



eROSA

e-infrastructure Roadmap
for Open Science in Agriculture

Public Project Website



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DELIVERABLE TITLE

Public Project Website

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ACRONYMS LIST

CMS	Content Management System
VM	Virtual Machine
WP	Work Package

EXECUTIVE SUMMARY

As part of the dissemination strategy of the e-ROSA project, a website has been developed in order to communicate the goals and outcomes of the project. This website is part of the AGINFRA web portal and is hosted as a micro-site of www.aginfra.eu. The e-ROSA website, which can be found under the domain <http://www.erosa.aginfra.eu/>, was built by Agroknow as part of “Work Package 4: Project Management & Dissemination”. The virtual machine of the website is hosted in the Greek Research and Technology Network Cloud and the technologies used are Apache HTML Server, MySQL database and PHP. As for the content management, Drupal CMS was selected.

TABLE OF CONTENTS

EXECUTIVE SUMMARY6

1 WEBSITE STRUCTURE8

1.1 SITEMAP8

1.2 INFORMATION STRUCTURE9

 1.2.1 Home page.....9

 1.2.2 Project.....9

 1.2.3 Results.....10

 1.2.4 Governance.....10

 1.2.5 Keep in touch11

 1.2.6 Map of Agri-Food11

2 TECHNOLOGY BACKGROUND.....13

2.1 HARDWARE & SOFTWARE SPECIFICATIONS13

2.2 CONTENT MANAGEMENT SYSTEM14

3 IMPLEMENTATION AND UPDATE STATUS15

4 EXPECTED IMPACT16

TABLE OF FIGURES

Figure 1: e-ROSA Website Sitemap (www.erosa.aginfra.eu)8

Figure 2: e-ROSA website homepage9

Figure 3: The subpage "Our Objectives" describing the project’s goal and key objectives10

Figure 4: Partners sub-category in the e-ROSA website11

Figure 5: An initial version of the Map of Agri-food Data Ecosystem page12

LIST OF TABLES

Table 1: e-ROSA website virtual machine specifications.....13

Table 2: Software components of the e-ROSA website13

Table 3: List of public project deliverables15

1 WEBSITE STRUCTURE

The public e-ROSA website was created as part of the AGINFRA web portal in order to describe the e-ROSA project and provide links to partners and project bodies, as well as to link to relevant online channels and platforms that will be used for the implementation of the webinars and the e-consultation process which are part of e-ROSA’s work plan under Work Package 1. It also includes links to the social media channels of project partners and of the AGINFRA/e-ROSA community that will include interactive multimedia (photography, text, audio, video, animation and infographics) and will be fed proportionally by WPs with their activities, achievements and illustrations.

1.1 SITEMAP

The structure of the e-ROSA website is the following:

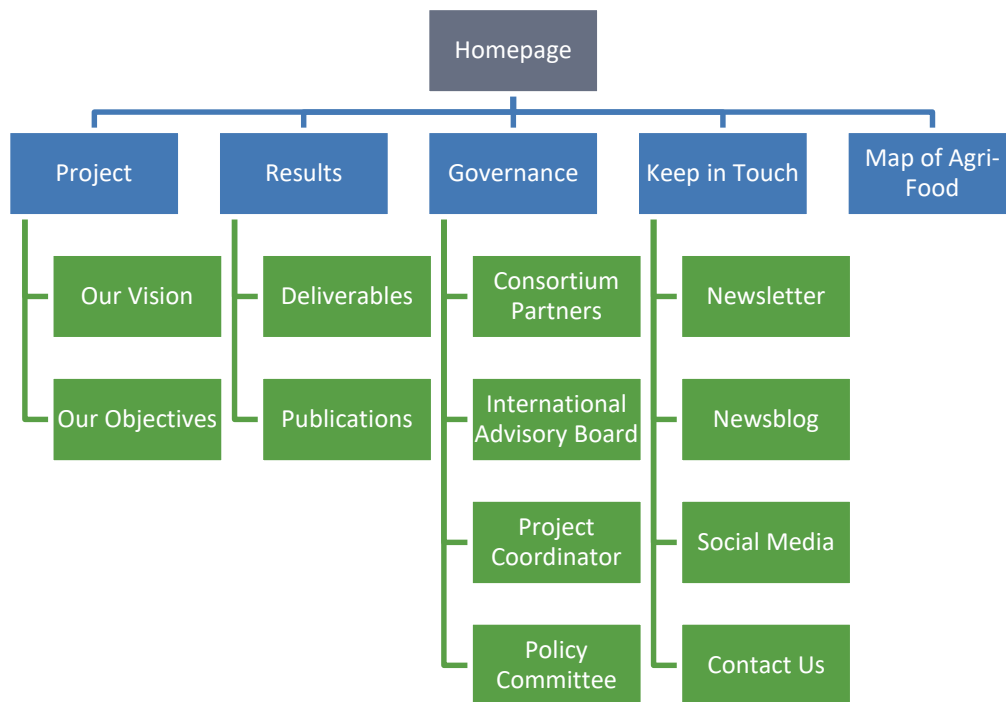


Figure 1: e-ROSA Website Sitemap (www.erosa.aginfra.eu)

The website comprises of five core categories. These are: Project, Research, Partners, Keep in Touch and Map of Agri-Food. These categories are pointing to relevant material in the concept of the project and also consist of several sub-pages. The content of these categories and sub-categories is analysed in the following section (1.2).

1.2 INFORMATION STRUCTURE

This section emphasizes on the hierarchy of the different webpages upon which the website is built.

1.2.1 Home page

The homepage presents an overview of the project and also gives the main features of the project outcomes (see Figure 2 below).

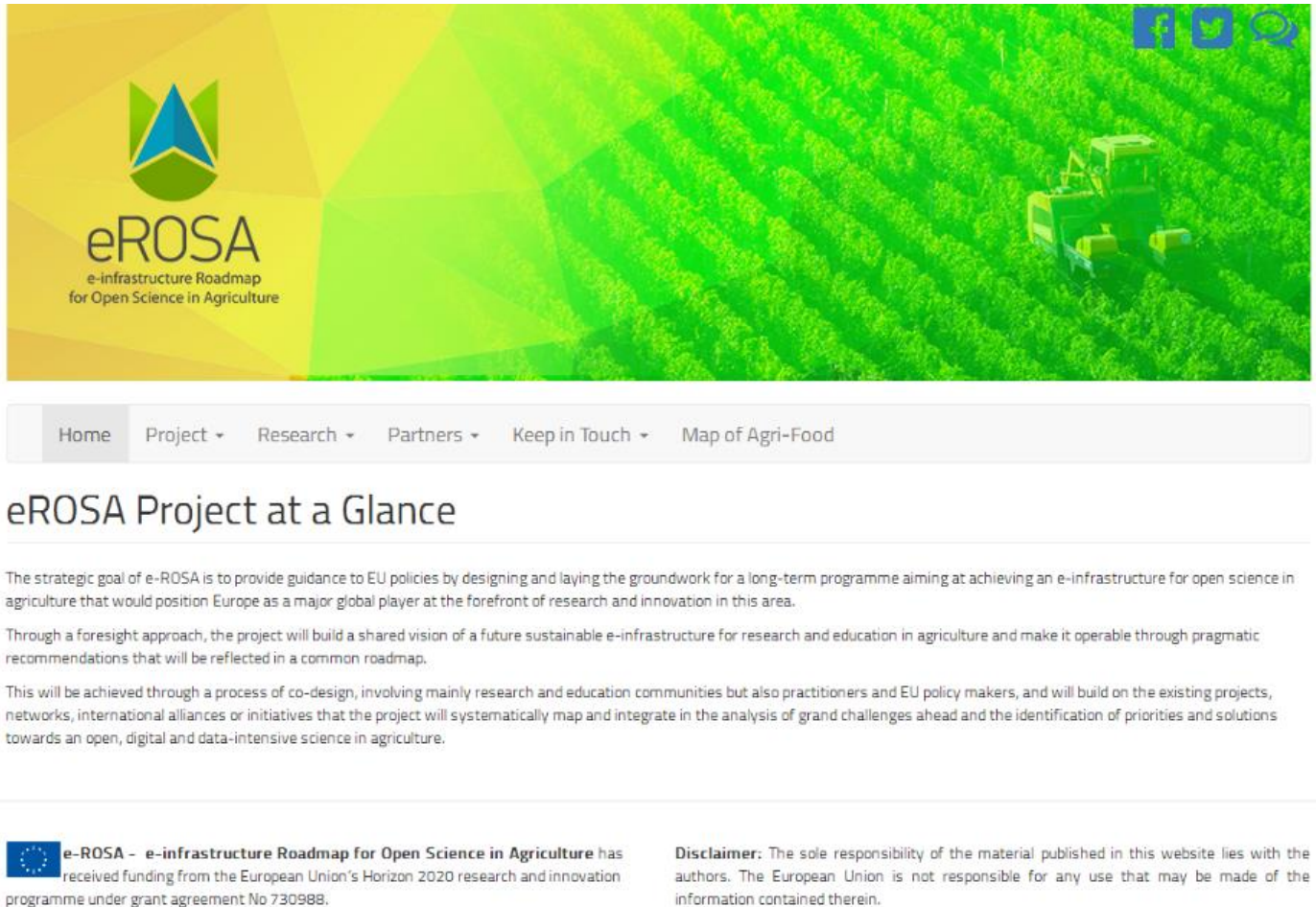
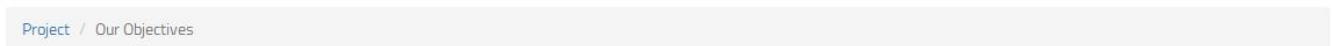
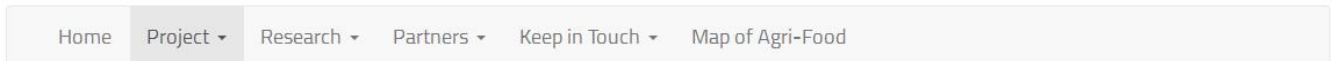
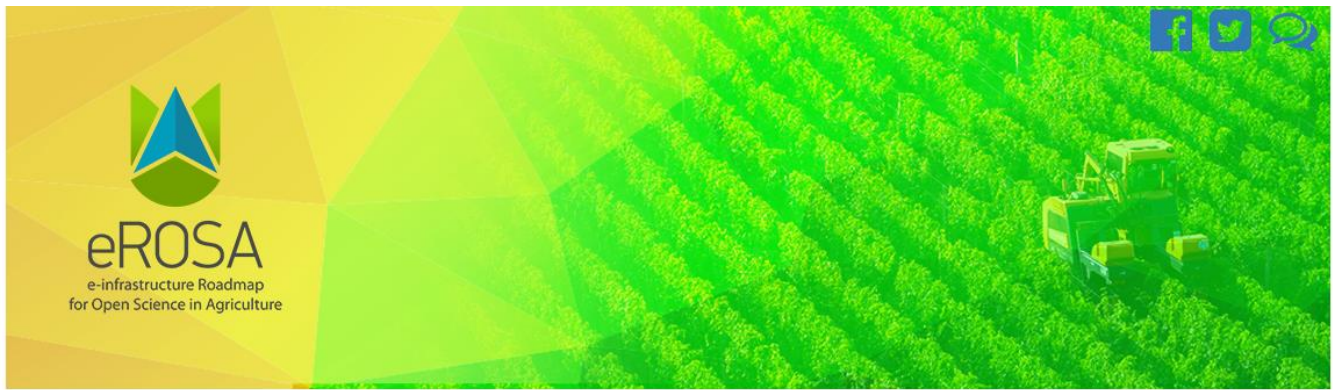


Figure 2: e-ROSA website homepage

1.2.2 Project

The “Project” subsection consists of two pages. These are the following:

- “Our Vision”: a page which includes the vision of the project.
- “Our Objectives”: a page which includes the project’s objectives and strategic goals.



Our Objectives

The strategic goal of e-ROSA is to provide guidance to EU policies by designing and laying the groundwork for a long-term programme aiming at achieving an e-infrastructure for open science in agriculture that would position Europe as a major global player at the forefront of research and innovation in this area.

Through a foresight approach, the project will build a shared vision of a future sustainable e-infrastructure for research and education in agriculture and make it operable through pragmatic recommendations that will be reflected in a common roadmap.

This will be achieved through a process of co-design, involving mainly research and education communities but also practitioners and EU policy makers, and will build on the existing projects, networks, international alliances or initiatives that the project will systematically map and integrate in the analysis of grand challenges ahead and the identification of priorities and solutions towards an open, digital and data-intensive science in agriculture.

More specifically, the objectives of e-ROSA are to:

- Bring together and establish a community of multi-stakeholders (agricultural science and education communities, operators of e-infrastructure services, policy makers) engaging at different levels (regional, national, European and global) to establish a strategic international dialogue and knowledge transfer between the research and education communities, industry & services, and policy makers, along with best practice exchanges, to shape a common vision of the future e-infrastructure for open science in agriculture;
- Improve the knowledge base on the digital agriculture science and practices landscape, through a systemic and participative mapping of relevant teams, infrastructures, e-infrastructures, projects and networks, as well as current policies to identify strengths, weaknesses, complementarities, overlaps, requirements, gaps, barriers and opportunities to consider when defining priority challenges and developing recommendations;
- Based on the shared vision, develop a foresight roadmap and promote its uptake by EU policy makers to shape a long-term agenda for e-infrastructures to support and facilitate data-intensive research and education for agriculture and food.

 e-ROSA - e-infrastructure Roadmap for Open Science in Agriculture has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 730988.

Disclaimer: The sole responsibility of the material published in this website lies with the authors. The European Union is not responsible for any use that may be made of the information contained therein.

Figure 3: The subpage "Our Objectives" describing the project's goal and key objectives

1.2.3 Results

Under the section "Results" two pages can be found:

- The "Deliverables" page, which will include all public deliverables of the project, will be populated as the project evolves;
- The same applies for the "Publications" page, which will contain all potential research publications, papers, posters or conference proceedings that will be published with the support of the project.

1.2.4 Governance

The "Governance" category contains a section with the Consortium Partners, another pertaining to the advisory body of the project (i.e. International Advisory Board), and a page called "Project Coordinator" which contains contact details of the Project Coordinator. Under the subcategory "Policy Committee" additional information will be provided regarding the project's Policy Committee on Data-intensive Agriculture & Food.

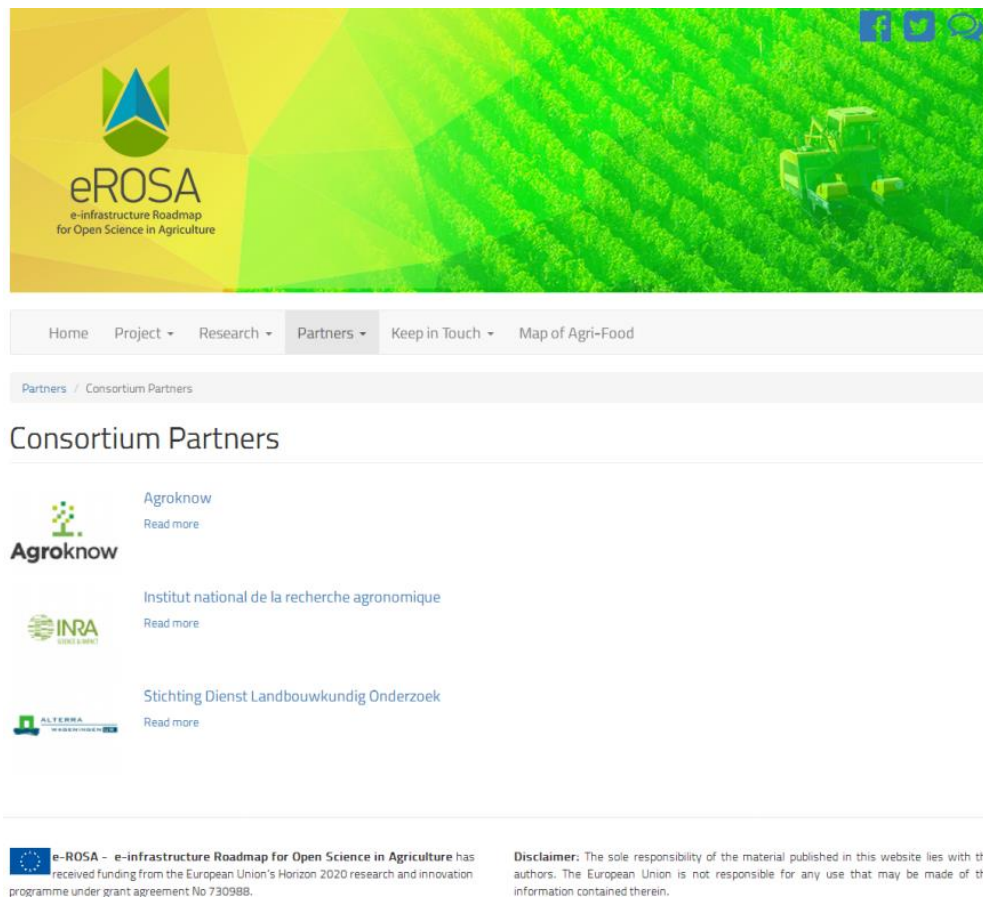


Figure 4: Partners sub-category in the e-ROSA website

1.2.5 Keep in touch

This section includes details regarding the project’s newsletter, social media and blog, while it has also a contact form enabling the user to directly contact the project’s consortium. A twitter account has been set up for dissemination purposes and will be acting as one of the dissemination vehicles for e-ROSA. The “Keep in Touch” section will be widely used to increase awareness among stakeholders and incite them to actively participate in the roadmap co-development process and adoption, which consists in the main objective of the e-ROSA project. Apart from that, the “Newsblog” subsection will be linking to the FAO AIMS online channels and platforms that will be used to allow implementing the webinars and the e-consultation process of e-ROSA.

1.2.6 Map of Agri-Food

The Map of Agri-Food is a core component of the e-ROSA project and the AGINFRA/e-ROSA Community. WP1 (Ecosystem & Community) commences the work of e-ROSA by providing a basis for the other work packages through an assessment of the knowledge base and the status quo of the agricultural e-infrastructure ecosystem in Europe. This involves a preliminary mapping of organisations, data points, initiatives and facilities.



Mapping the Data Ecosystem of Agriculture and Food Sciences

Figure 5: An initial version of the Map of Agri-food Data Ecosystem page

2 TECHNOLOGY BACKGROUND

The technical stack that is used for the implementation of the website is described below.

2.1 HARDWARE & SOFTWARE SPECIFICATIONS

The e-ROSA website is deployed in a single virtual machine (VM). The Greek Research and Technology Network (<https://grnet.gr/en/>) provides the required infrastructure through the cloud service OKEANOS (<https://oceanos.grnet.gr/home/>).

Name	VM Specifications
Hosting Organization	Greek Research and Technology Network
Cloud Service	OKEANOS
CPU Cores	8
RAM (GB)	8
Hard Disk (GB)	200

Table 1: e-ROSA website virtual machine specifications

The operating system of the VM is an Ubuntu 16.04.1 LTS, (<http://releases.ubuntu.com/16.04/>), in which are installed the following software components that are necessary for the deployment of the e-ROSA website:

- 1) Apache HTML Server 2.4.25: Apache HTML server is a set of maintained developers under the auspices of the Apache Software Foundation and one of the most popular HTTP servers (<https://httpd.apache.org/>). Apache HTML Server has been selected because of its core support to several popular languages such as PHP, Perl and Python.
- 2) MySQL 5.7.17: MySQL is a widely adopted open-source relational database management system (<https://www.mysql.com/>). MySQL is available under the “GNU General Public License¹” and is compatible with several Content Management Systems (CMS) such as Drupal and Joomla.
- 3) PHP 7: PHP is one of the most popular server-side programming languages primarily used for web development and is available under the PHP License (<https://www.php.net>). Also, PHP is the core language for popular CMSs such as Drupal and Joomla.
- 4) Drupal 7: Drupal is an open source CMS with active support and a large user community that contributes to the further development of the CMS (<https://www.drupal.org/drupal-7.0>). It combines all the aforementioned software components in a straightforward manner, thus enabling the rapid deployment of websites.

Name	Version	URL
Apache HTML Server	2.4.25	https://httpd.apache.org/
MySQL	5.7.17	https://www.mysql.com/
PHP	7.0	https://www.php.net
Drupal	7.0	https://www.drupal.org/drupal-7.0

Table 2: Software components of the e-ROSA website

¹ <https://www.gnu.org/licenses/licenses.html#GPL>

2.2 CONTENT MANAGEMENT SYSTEM

A content management system (CMS) is a software tool that allows users to add, publish, edit, or remove content from a website, using a web browser on a smartphone, tablet or desktop computer. Typically, the CMS software is written in a scripting language and its scripts run on a computer where a database and a web server are installed. The content and settings for the website are usually stored in a database and for each page request that comes to the web server, the scripts combine information from the database and *assets* (JavaScript files, CSS files, image files, etc. that are part of the CMS or have been uploaded) to build the pages of the website. The combination of the operating system that the CMS runs on, the scripting language it is written in, the database it stores its information in and the web server that runs the scripts to retrieve information and return it to the site visitor's web browser is known as the *stack* that the CMS runs on; the commonly used combination of the Linux operating system, Apache web server, MySQL database, and PHP scripting language is known as the LAMP stack.

The CMS that was selected to be used for the e-ROSA website is Drupal. Drupal is a flexible CMS based on the LAMP stack, with a modular design allowing features to be added and removed by installing and uninstalling modules, and allowing the entire look and feel of the website to be changed by installing and uninstalling themes. The base Drupal download, known as Drupal Core, contains the PHP scripts needed to run the basic CMS functionality, several optional modules and themes, and many JavaScript, CSS, and image assets. Drupal is probably the solution that is most widely used for applications other than websites, especially in the agri-food sector. It can provide the shell for interconnecting various types of systems, allowing for instance the integration of DSpace² with Drupal but also the interoperability with other systems through APIs or by providing access to them through the user interface. Drupal has also been used in several cases in the agricultural information and knowledge management domain and is known to have great flexibility in terms of interconnection with other platforms.

² <http://www.dspace.org/>

3 IMPLEMENTATION AND UPDATE STATUS

Since the project's kick off, the website of e-ROSA started to operate containing core information such as the project's objectives, details about the consortium and the coordinator as well as contact details. As the project evolves, the "Results" category will be populated with public project deliverables and publications, while the remaining sections will include information regarding the roadmap and various activities that will be undertaken for the promotion of the project.

A list of the public deliverables that will be uploaded in the website is provided below (see Table 3).

Deliverable Number - Title	Publication Time
WP1 - Ecosystem & Community	
D1.1 - Bibliometric study results	Month 3
D1.2 - Online map of stakeholders & resources	Month 12
D1.3 - Online map of stakeholders & resources	Month 18
D1.4 - Synthesis of results & contribution to roadmap	Month 6
D1.5 - Synthesis of results & contribution to roadmap	Month 12
D1.6 - Synthesis of results & contribution to roadmap	Month 18
WP2 - Challenges & Ambitions	
D2.1 - Identification of Grand Challenges	Month 5
D2.2 - Impact chains and science solutions	Month 16
WP3 - Roadmap co-Design & Uptake	
D3.1 - Community Building and Fine-Mapping Workshop	Month 6
D3.2 - Challenges & Solutions Envisioning Workshop	Month 11
D3.7 - Foresight Roadmap Paper	Month 18
D3.8 - Roadmap Presentation in Brussels	Month 18
WP4 - Project Management & Dissemination	
D4.3 - Public project website	Month 4

Table 3: List of public project deliverables

The data (i.e. other than deliverables and publications) related to the e-ROSA project will be made publically available according to specific management guidelines that support the H2020 Open Access Policy (e.g. via the data repository Zenodo³). These guidelines will be elaborated under the Project Management Guidelines (Deliverable D4.1) as part of the Annex on the Data Management Plan.

³ <https://zenodo.org/>

4 EXPECTED IMPACT

The website of e-ROSA aims to be the key vehicle for disseminating the project's progress and outcomes online. As specific sections of the website are going to link with external platforms such as FAO AIMS, the e-ROSA website seeks to act as a gateway for the interaction of various agricultural stakeholders. For that purpose, data and useful information made available by project partners will be used to interact through the website platform and social networking tools. From a communicational aspect, the website will operate in parallel with a variety of channels and its main objective will be to create awareness and support the activities of the project. As the project takes a multidisciplinary approach, the integration of the various stakeholders and their mutual understanding is of key importance to ensure its success. This will be achieved by applying an interactive perspective, promoting information exchange from partners and stakeholders using all means (especially e-ROSA social media) for effectively communicating knowledge.