Power electronics device design specifications and models for the architectures	31/03/2018
D.2.4 Power sharing strategies for performance optimization of a heterogeneous grouping of storage devices into the power electronics device	30/06/2019
D.2.5 Test protocol and laboratory test results	31/12/2019

WP3 - Network Sensing and Observability
...

D.3.1 Design specification for network observability	30/04/2018
D.3.6 Decision Support for self-healing	31/12/2019

WP4 - Integration platform and interoperability with legacy systems
...

D.4.1 Detailed description of the platform	30/09/2018
D.4.5 Cybersecurity analysis and recommendations	31/01/2020

WP5 - Validation in relevant environment and results
...

D.5.1 Validation set-up report. Description of scenarios, tests and validation indicators	31/10/2019
D.5.2 Report on HW installation with feedback to activities related to grid actuation, platform integration and interoperability with legacy systems.	31/12/2019
D.5.3 Report on SW installation with feedback to activities related to grid actuation, network sensing, platform integration and interoperability with legacy systems.	29/02/2020
D.5.4 Report on Tests and Performance Indicators Evaluation	30/09/2020

WP6 - New business models, project exploitation and standardisation
...

D.6.1 Stakeholders, actors and role	31/03/2018
D.6.2 Stakeholders, actors and role. Final version	30/09/2018

WP7 - Communication and Dissemination
...

D.7.2 Website	31/12/2017
D.7.6 Final Dissemination report	30/09/2020
D.7.8 Final Communication report	30/09/2020
D.7.9 Post-project impact plan	30/09/2020

WP8 - Project management and coordination and knowledge management
...

D.8.4 Data Management Plan	31/03/2018
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Figure 7: Documents: <http://resolvd.eu/documents/>

2.7. News&Events

This section is the most dynamic part of the web. It has been designed as a blog to include and display any news and events related to the project. It has been designed as a central column which will contain an image, date and tags associated to the news published, as well as a brief summary of it and a side bar that includes a search bar to look into the project archives. A list of the most recent news published and a live feed to the project social media are also included.

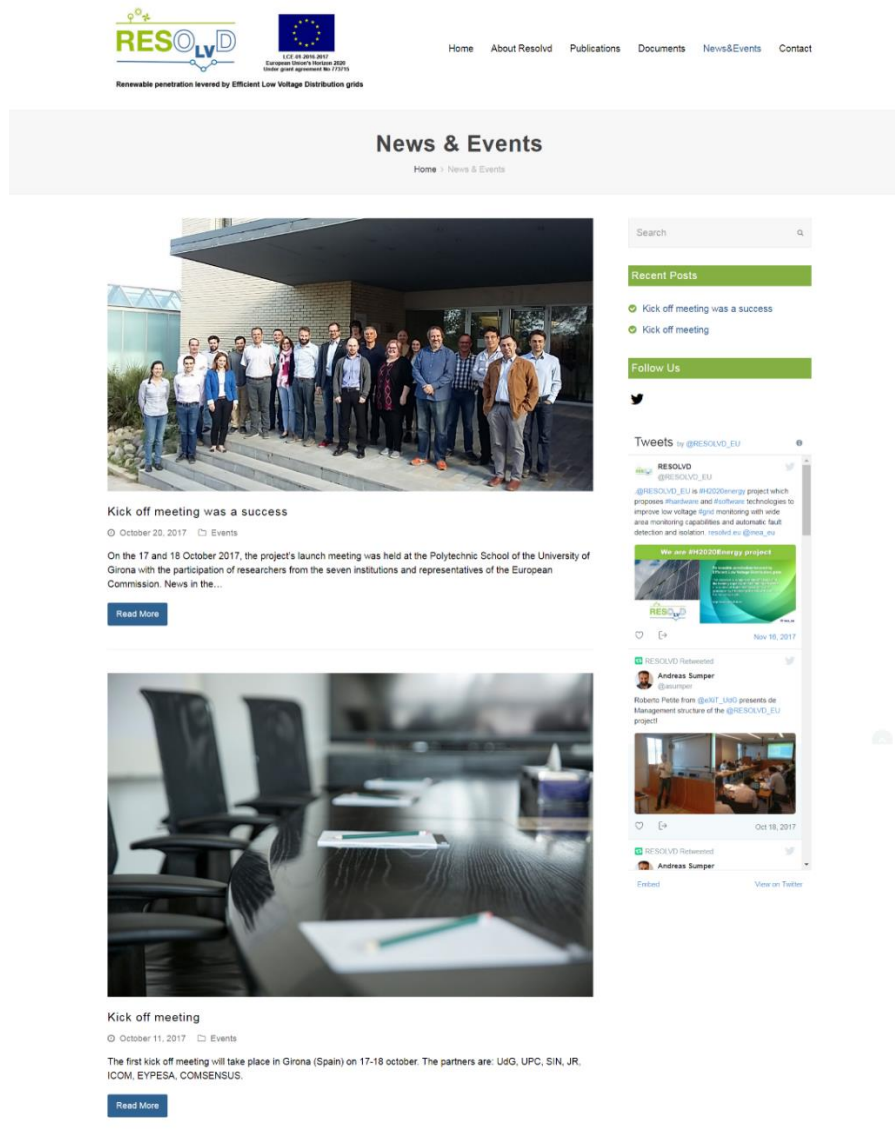


Figure 8: News&Events: <http://resolvd.eu/news-events/>

2.8. Contact

This final section contains the contact information of the project. Users can find information about how to contact the project team both by mail and by telephone as well as use a form to directly contact the project. It also includes a map where all the partners have been geo-located.



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Figure 9: Contact us: <http://resolvd.eu/contact/>

3. Technical details

The website has been created using the open source WordPress software. WordPress is a Content Management System (CMS) that enables an easy creation and administration of new content in websites. WordPress has been chosen because of its main advantages:

- Easy installation, update and customization.
- If necessary, different users can be created to manage different sections of the website.
- When creating content for a blog, it allows site administrator to have different versions of the articles: published, drafts, in review, private, protected, etc.
- It's easy to be responsive

The Total Template [0] has been used for the design of the website. Different plugins have been installed to give greater functionality to the website:

All In One SEO Pack [0], Autoptimize [0], Contact Form 7 [0], Cookie Notice [0], Custom Post Type UI [2.6], Easy Updates Manager [0], FacetWP [0], Limit Login Attempts Reloaded [0], Rich Text Excerpts [0], Templatera [0], TinyMCE Advanced [0], Wordfence Security [0], WP Smush [0], WP Super Cache [0], WPBakery Page Builder [0], WPS Hide Login [0].

In regards to the design, we have used the corporate colors of the project: white, green and blue, as defined in the style book that will be included in the communication plan. When it was necessary, a gray color was used to give a greater visual effect.

The domain that will be used for the duration of the project is: resolvd.eu with the added security feature of redirecting all HTTP connections to a secure channel HTTPS.

3.1. Requirements

A hosting service has been subcontracted for deploying the web. Nevertheless, in case it was necessary to run in an own server, to run WordPress, the host requisites are:

- PHP 7 or greater
- MySQL 5.6 or greater OR MariaDB 10.0 or greater
- The mod_rewrite Apache module
- HTTPS support

These requirements may change in the future according to new necessities in the web.

3.2. Site administrator

To simplify the edition of the technical aspects of the website, only udG will act as administrator and will centralize all the efforts. Any member of consortium who wants to make an update on the website, will have to send the information to the UdG, who will be responsible of making that change as soon as possible.

3.3. WordPress updates

Due to possible security issues, it is important to avoid vulnerabilities in the used software discovered in the future, hence an update policy is necessary. The consortium has agreed to perform updates in the CMS platform every 6 months, including WordPress, all themes used and all active and non-active plugins. This task will be carried out by UdG.

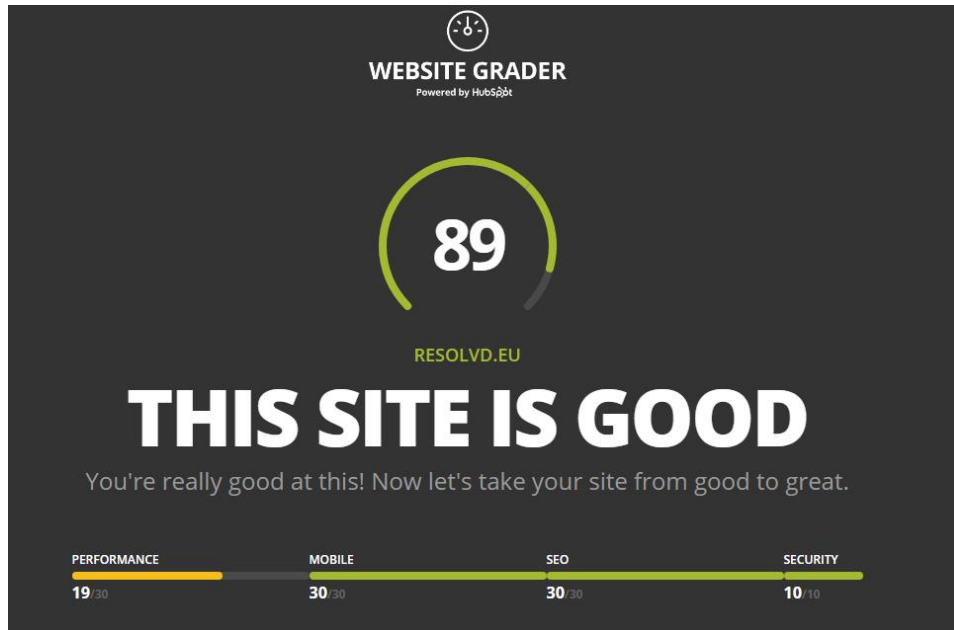
4. Search engine optimization (SEO)

The webpage has been optimized in order to achieve the highest possible ranking in the main search engines through:

- ... the use of keywords.
- ... the use of Meta tags.
- ... the inclusion of a Meta description and Meta title on each page. This is the way titles and descriptions are seen on the main search engines.
- ... the appropriate use of titles and bold letters.
- ... providing friendly URLs.
- ... the creation of sitemap.
- ... the inclusion of title and description in all the images.

5. Analysis of webpage

The website has been analysed and these have been the results by the website grader tool [0]:



This grading tool includes analysis of the page size, page requests, page speed, caching, redirections, compression, mobile representation, SEO optimization and security.

Additionally, to know the statistics of the website, the Google Analytics framework has been included into the website code in order to track and analyses the page usage by the users and all these data will be collected and presented in the corresponding future reports.

Annex 1

Total Template. <https://themeforest.net/item/total-responsive-multipurpose-wordpress-theme/6339019>
All In One SEO Pack. <https://es.wordpress.org/plugins/all-in-one-seo-pack/>
Autoptimize <https://es.wordpress.org/plugins/autoptimize/>
Contact Form 7 <https://es.wordpress.org/plugins/contact-form-7/>
Cookie Notice <https://es.wordpress.org/plugins/cookie-notice/>
Custom Post Type UI. <https://es.wordpress.org/plugins/custom-post-type-ui/>
Easy Updates Manager. <https://es.wordpress.org/plugins/stops-core-theme-and-plugin-updates/>
FacetWP. <https://facetwp.com/>
Limit Login Attempts Reloaded. <https://es.wordpress.org/plugins/limit-login-attempts-reloaded/>
Rich Text Excerpts. <https://es.wordpress.org/plugins/rich-text-excerpts/>
Templatera. <https://codecanyon.net/item/templatera-template-manager-for-visual-composer/5195991>
TinyMCE Advanced. <https://es.wordpress.org/plugins/tinymce-advanced/>
Wordfence Security. <https://es.wordpress.org/plugins/wordfence/>
WP Smush. <https://es.wordpress.org/plugins/wp-smushit/>
WP Super Cache. <https://es.wordpress.org/plugins/wp-super-cache/>
WPBakery Page Builder. <https://wpbakery.com/>
WPS Hide Login. <https://es.wordpress.org/plugins/wps-hide-login/>
Website Grader tool. <https://website.grader.com>