InComEss

Innovative polymer-based composite systems
for high-efficient energy scavenging and storage

Deliverable

D9.1 Project Website

Deliverable Lead: Core Innovation

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EXECUTIVE SUMMARY / ABSTRACT

A website was created for the InComEss project as Deliverable 9.1 as part of Work Package 9, "Exploitation, dissemination and communication" and is hosted at https://www.incomess-project.com/. The website's design, development and maintenance are carried out by project partner CORE INNOVATION (CORE). The website was designed and developed by an internal designer at CORE, and content was created, edited, and developed internally. CORE will continue to maintain and update the website in cooperation with the other project partners throughout the course of the project. The website represents the project's primary method of communication within the Consortium and with external stakeholders as well as the wider public.

SCOPE

InComEss deliverable D9.1 describes the website created for external and internal communication about and on the project. This deliverable relates to Work Package (WP) 9 "Exploitation, dissemination and communication", task T9.1 "InComEss Website" which describes the website as "a tool to ease the collaboration between partners and to share information".

The Privacy Policy of the website, as well as additional information regarding data processing are available on the website in order to inform the site's users about the processing of their personal data, whether applicable, when using or accessing to the website.

The Privacy Policy will reflect the privacy arrangements agreed by the consortium's members and will include a specific "cookies policy" explaining what cookies are present and how they are used.

1 The Project Website Structure

1.1 Website domain

The website is accessible at: https://www.incomess-project.com/. It was built in the squarespace platform mainly for practicality reasons as it offers many features in terms of fonts and tools (such as the calendar). It also gives the ability for easy updates which is essential in this case, as the InComEss website will constantly be updated throughout the project's lifetime to include all the project news and developments.

1.2 Website Navigation Tree Map

Figure 1.1 shows the website tree map which was the basis for the creation of the InComEss website. All different main pages and subpages of the website are presented in the map providing a clear image of the logic flow that was followed in creating it. The general idea is to move from a more generic presentation of the project to more specific and technical details as the visitor navigates further into the website.
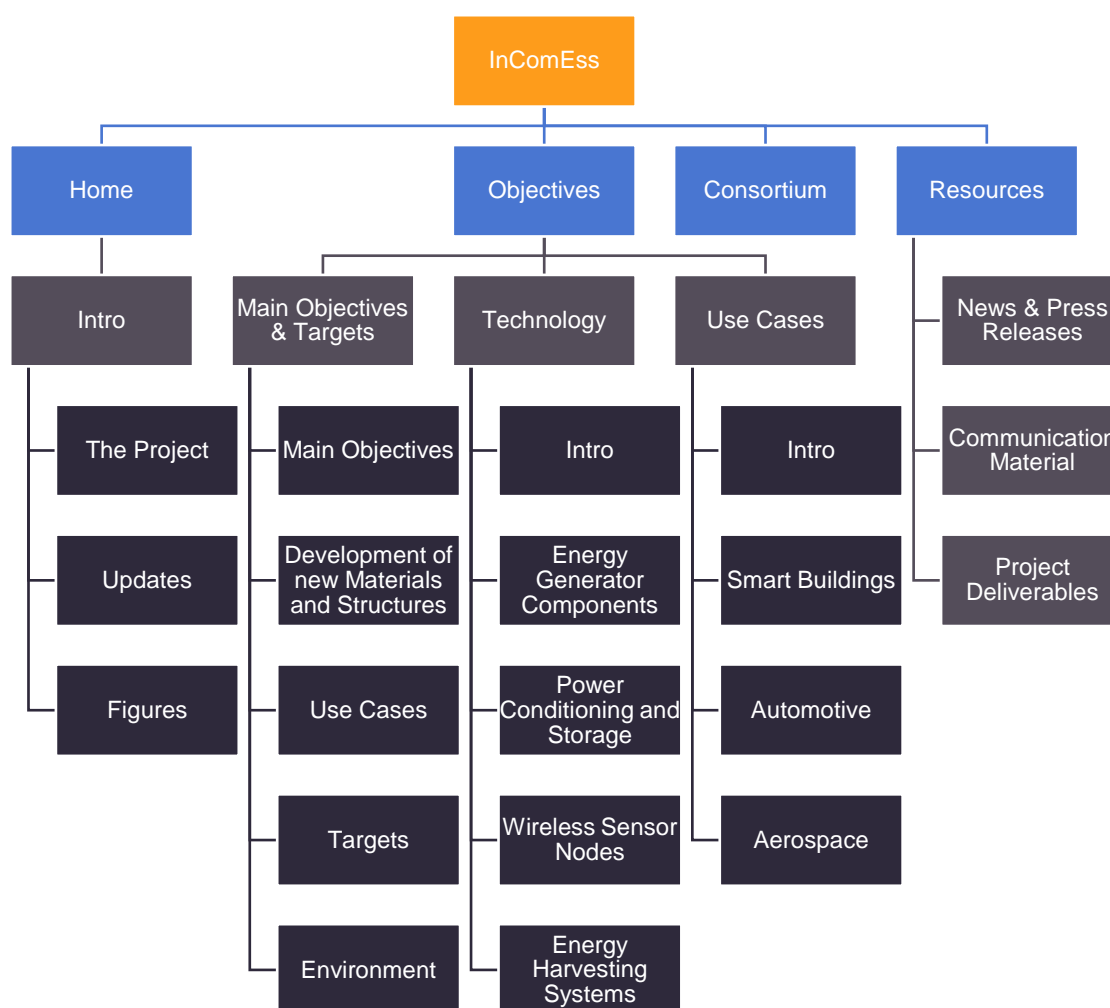

Figure 1.1: Website tree map

All pages of the website have on the top-left the InComEss logo and links to the social networking channels of the project on the top-right. In the footer of each page there is reference to the HORIZON 2020 funding by the European Union, the Coordinator, the Communication Manager, and the Privacy Policy. Links to the main pages "Home", "Objectives" ("Main Objectives and Targets", "Technology", "Use Cases"), "Consortium" and "Resources" (News & Press Releases, Communication Material, Project Deliverables) are included on the header and footer, i.e. a navigation pane accessible from all sub-pages.

1.2 Essential Technical Features

The technical features adopted in the website are:

• Fully responsive: all website contents and pages have a mobile-ready version

• Cross platform desktop browsers compatibility: website supports five major desktop browsers (Chrome, Safari, Firefox, Edge, Internet Explorer).

1.3 Aesthetic elements

The website follows a semi-continuous flow design, with "Learn More" buttons to navigate to the next pages, without requiring to make selections from the navigation pane, as well as pop-up panes to offer more information without moving away from the current page. The background colour was selected to be dark, in order to be more environmentally friendly, and to allow a nice contrast with the orange colour of the logo and the illustrations that were designed specifically for the description of the technologies of this project. All photos are royalty free, respecting their usage rights, and their choice was based on the depicting of the accompanying text to maximise the cognitive workload.

Animated images/visuals and diagrams have been added, mainly in the pages where the technology is described, to facilitate the comprehension of the innovation pursued and increase awareness of the project's visual identity.

2 Main Pages and Essential Interactive Elements

2.1 Main Menu – Navigation Pane on Header

InComEss project web contents are divided into 4 main sections as shown in Figure 2.1.

Figure 2.1: Main menu - Navigation Pane

1. **Home**: It provides a brief description of the project and its objectives, a central hub to help the visitor navigate more easily to the subsequent pages of the website, a section with updates to provide immediate access to news and subscription methods to the project's information channels and finally some of the project's main facts in numbers, highlighted.

2. **Objectives**: This cluster of pages nested under a dropdown menu, as shown in Figure 2.2, contain the main concept of the project, an overview of state-of-the-art technologies, materials that will be developed and respective use cases separated in three subsections:

> **Main Objectives and Targets**: A brief explanation of the project's technological innovation aim, followed by general Targets and the Environmental Impact.

> **Technology**: A more detailed presentation of the technology innovation that InComEss project will pursue.

> **Use cases**: A presentation of the three use cases where the InComEss technology will be implemented.

Figure 2.2: Dropdown Menu - Objectives

3. **Consortium**: Introduction of the consortium partners, with a short description, their logos, and link to their websites.

4. **Resources**: This cluster of pages nested under a dropdown menu, pictured in Figure 2.3, provides up-to-date information about the course of the project and important resources material for different purposes. They consist of:

> **News & Press Releases**: A page that operates as a hub to connect with the audience and communicate the project's up-to-date state, offering news and multiple subscription/follow methods to the different communication channels that the project will use (i.e. Newsletters, social media).

> **Communication Material**: A page to provide quick access to the Communication Material of the project like the logo, posters, flyers etc.

> **Project Deliverables**: A page dedicated to the presentation and archive of the public Project Deliverables.

Figure 2.3: Dropdown Menu-Resources

2.2 Footer Section

The footer Section, as described above and shown in Figure 2.4, contains the reference to the HORIZON 2020 programme funding by the European Union, with the official EU logo and the Project's Grant Agreement number. The Privacy Policy, as well as the Project Coordinator and Communication-Dissemination Manager with respective contact details are also incorporated in the footer for easier access. A section with links to the main website pages is also included to facilitate the visitor and avoid scrolling all the way to the top.
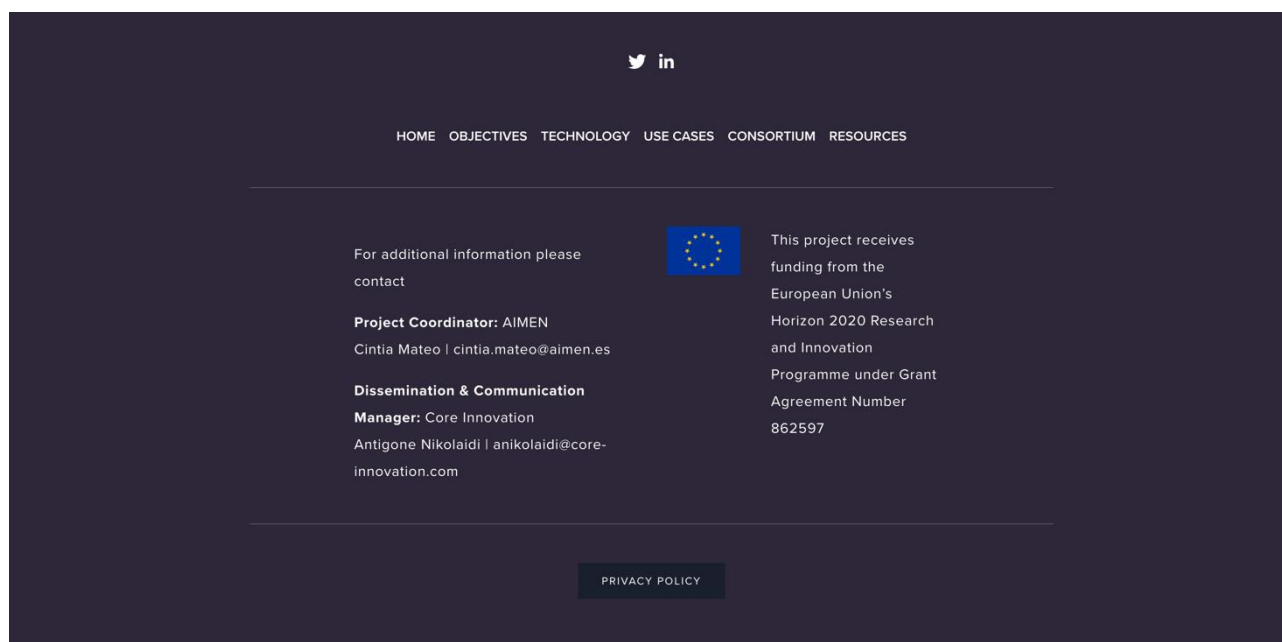

Figure 2.4: The Footer of InComEss website

2.3 Home Page

As it can be seen in Figure 2.5 and Figure 2.6 the homepage introduces the project to an external audience and includes links to every major section of the website. It presents the InComEss project

at a glance and explains its main goals. Links were also introduced, in the form of buttons that lead to the main sections of the website for a frictionless browsing experience.
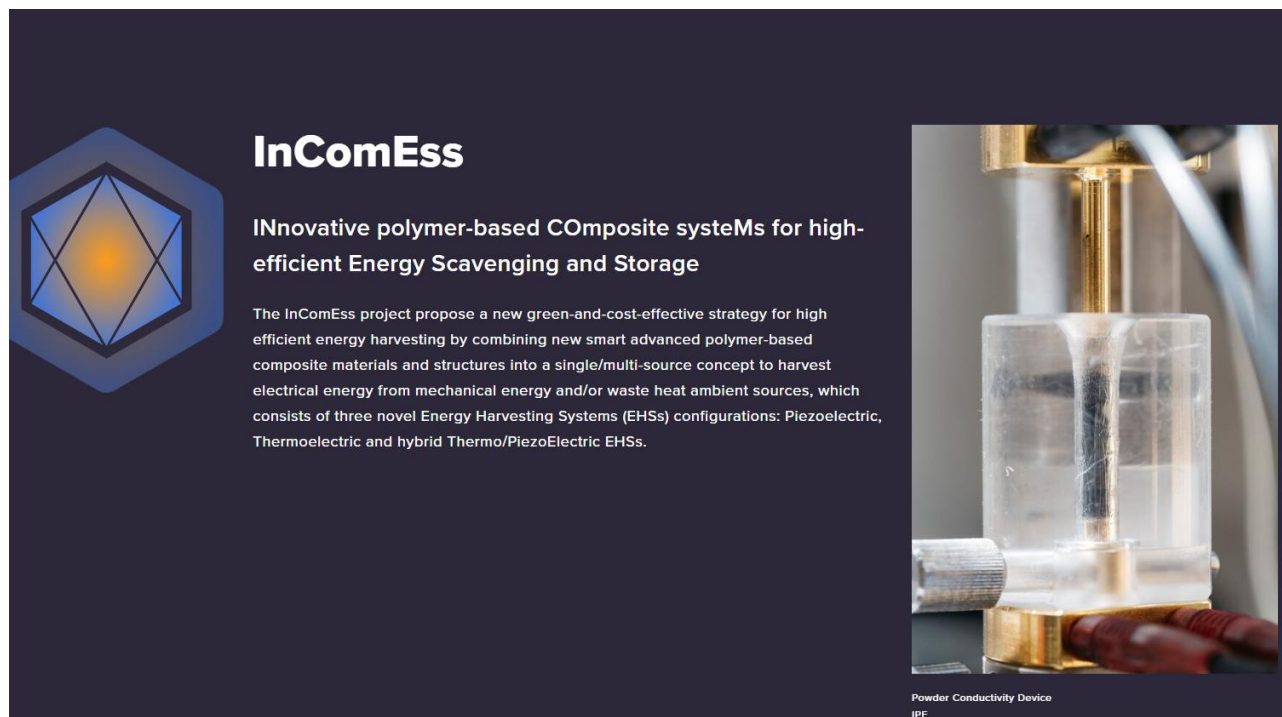

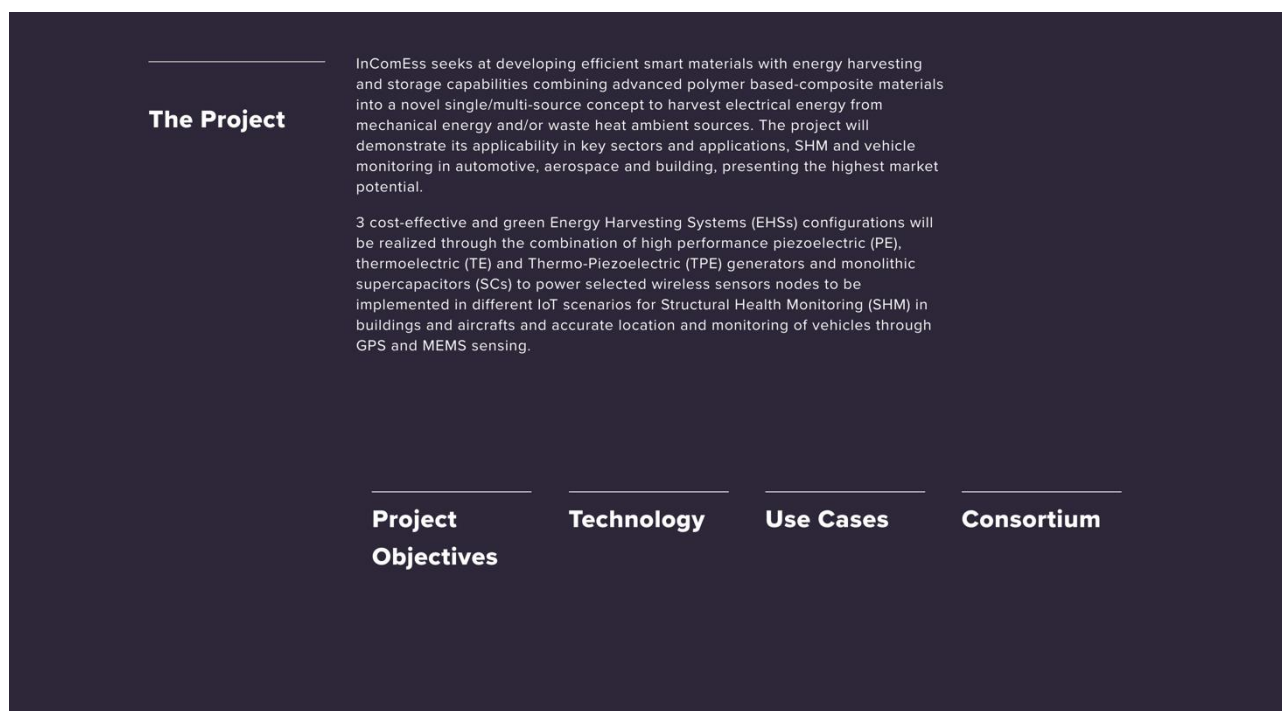**Figure 2.5: Intro Part of the Home page**

Figure 2.6: Main pages Links and General information part of the Home Page

The next section of the Home page, shown in Figure 2.7, provides a hub with updates to grant immediate access to news and subscription methods to the project's information channels (i.e. Newsletter, Social Media) and includes a calendar where events relevant to the project will be added.

Figure 2.7: Updates hub on the Home Page

The final section of the Home page, as presented in Figure 2.8, includes a list of some of the project's main facts in numbers regarding its duration, funding and consortium.
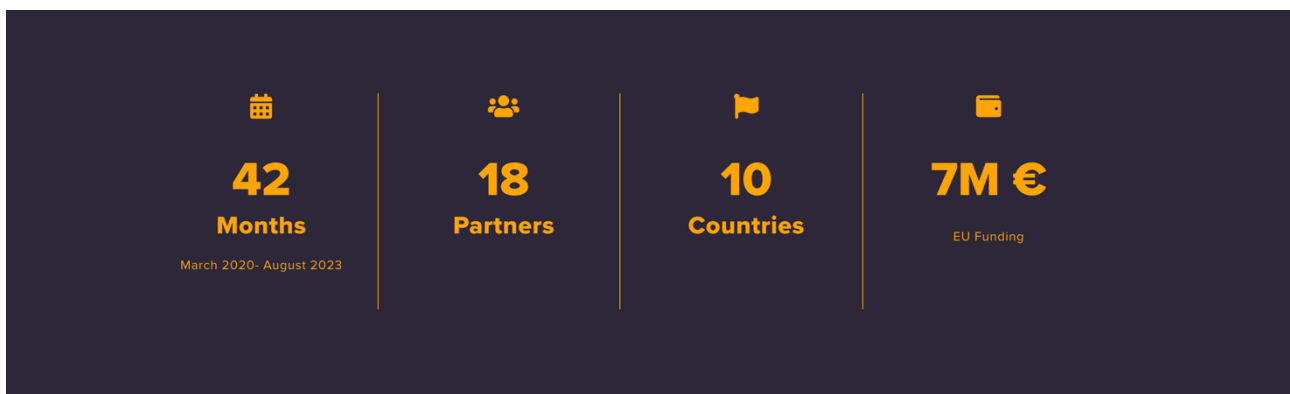
Figure 2.8: General Information and figures

2.4   Objectives
2.4.1   Main Objectives and Targets

The first part of the page, pictured in Figure 2.9, provides a general description of the main objectives of the project along with a diagram-illustration to facilitate comprehension. The project's aim is to develop efficient smart materials with energy harvesting and storage capabilities combining advanced polymer based-composite materials into a novel single/multi-source concept to harvest electrical energy from mechanical energy and/or waste heat ambient sources.

Figure 2.9: Main Objectives

Following the general description, an animated diagram is displayed, which can be seen in Figure 2.10, that explains the general structure of the project and the several technological parts and innovations that will comprise the Energy Harvesting Systems that will in turn power Wireless Sensor Nodes and IoT applications in three Use Cases categories: Smart Buildings, Automotive and Aerospace.
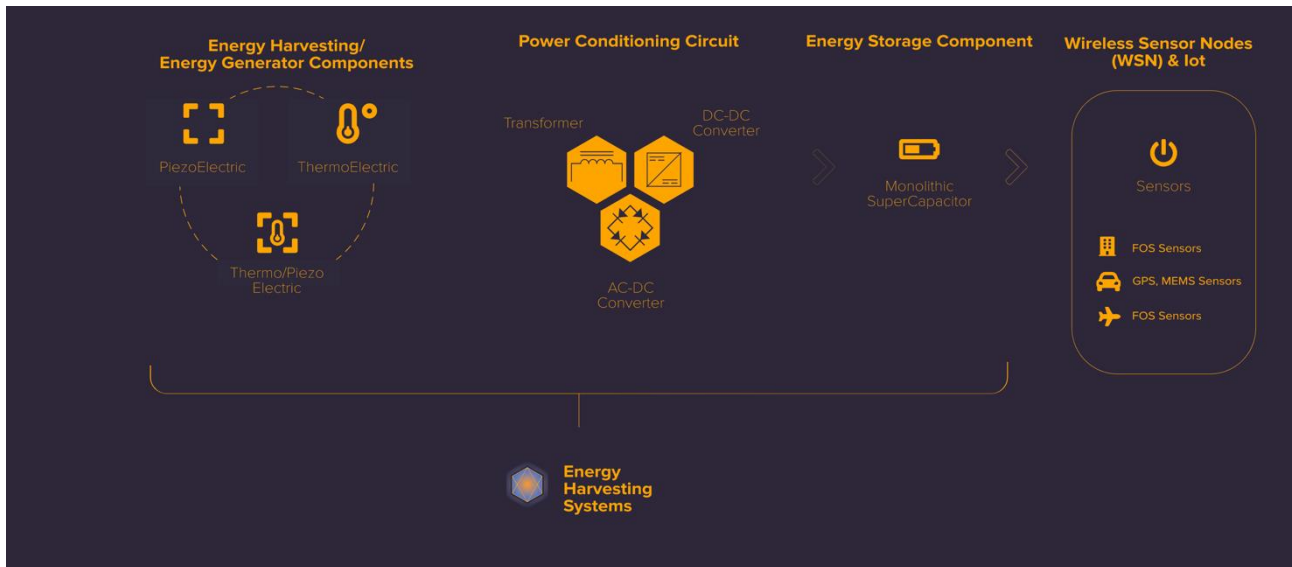

Figure 2.10: Animated diagram that explains the general structure of the project

Further down, the rest of the page is designed in a schematic way to describe the innovation materials that the project will develop, which will be used in the different components that constitute the Energy Harvesting Systems. In the end, the page contains a brief presentation of the Use Cases in which they will be implemented. A link to the Use Cases page is also provided, where the visitor can read more on the subject.
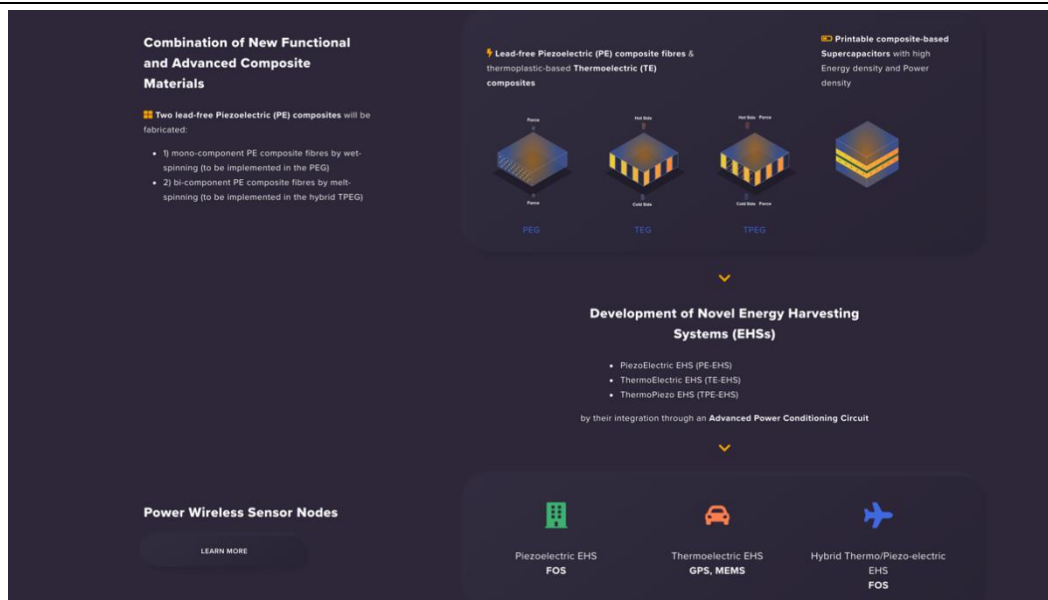
Figure 2.11: Schematic page structure to describe the innovation materials, components and use cases

In Figure 2.12 can be seen the last part of the Objectives page where the project's general targets focusing mainly on performance, costs and efficiency are presented. Below them, the environmental targets of the project are presented accompanied with figures to help move the message of the project's environmental responsibility across.
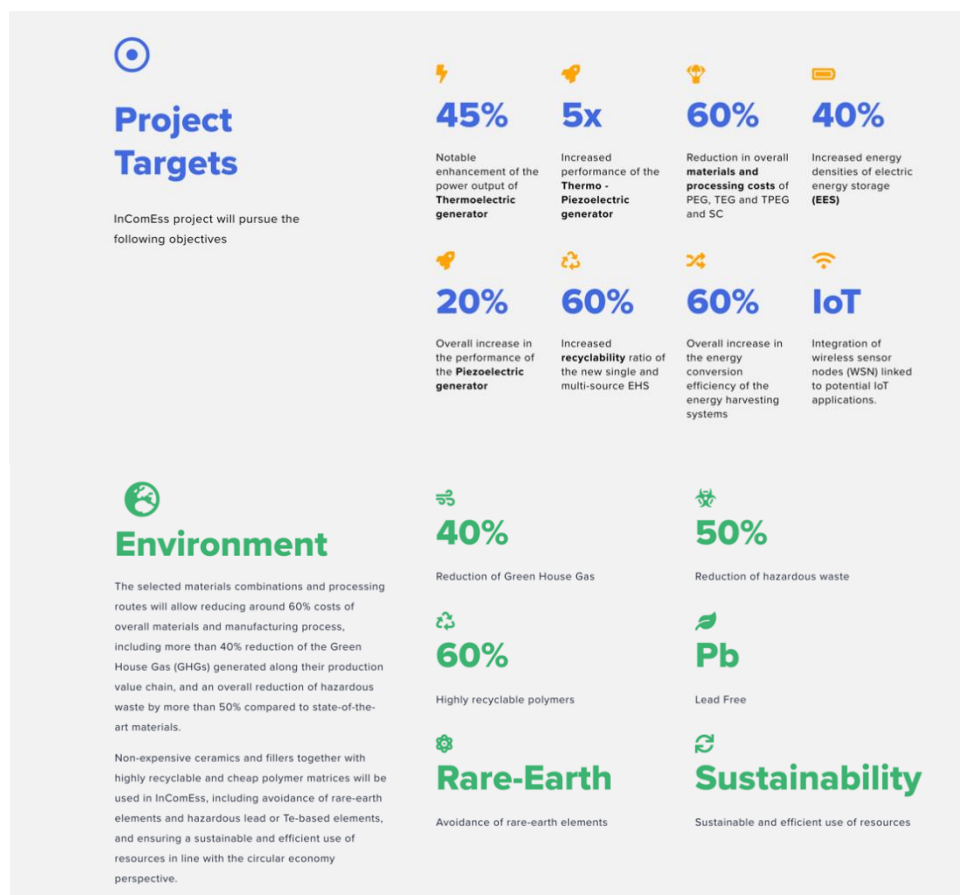

Figure 2.12: General Targets and Environmental Impact

2.4.2 Technology

As the visitors browse the website, they navigate deeper into the technological and technical details of the project. In the Technology page a brief but thorough description of the technological innovations is presented. Throughout this page an extensive use of diagrams and illustrations was selected to help describe the technical details in a more straightforward way. Every illustration is in SVG to ensure optimal readability on any screen size.

In the first section of the page, presented in Figure 2.13, a diagram-illustration is displayed that explains in a single image the general structure of the technologies proposed and the way they interact with each other in order to create Energy Harvesting Systems that harvest mechanical and/or thermal energy to power FOS, GPS and MEMS sensors. Each part of the technology presented in the diagram operates as a link to the respective section further down the page where the specific technological part is defined in more detail. A text section follows this illustration that offers more information on the materials and the technology that the visitor will see in the next sections.

Figure 2.13: Energy Harvesting Systems

In the next section, each individual component of the InComEss proposal is examined in further detail. A schematic illustration of the component followed by an easy-to-understand list of basic properties with icons in orange color with more details are accessible via Learn More buttons or in the same place. The different components are:

> **Energy Generator Components**: Three different methods of energy harvesting: PiezoElectric, ThermoElectric, Thermo/PiezoElectric - Figure 2.14
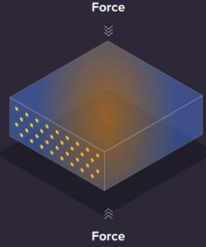
> **Power Conditioning Circuit**: To manage and increase the available energy - Figure 2.15

> **Energy Storage Component**: A Monolithic Supercapacitor that stores the energy produced by the energy generators - Figure 2.15

> **Wireless Sensor Nodes (WSN) & IoT**: Wireless sensors and IoT incorporated in Smart Buildings, Automotive and Aerospace - Figure 2.16
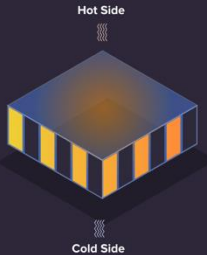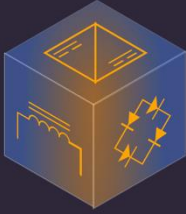
Figure 2.14: Generator Components

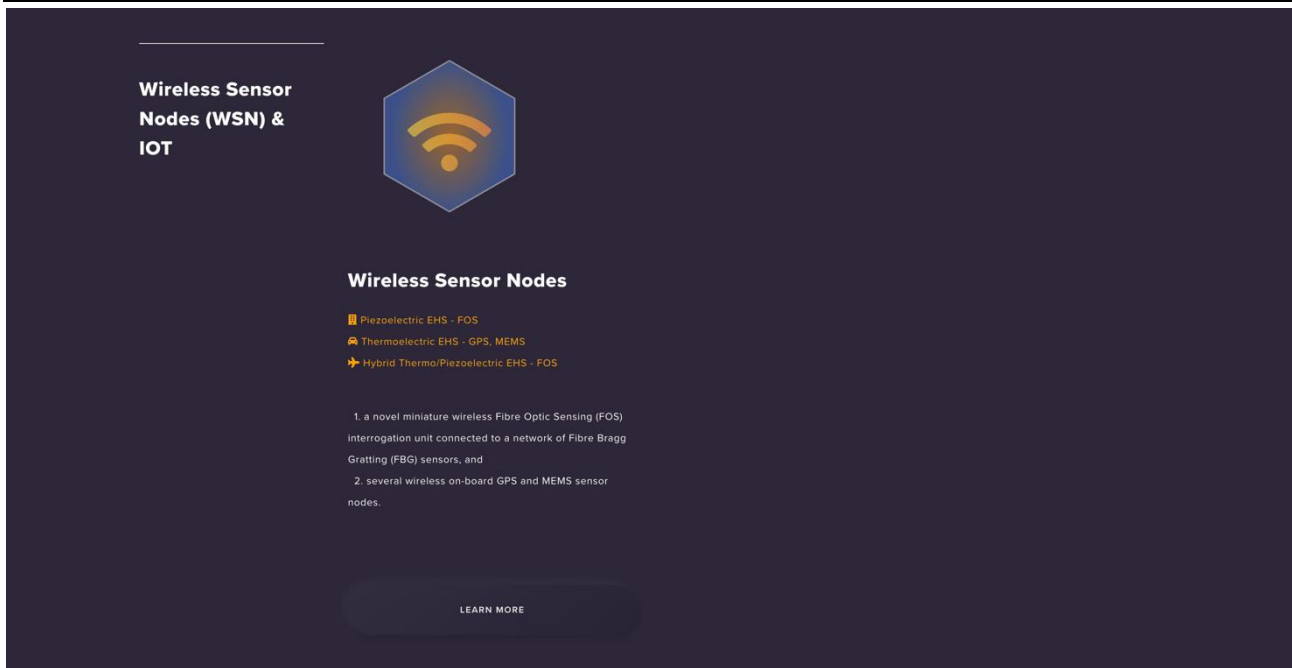**Figure 2.15: Power Conditioning Circuit and Energy Storage Component**

Figure 2.16: Wireless Sensor Nodes and IoT

Finally, to summarize all of the above, an illustration along with more information of the integrated Energy Harvesting Systems are presented and can be seen in Figure 2.17.
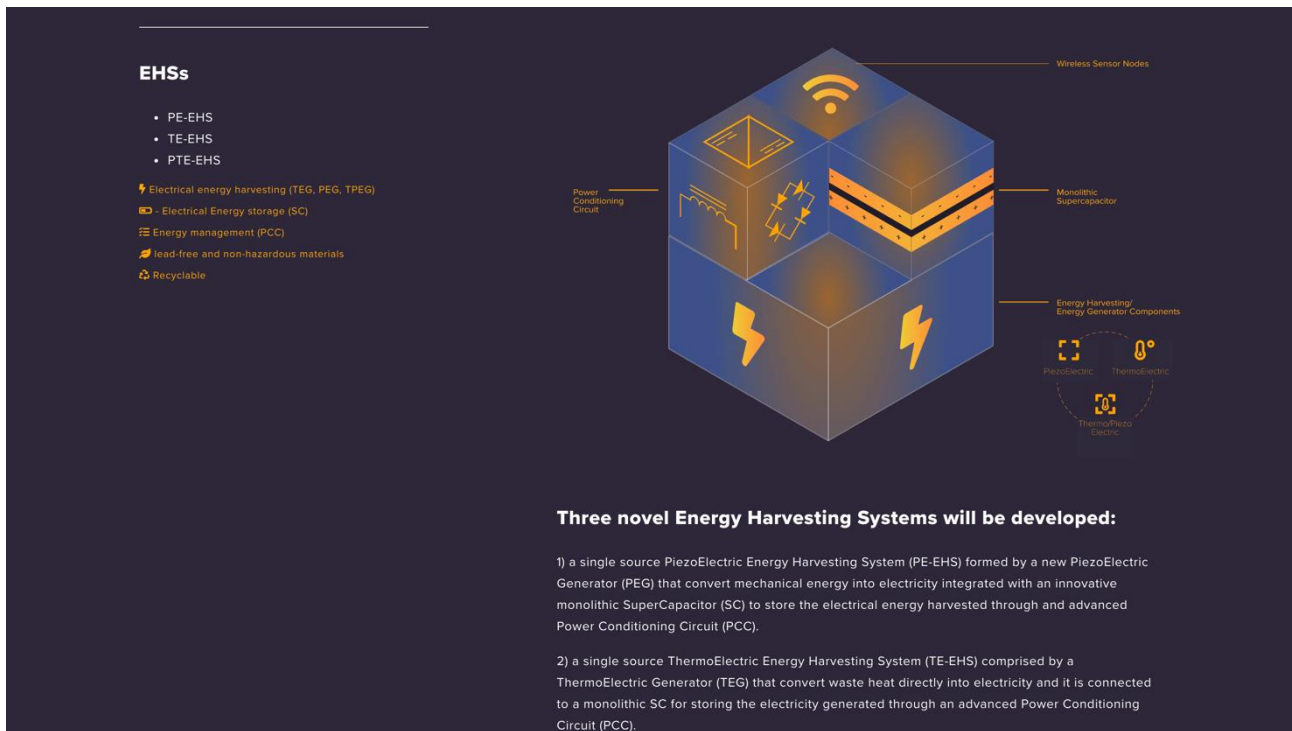

Figure 2.17: Integrated Energy Harvesting Systems

2.4.3 Use Cases

This page delves into the specific use cases on which the technology will be implemented. In the beginning of the project's lifetime this page offers a brief description of the technology's applicability in key sectors and applications, vehicle monitoring in automotive, Structural Health Monitoring (SHM) in aerospace and building, presenting the highest market potential. In the future CORE INNOVATION will update it to reflect the outcomes of the research in time.

The first part, shown in Figure 2.18, acts as an intro page and offers a brief description of the use cases along with three buttons that operate as shortcuts to take the visitor further down the page where they could find more information about each specific use case.
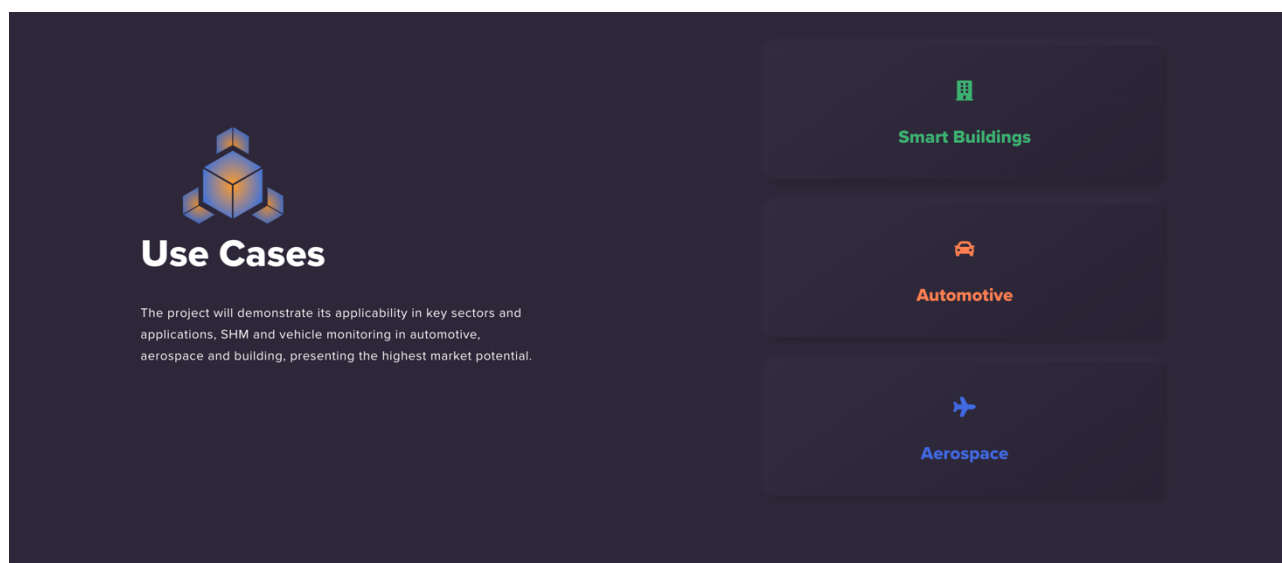

Figure 2.18: Use Cases page Intro Section

Further down this page more information is presented about the implementation of the InComEss technology on Smart Buildings (Figure 2.19), Automotive (Figure 2.20) and Aerospace (Figure 2.21). A brief description is accompanied by the logo and images of the respective partners who will take the responsibility of the realisation.
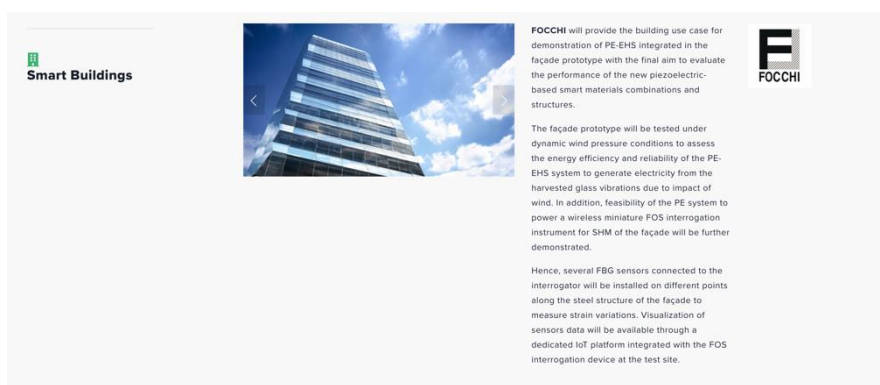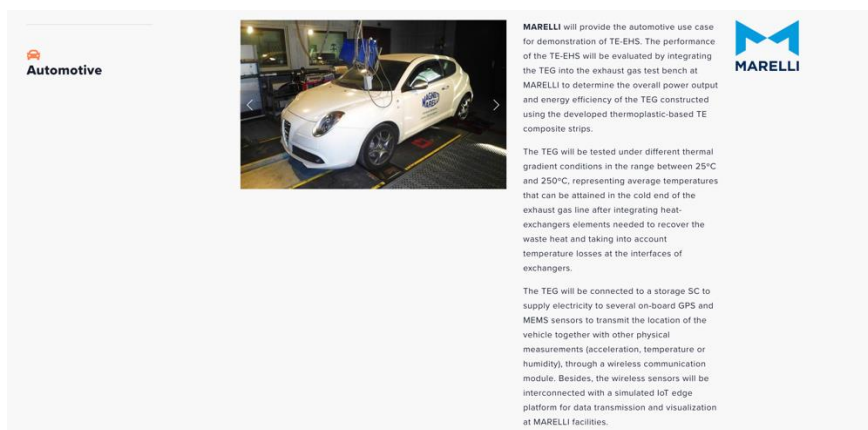

Figure 2.19: Smart Buildings Use Case

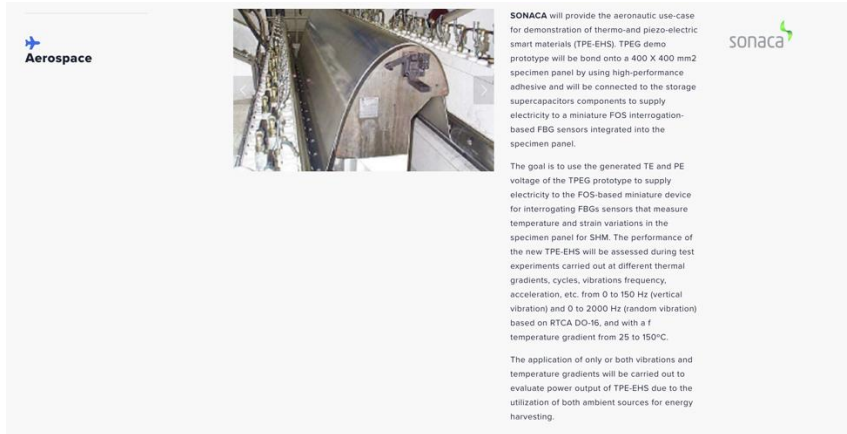
Figure 2.20: Automotive Use Case

Figure 2.21: Aerospace Use Case

2.5 Consortium

This page is dedicated to the presentation of the companies and organisations that comprise the project's consortium. A simple grid of logos is displayed, as shown in Figure 2.22. In the event of a click on a logo a pop-up window offers a short description of the company accompanied by a link to the respective website for further information. In Figure 2.23 can be seen such an example.
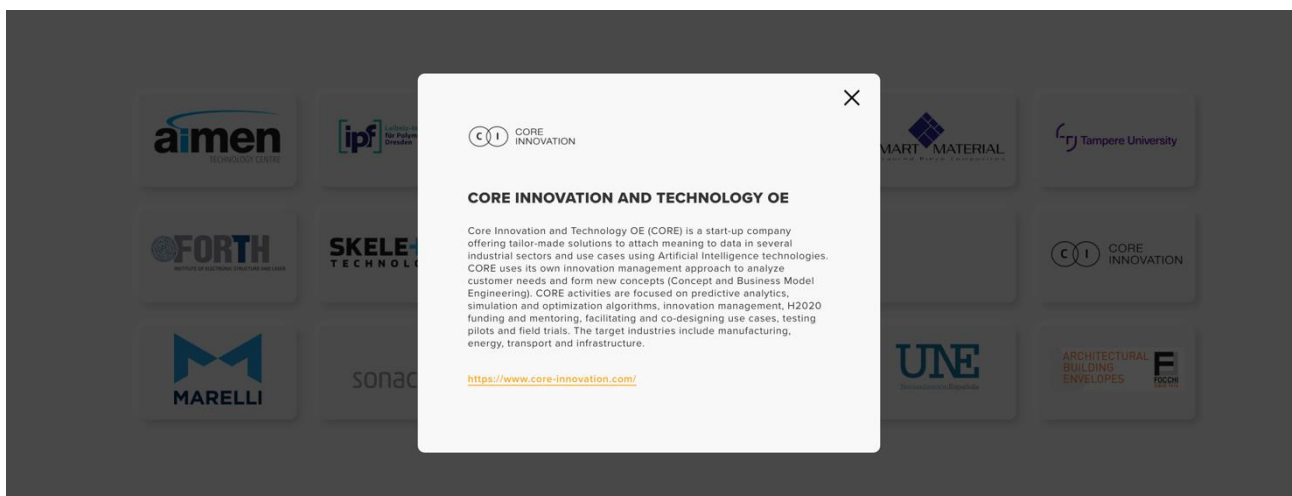

Figure 2.22: Consortium Page

Figure 2.23: Company pop-up pane

2.6   Resources

2.6.1   News and Press Releases

The News and Press Releases page works as a hub to connect with the audience and communicate the project's up-to-date state offering news and different subscription modes to the different communication channels that the project will use (Newsletters, social media, etc). Right now, as it can be seen in Figure 2.24, the page also includes a calendar where relevant events will be added and one of the recent tweets from the InComEss twitter account.
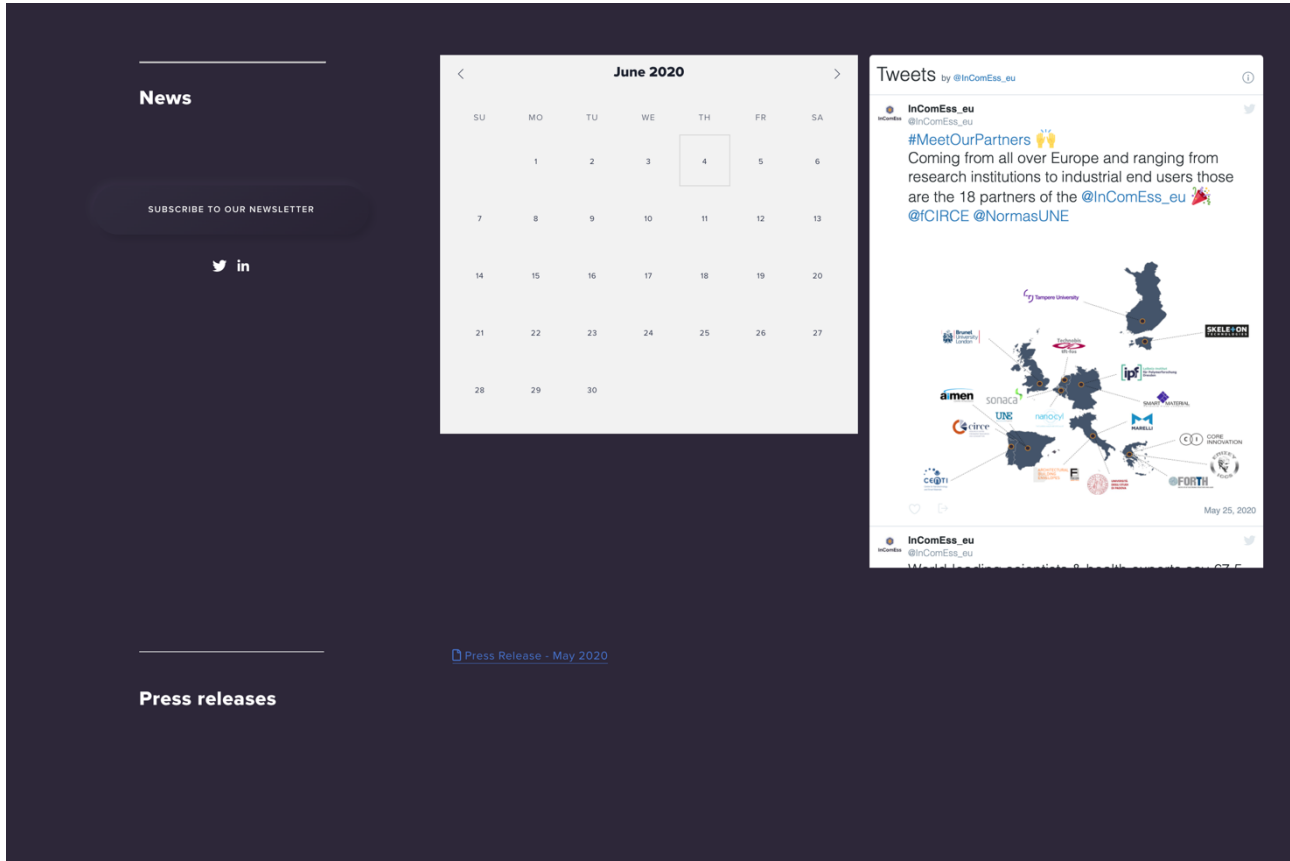

Figure 2.24: News and Press Releases page

2.6.2   Communication Material

The Communication Material page provides quick access to the Communication Material of the project like different versions of the project's logo, posters, flyers etc.
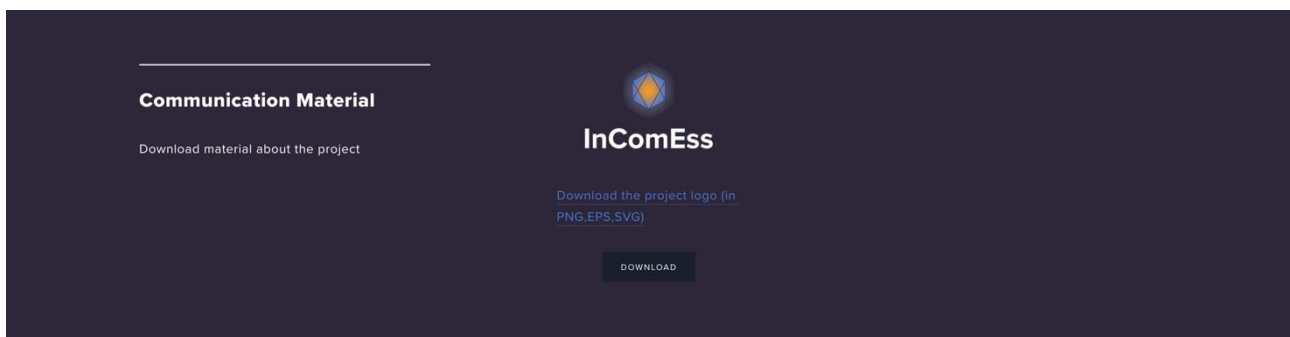

Figure 2.25: Communication Material Page

2.6.3 Project Deliverables

The Project Deliverables page is dedicated to the presentation and update of the Project Deliverables that are designated as "Public" in the GA. They will be uploaded here after approval from the EC.

Figure 2.26: Project Deliverables Page

3 Conclusion & Next steps

The present deliverable is a report of the work performed for the development of the InComEss website and the description of the webpages in it. As the major communication tool of the project, the website will be constantly updated throughout the project duration to reflect the technological achievements and always serve its main purpose, which is to communicate the project and the project results to the target audiences and the wider public in the best possible way. More specifically, the Resources section of the website will frequently be updated to include the new press releases, InComEss' news and relevant events. Communication material, such as posters, leaflet, etc., will also be uploaded there, upon their creation and public project deliverables will be published. All other pages of the website will be updated when and if it is considered necessary as the project progresses.