



FARCROSS

BUILDING A LOW CARBON, CLIMATE RESILIENT
FUTURE: SECURE, CLEAN AND EFFICIENT ENERGY

DELIVERABLE D10.1

WEB PORTAL

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Keywords

Website, communication, web portal, dissemination

Executive Summary

This deliverable documents the creation of the initial version of the project website. Moreover, it shows the specification and the technical development behind the FARCROSS website. The website will be updated during the project lifetime, to document progress and tailor the message to the various project phases. It will also be used for the project communication and dissemination and will promote the visibility of the project and its results. The prototype can be accessed under: www.farcross.eu

1 Project Overview

To achieve its energy goals EU needs to establish a geographically large market by initially improving its cross-border electricity interconnections. A geographically large market, based on imports and exports of electricity, could increase the level of competition, boost the EU's security of electricity supply and integrate more renewables into energy markets.

Electricity should, as far as possible, flow between Member States as easily as it currently flows within Member States, to increase sustainability potential and real competition as well as to drive economic efficiency of the energy system. To this end, FARCROSS aims to address this challenge by connecting major stakeholders of the energy value chain and demonstrating integrated hardware and software solutions that will facilitate the "unlocking" of the resources for the cross-border electricity flows and regional cooperation.

FARCROSS will promote state-of-the-art technologies to enhance the exploitation/capacity/efficiency of transmission grid assets, either on the generation or the transmission level. The hardware and software solutions will increase grid observability to facilitate system operations at a regional level, exploit the full potential of transmission corridors for increased electricity flows that will facilitate transition to flow-based regional market coupling, consider cross-border connections and their specific ICT and grid infrastructure, planning to use a wide-area protection approach to ensure the safe integration of renewable energy sources into the grid, mitigate disturbances, increase power system stability.

An innovative regional forecasting platform will be demonstrated for improved prognosis of renewable generation and demand response and a capacity reserves optimization tool will be tested to maximize cross-border flows. The non-harmonization of national regulation will be studied, and measures will be recommended to avoid distortion of the technology benefits.

FARCROSS project offers the creation of a common concept which will enable the coordinated efforts between TSOs and between TSOs and energy producers, through the adoption of multiple technological innovations. This concept, as already mentioned, will be based on an in-depth analysis of the regulatory framework, both in countries represented in the FARCROSS consortium, as well as in countries outside it, to finally produce a cost-benefit analysis and present adequate results that will allow a secure and reliable operation of TSOs and energy producers on a regional and European level. At the same time, cross-border market and technical codes will be reviewed to enable a real-life application of future market design and services. The blend of all aforementioned assets, technologies, analyses, is envisioned to optimise operations, safeguard investments and allow the introduction of new services to cover the needs of more stakeholders of the energy value chain.

Figure 1 below depicts a map representation of FARCROSS concept

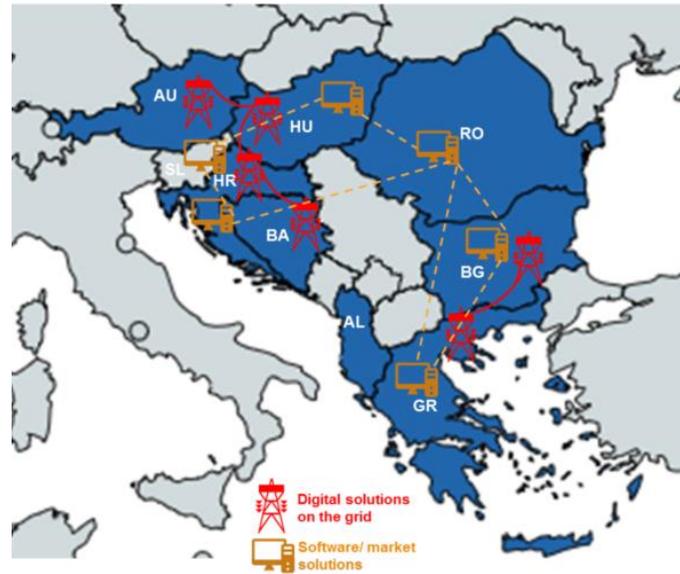


Figure 1 FARCROSS Concept

2 The FARCROSS Website

2.1 General Introduction

The FARCROSS website has been designed to quickly and schematically (where possible) address the key questions that external visitors are expecting, including what the project is about, what it is delivering and why, who is participating, any additional details regarding communication (internal and external) and dissemination and who can be contacted, in case more information is needed.

The project website will continuously evolve and develop as the project itself matures. A dedicated server provisioning solution has been adopted to deliver flexibility and choose the most appropriate tools and technologies to support the future website needs. The project domain name was selected to be: www.farcross.eu.

In order to provide a useful and relevant website even in advance of a comprehensive dissemination requirements analysis and subsequent dissemination plan, it was decided that the initial version of the project website would be a traditional static website addressing the predicted immediate needs of interested external stakeholders. Following a review of similar project websites and a discussion within the consortium, the website was conceived to answer key questions that researchers, technology experts, analysts, industry, academia and other stakeholders could be expected to have.

2.2 Structure

Figure 2 below displays the structure of the FARCROSS website.

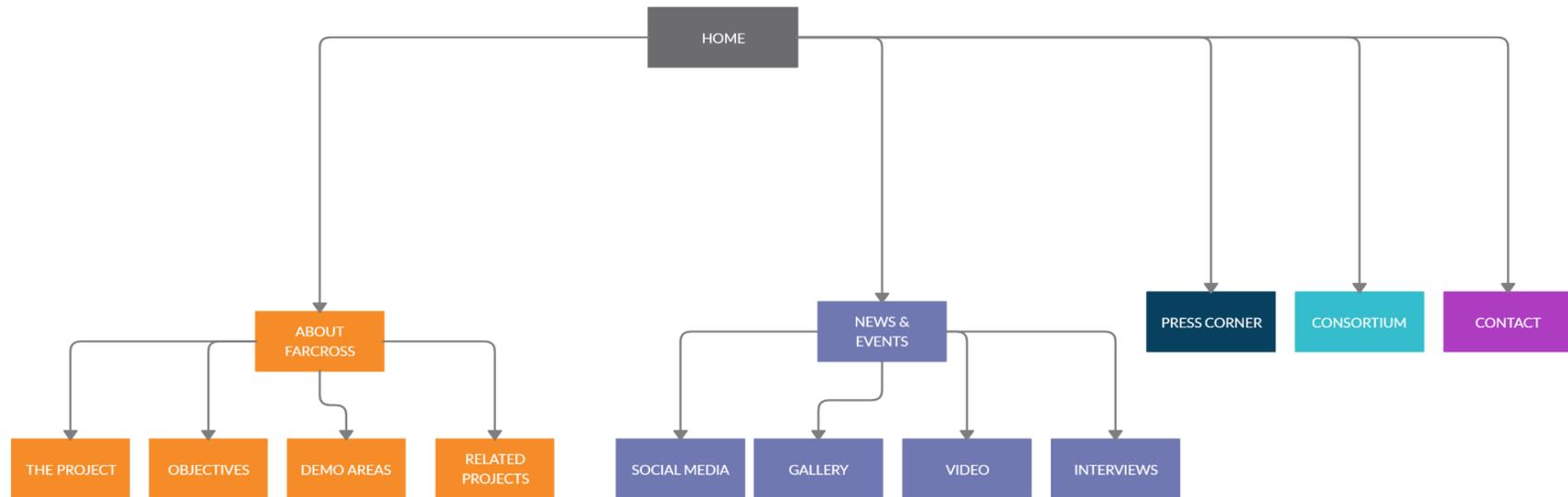


Figure 2 Structure of the FARCROSS Website

2.3 Homepage



Figure 3 FARCROSS Website Home Page

The Home page has the objective to briefly introduce the project, welcome visitors to the website and provide key facts about the project and links to all issues/subjects addressed by the FARCROSS project. Moreover, it gives the project some context by referring to the funding programme and related organisations. The initial Home page is reproduced in Figure 3. Moreover, links to most of the project subpages are available, including the FARCROSS consortium partners' logos and hyperlinks to their websites; thus making navigation throughout the website even more practical and easier. Links to the Twitter and LinkedIn accounts of the FARCROSS project are also visible at the Header and Footer of the "Home" page. More specifically, the Home page is the gateway to the entire website. This page clearly directs the visitor to the individual sub-sections according to their importance. Home page's structure aims to be attractive and user friendly with Social Media Integration.

The header consists of the FARCROSS logo. The website language is English. The design is based on a responsive web-design theme.

Under the website header, the main menu is placed, which includes:

- HOME
- ABOUT FARCROSS
 - THE PROJECT
 - OBJECTIVES
 - DEMO AREAS
 - RELATED PROJECTS
- NEWS & EVENTS
- PRESS CORNER
 - SOCIAL MEDIA
 - GALLERY
 - VIDEO
 - INTERVIEWS
- CONSORTIUM
- CONTACT

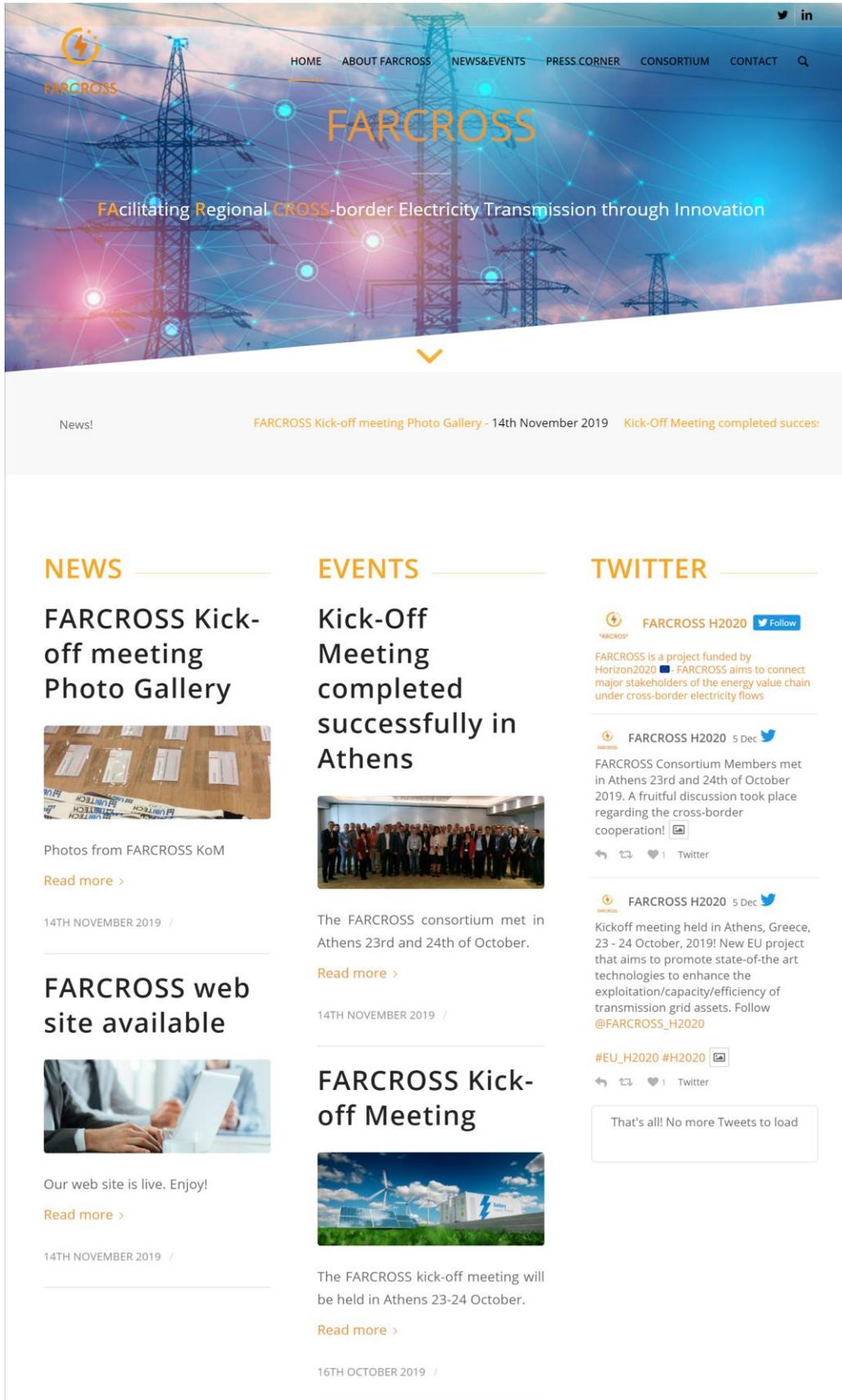


Figure 4 Part of FARCROSS Home page

These links can be renamed if needed. The main menu works as a dropdown menu. After the mouse is placed over a menu item, the menu opens and displays the links to subsections and their pages. Navigation opens up to the second level. Thanks to this solution, the visitor can access all the information in the site via a single mouse-click.

The middle part of the Home page is devoted to the news, events and twitter area displayed in three columns, Figure 4 Part of FARCROSS Home page. The news and events modules show the most recent news and events items. The twitter module displays the twitter feed news. Older news items thus remain hidden but shown all in the "News & Events" Header Menu.

At the homepage an article summary with a link to the whole entry is displayed. This summary is not autogenerated and can be edited by entering the summary of an article in Excerpt field on Post Edit screen in the edit post admin area. The "Read More..." points to the whole article of the session News. The same applies for the event's posts at the homepage where again the link "Read More..." points to the particular event.

All the partners of FARCROSS project are presented with their logos. Also, there is a brief description of the project, Figure 5.



FARCROSS OVERVIEW

Solutions for increased regional cross-border cooperation in the transmission grid

To achieve its energy goals EU needs to establish a geographically large market by initially improving its cross-border electricity interconnections. A geographically large market, based on imports and exports of electricity, could increase the level of competition, boost the EU's security of electricity supply and integrate more renewables into energy markets. Electricity should, as far as possible, flow between Member States as easily as it currently flows within Member States, so as to increase sustainability potential and real competition as well as to drive economic efficiency of the energy system. To this end, FARCROSS aims to address this challenge by **connecting major stakeholders of the energy value chain and demonstrating integrated hardware and software solutions that will facilitate the "unlocking" of the resources for the cross-border electricity flows and regional cooperation.**

FARCROSS

The project will promote state-of-the-art technologies to enhance the exploitation/capacity/efficiency of transmission grid assets, either on the generation or the transmission level.

Figure 5 Part of FARCROSS Home Page

All the workpackages are presented in the Home Page with a brief description of the Objectives of each workpackage, Figure 6.

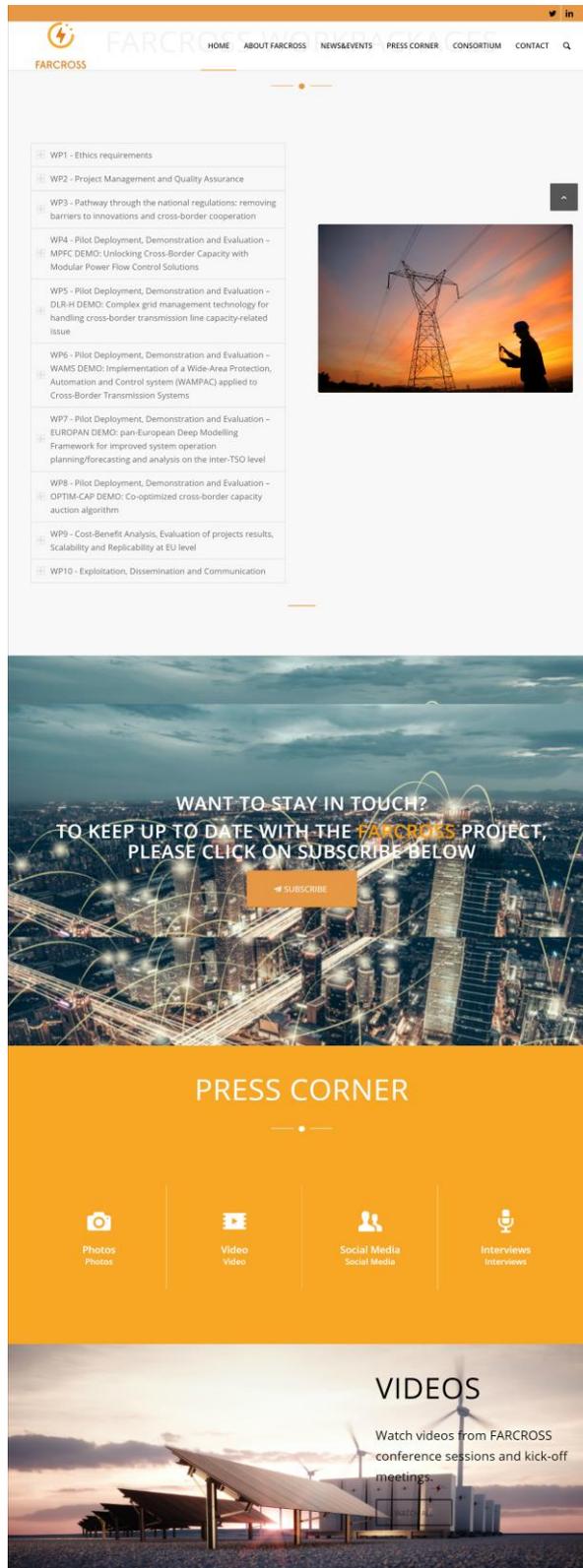


Figure 6 Part of FARCROSS Home Page

Finally, LinkedIn and Twitter icons are added and hyperlinked to the FARCROSS social media accounts both on the upper and bottom side (Figure 7) of the Home page.



Figure 7 Part of FARCROSS Home Page

The footer, as shown in Figure 7, of each page includes the following information:

- Acknowledgment for the funding received by the EU

[Image of the European emblem]

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 864274

Call identifier: LC-SC3-ES-2-2019

- Project Coordinator Information

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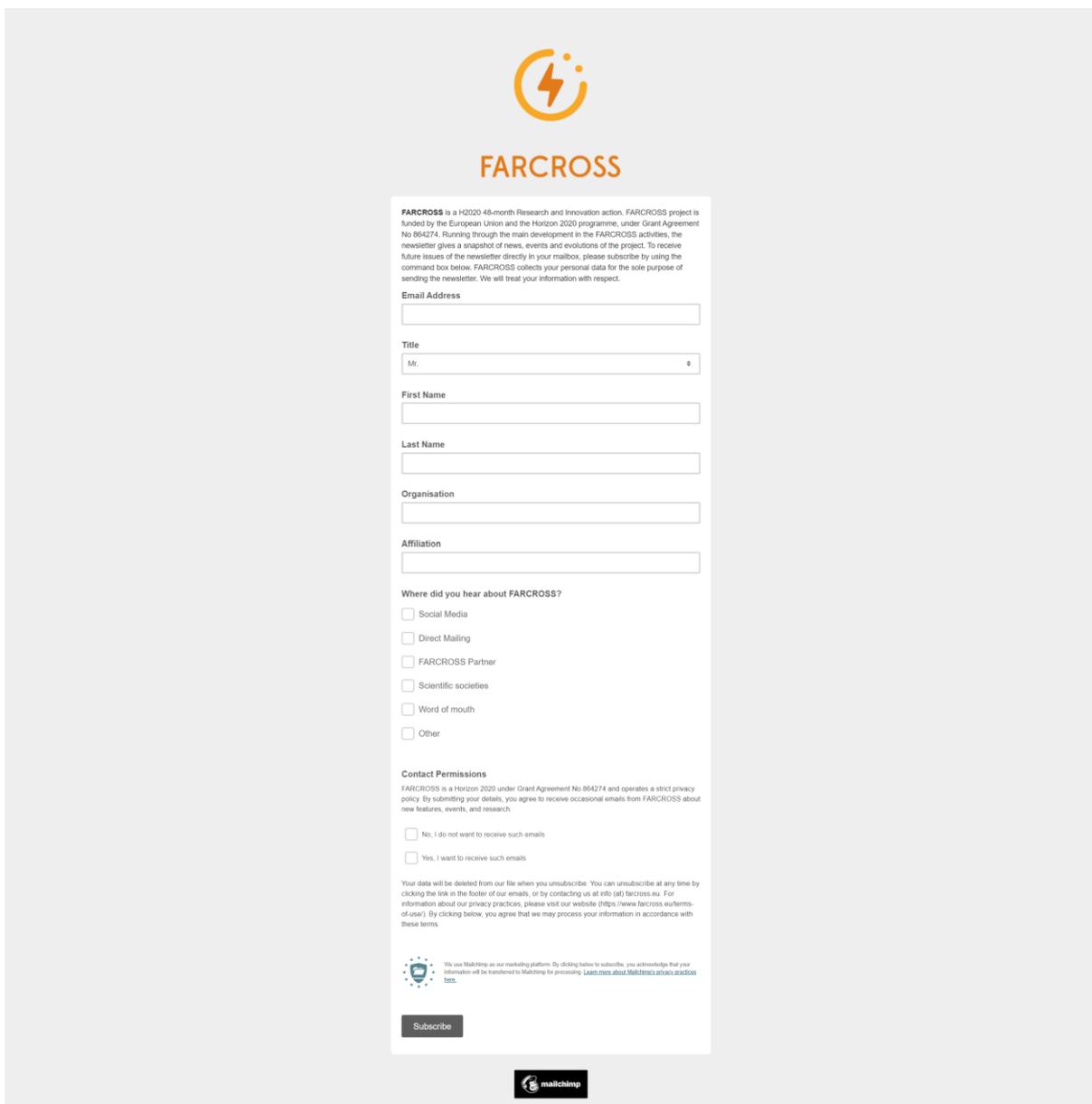
INNOVATION, DISSEMINATION & EXPLOITATION MANAGER

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- Terms of Use

A hyperlink where the visitor can review the FARCROSS website Terms of Use.

2.3.1 Newsletter




FARCROSS

FARCROSS is a H2020 48-month Research and Innovation action. FARCROSS project is funded by the European Union and the Horizon 2020 programme, under Grant Agreement No 864274. Running through the main development in the FARCROSS activities, the newsletter gives a snapshot of news, events and evolutions of the project. To receive future issues of the newsletter directly in your mailbox, please subscribe by using the command box below. FARCROSS collects your personal data for the sole purpose of sending the newsletter. We will treat your information with respect.

Email Address

Title
 Mr.

First Name

Last Name

Organisation

Affiliation

Where did you hear about FARCROSS?

Social Media
 Direct Mailing
 FARCROSS Partner
 Scientific societies
 Word of mouth
 Other

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 FARCROSS is a Horizon 2020 under Grant Agreement No 864274 and operates a strict privacy policy. By submitting your details, you agree to receive occasional emails from FARCROSS about new features, events, and research.

No, I do not want to receive such emails
 Yes, I want to receive such emails

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 You use Mailchimp as our marketing platform. By clicking below to subscribe, you acknowledge that your information will be transferred to Mailchimp for processing. [Learn more about Mailchimp's privacy practices here.](#)



Figure 8 FARCROSS Newsletter Subscribe Page

Moreover, a newsletter will be periodically published in order to inform and raise awareness regarding FARCROSS milestones, outcomes, activities, events and other useful topics. At Home Page and before the footer a subscription button and description section has been added where users can easily subscribe to the FARCROSS newsletter. By clicking on the “Subscribe” button they are asked to provide an email address, name, organization, affiliation and lastly will be asked how they became aware of the FARCROSS project. FARCROSS will collect personal data for the sole purpose of sending the newsletter. Information will be treated with respect. In addition, users are free to unsubscribe at any time. Any data collected will be instantaneously deleted from the FARCROSS files upon unsubscribing. The following Figure 8 shows the newsletter registration form.

2.3.2 Use of Cookies, Terms of Use & Privacy Policy

Finally, at the bottom of each page we have added a Privacy settings banner that prompts a visitor to provide their consent (or not) for the use of cookies collected from the website, as shown in Figure 9. The visitor may also view the “Terms of Use” before giving their consent, shown in Figure 10. This has been included in order to reassure the privacy and to protect any personal information collected from the website. Users can visit the Terms of Use Page in order to understand the types of data are being collected and for what purpose. Without the use of the session cookies especially, several functions could not be offered on our website. These measures, along with the Secure Socket Layer (SSL), make sure that the operation of the FARCROSS website is GDPR compliant.



Figure 9 Cookies Notification Bar

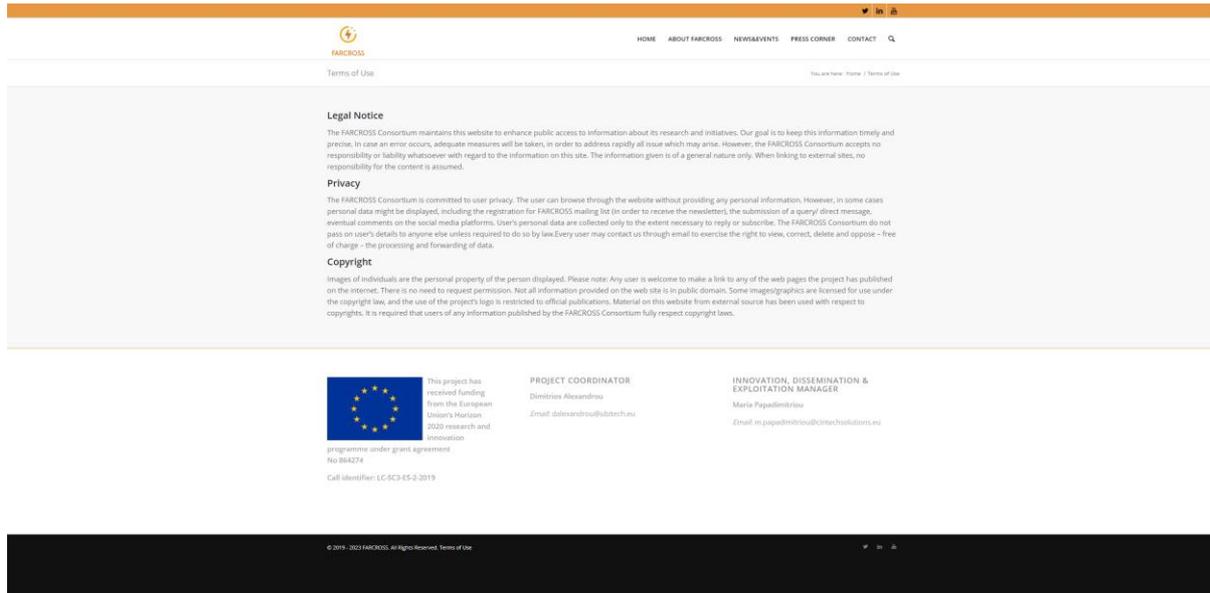


Figure 10 FARCROSS site Terms of Use Page

2.4 Sections

The “About FARCROSS” page hosts all informative subpages of the project, including the Project, Objectives, Demo Areas and Related Projects.

The “Project” section contains the overview of the project.

The “Objectives” section contains the description of the technical and operational objectives of the project.

The “Demo Areas” section is divided into three categories each one representing one of the three layers.

The “Related Projects” section will contain relevant projects to course of the project.

The “News & Events” section contains relevant news regarding the project and events in which the project participated or organized.

The “Press Corner” section hosts all informative Media Subpages: Gallery, Video, Interviews and Social Media. The “Gallery” subpage will include photo albums from events and meetings the consortium will participate and also photos from the Pilot sites. The “Video” section will contain the youtube videos that will be uploaded in the FARCROSS youtube channel and also some informative about the project videos. The “Interviews” section will contain interviews related to the FARCROSS project. The “Social Media” section displays the Youtube, LinkedIn and Twitter FARCROSS channels.

The “Consortium” section contains the logos of the partners linked to their website.

On the top of each page the project logo is placed on the top left corner.

3 Short Technical Description

An architectural overview of the FARCROSS website, conveying the most significant architectural design decisions made is shown in the figure below.

The following diagram provides an overview of the architecture of the FARCROSS system.

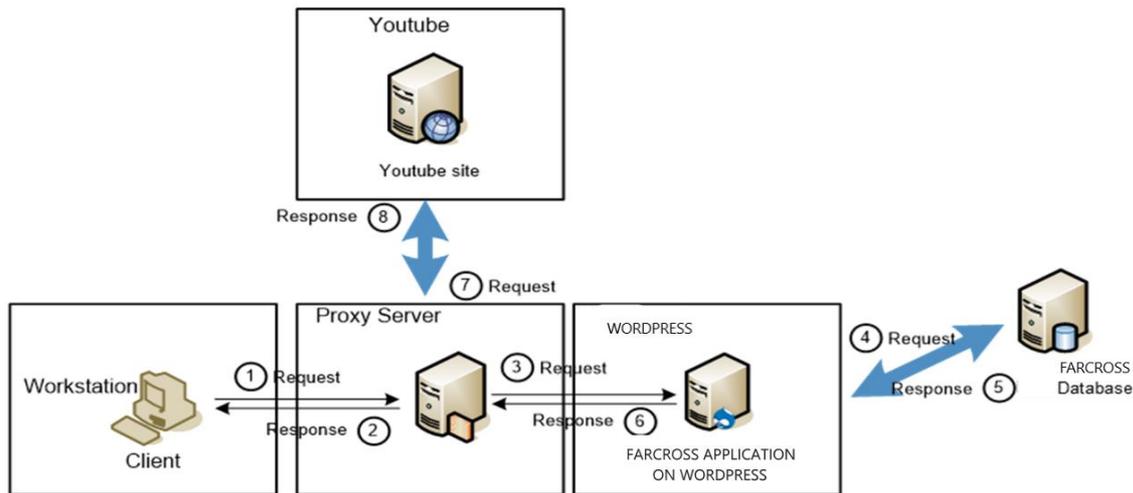


Figure 11 FARCROSS Website Architecture

The general workflow of the system is the following:

1. The user performs an action in the system, such as requesting a page or navigating to a page.
2. The proxy server evaluates the requests and transfers them to the WordPress application. In case of a problematic request, an error response is displayed for the end-user. The purpose of the specific server is to provide security and to speed up access to the FARCROSS application.
3. The request is handled by the FARCROSS application, which is installed in an Apache server with Linux OS, and its modules.
4. Several SQL queries are executed against the MySQL database, which are triggered via the WordPress application.
5. The response of the database is a list of contents of the appropriate content types and useful information, such as permissions for users and several blocks, which are displayed on the selected theme.
6. Several WordPress modules process the response of the MySQL database and the results are displayed on a WordPress theme.
7. Several requests for videos hosted by the YouTube site can be serviced by the WordPress application over the proxy server.
8. The response is evaluated by the WordPress application and is placed in a section of a WordPress theme.

3.1 WordPress Plugins Description

Several plugins have been downloaded from WordPress plugin directory in the admin area and were installed for performing miscellaneous actions. These are listed below:

- **Contact Form 7** (Version 5.1.5) A contact form plugin. With this plugin you can manage multiple contact forms, manage multiple contact forms, plus you can customise the form and the mail content flexibly with simple markup.
- **Contact Form 7 Captcha** (Version 0.0.3) This plugin implements “I’m not a robot” checkbox.
- **Custom Twitter Feeds** (Version 1.4.1) Customizable Twitter feeds for FARCROSS website
- **Select Duplicate Page** (Version 4.0) This plugin duplicates Posts, Pages and Custom Posts using single click.
- **Easy WP SMTP** (Version 1.3.9.1) This plugin sends email via SMTP
- **LiteSpeed Cache** (Version 2.9.9.2) High-performance page caching and site optimisation plugin
- **Wordfence Security** (Version 7.4.1) Anti-virus, Firewall and Malware Scan
- **Yoast SEO** (Version 12.6.2) All-in-one SEO solution for WordPress, including on-page content analysis, XML sitemaps and much more.
- **Disable Gutenberg** (Version 2.0) Disables Gutenberg Block Editor and restores the Classic Editor and original Edit Post screen. Provides options to enable on specific post types, user roles, and more.
- **Simple Posts Ticker** (Version 1.0.7) A small tool that shows the most recent posts in a marquee style.

4 Browser Compatibility / Analytics

To maximize visibility, the FARCROSS website was designed to render appropriately in all common web browsers on all common operating systems. These included various versions of the Firefox, Internet Explorer, Google Chrome and Safari browsers on the Linux, Apple MAC OS X and Microsoft Windows families of operating systems.

To help understand the usage of the website, the website was registered with Google Analytics. This will allow rich reports to be run on the website, giving a very clear picture of information such as how many users are visiting the site, what links and pages are more popular than others, which countries are users coming from below.

Some summary information available via AWSTATS of the project is illustrated in Figure 12 below.

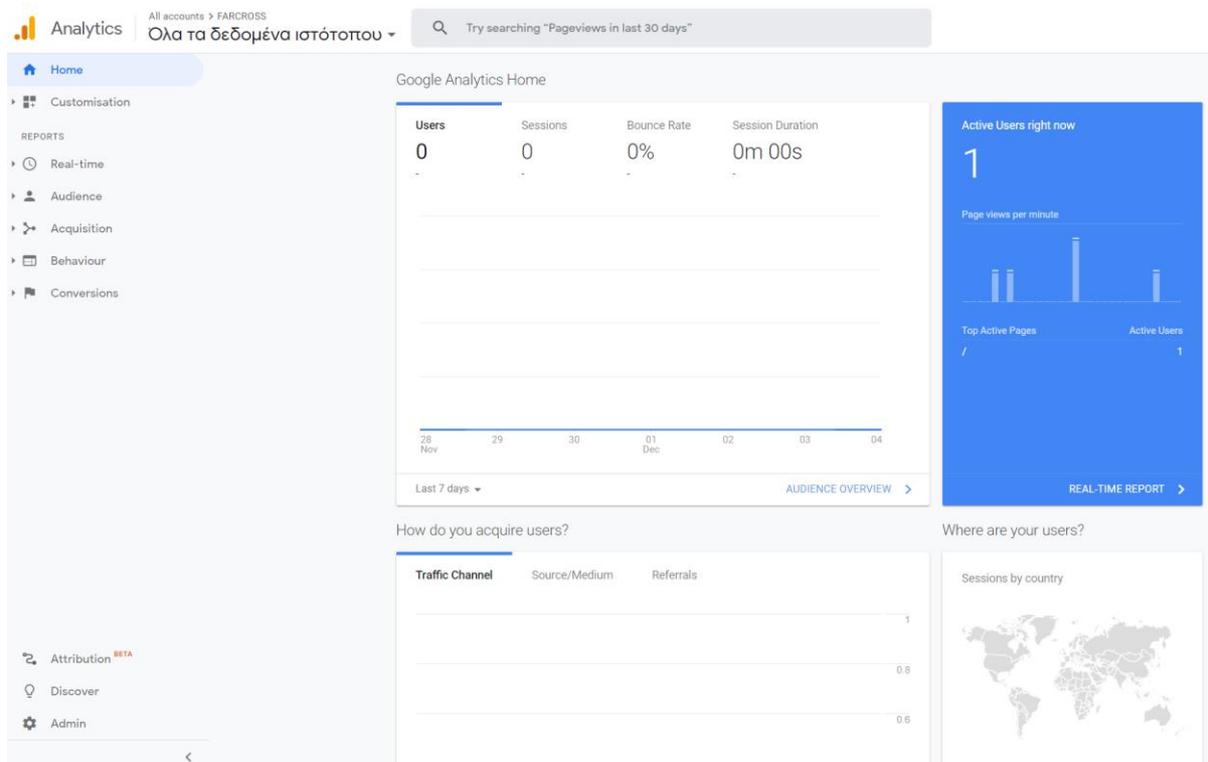


Figure 12 Google Analytics

5 Conclusions

An initial version of the FARCROSS project website has been designed, provisioned and deployed on the internet. Consisting mostly of static content, it has been designed to quickly answer the key questions that external visitors to the website are expected to have. Various links in the website have also been considered at this early stage of the project, to cover collaboration, exploitation and dissemination requirements. As activities of the project become clearer and more detailed more tools will be configured and enabled to support the project in all appropriate ways.

The project website will continuously evolve and develop as the project itself matures – the dedicated server provisioning solution gives the flexibility to choose the most appropriate tools and technologies to support the future needs of FARCROSS.