



PULSE – Plasma reconfigurable metaSurface technologies

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Deliverable: Website and project logo

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¹ **Type:** R = Report, P = Prototype, DEM = Demonstrator, DMP = Data Management Plan, O = Other

² **Dissemination Level:** PU = Public, SEN = Sensitive

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1. Purpose and scope of the deliverable

This document summarizes the website and project logo information and provides social media links, which have been designed during the first two months of the project and released by the due date of April 30, 2023.

2. Introduction to the project

PULSE is a European Project funded under the call *EIC Pathfinder Open 2022*, pursuing the ambitious goal of defining a **new technological horizon for implementing reconfigurable electromagnetic devices** by unifying the research domains of **METASURFACES** with **PLASMA** physics.

Indeed, the widespread proliferation of wireless systems and the emergence of exciting new wireless technologies (such as 5G and beyond-5G communication systems) are rapidly expanding their application fields (Internet of Things, autonomous vehicles, Industry 4.0, Smart Environments and Cities, Factories of the Future, e-Health, etc.), offering novel economic opportunities and bringing benefits to the society. In this framework, **electromagnetic (EM) reconfigurability** represents a *key enabling technology*, as it allows changing in real time the functionalities and the signature of a device, allowing to use it for different purposes and to react promptly against external attacks or to be adapted to different environmental constraints or conditions.

The main objective of the project is to exploit **plasmas-based metasurfaces** as a **radically new technological platform**, which allows to conceive and realize **cutting-edge devices exhibiting novel functionalities**. In particular, the proposed research program aims at revolutionizing the tuning strategies currently employed for artificial metasurfaces as well as introducing brand-new unprecedented functionalities for the next generation of wireless systems. The radically new strategy we investigate in this research project will allow:

- to extend the applicative scenarios of reconfigurable metasurfaces to the millimeter-wave frequency range, where effective and fast tuning approaches are currently not available;
- to define a completely new approach for designing meta-atoms whose properties change both in time and space;
- to provide the scientific and technological fundamentals of an unprecedented family of metadevices composed by shape-varying meta-atoms;
- to improve the power efficiency and the reconfigurable capability of discharge technology with the aim to make plasma MTS a plausible candidate for everyday equipment.

The definition of these unprecedented technological lines, ensuring reliability at high frequencies and fast tunability rates, is of paramount importance to address the requirements of the future information society, especially in the area of **security** and **critical safety** applications. Therefore, we expect this technology to have a **huge social and economic impact**, as it will affect many application fields, such as telecommunication and navigation (compact antennas and EM shields, multi-/narrow-/broad-band, reconfigurable, electronically steerable, jamming resistant), Information and Communication Technologies (antennas embedded in internal/external surface of buildings, cars, aircrafts, mobile phones or wearable tissues open new horizons allowing high data rate interlink communication between users), aerospace, aviation and ground transportation, consumer electronics and health, driven by a major innovation in the physical layer of the future RF, microwave, and mm-wave systems.

3. Project website

The PULSE website is based on the Wordpress Content Management System (CMS), which is an open source product widely used to create dynamic web sites.

The PULSE website can be reached at the following address: <https://www.pulse-pathfinder.eu/>

Please note: The website contents will be updated throughout the project lifetime. The screenshots included in the present version of the document, as well as the description of the website structure, are included for information only and they will be subject to modification and do not represent the final content of the website.

1.1. Website layout

The webpage layout is composed of several sections:

- **Header** – showing the project logo and the links to the social media accounts.
- **Top bar** – it represents the navigation menu and allows the visitors to easily move into website subsections.
- **Page title bar** – it is the horizontal bar placed directly below the menu/header and showing title of the webpage superimposed to static pictures, dynamic pictures (slide), or video contents.
- **Main area** – this area is dedicated to display all the contents of the website, such as: articles, documentation, pictures, and so on. It changes depending on the menu section selected by the user.
- **Footer bar** – this section shows the project name, the EU logo for the acknowledgment of the financial support by the EIC, and the links to the social media accounts.
- **Footer** – this section shows the copyright of the PULSE project.

1.2. Website sections

The PULSE website is composed of different webpages:

- **Home** – This page presents an animated slider illustrating the PULSE project with scrolling images. A brief welcome message introducing the main objective and background of the project is also reported.
- **The project** – This page describes in more details the vision, the objectives and the impact of the PULSE project.
- **The team** – This page presents the consortium and provide links to sub-pages to each of the consortium partners.
- **Results** – In this page all the achievements of the project, such as realized prototypes, scientific publications, public meetings, will be listed.
- **Contact** – The contact section allows users, via form with mandatory fields such as Name and E-mail, to send a message to project managers. The form will be provided with anti-spam and anti-bot protection.

We remark here that this list covers all the contents currently available for the project but the number of sections could be expanded throughout the project lifetime.

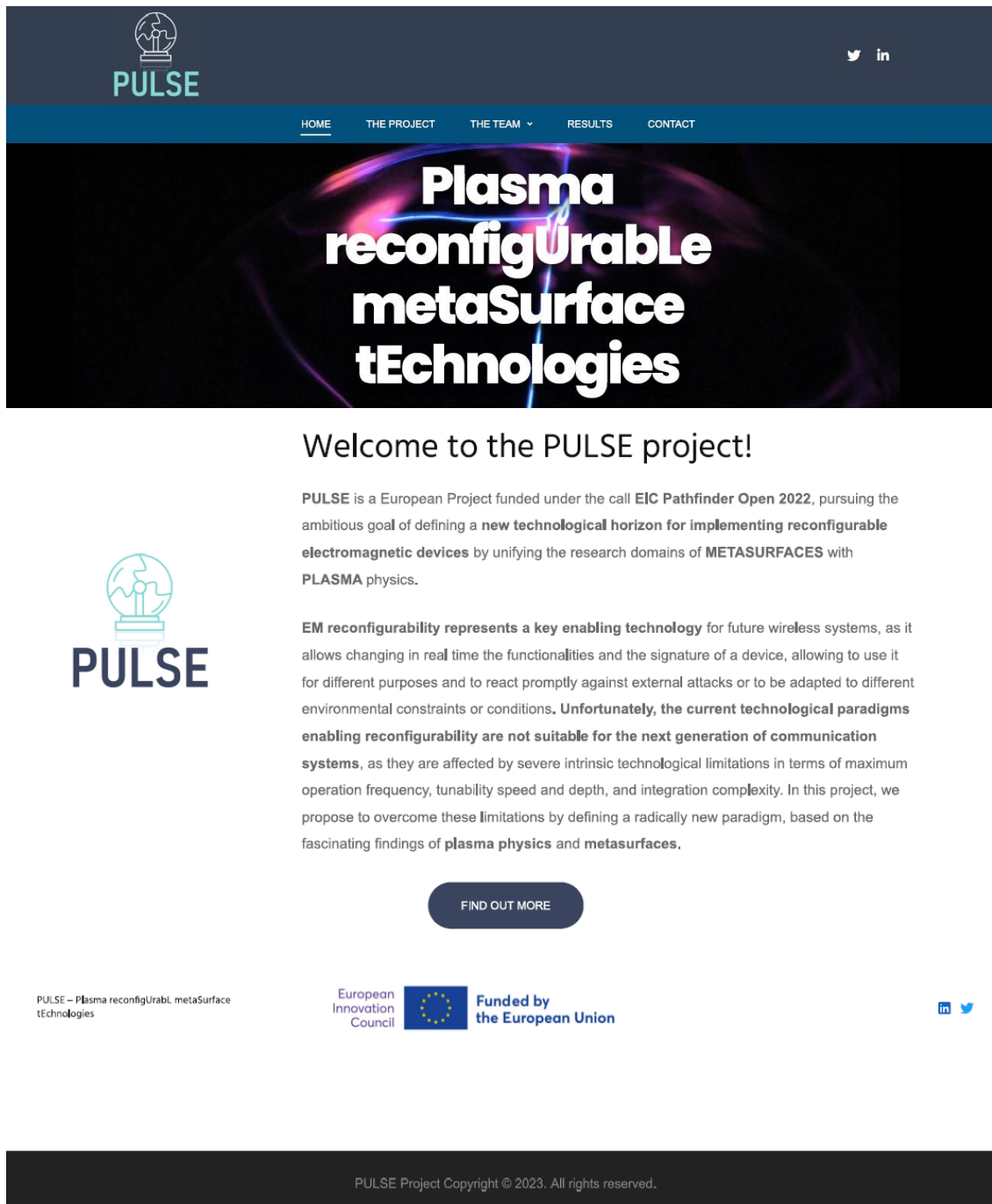


Figure 1: Homepage screenshot of the project website.

4. Logo

An eye-catching and simple logo for the project have been created. Aiming to be used in different media (e.g. social account, website, meeting slides, etc.), a light and a dark version have been designed, which are both reported below:



Figure 2: Light version of the project logo.



Figure 3: Dark version of the project logo.

5. Social media

For further disseminating and communicating the PULSE objectives and results, as well as for creating a community consisting of people who will/may be interested in the PULSE project activities, accounts on different established social media channels are essential. For this reason, the following profiles have been already released online:

- Twitter - <https://twitter.com/PulsePathfinder>
- LinkedIn - <https://www.linkedin.com/company/pathfinder-pulse>

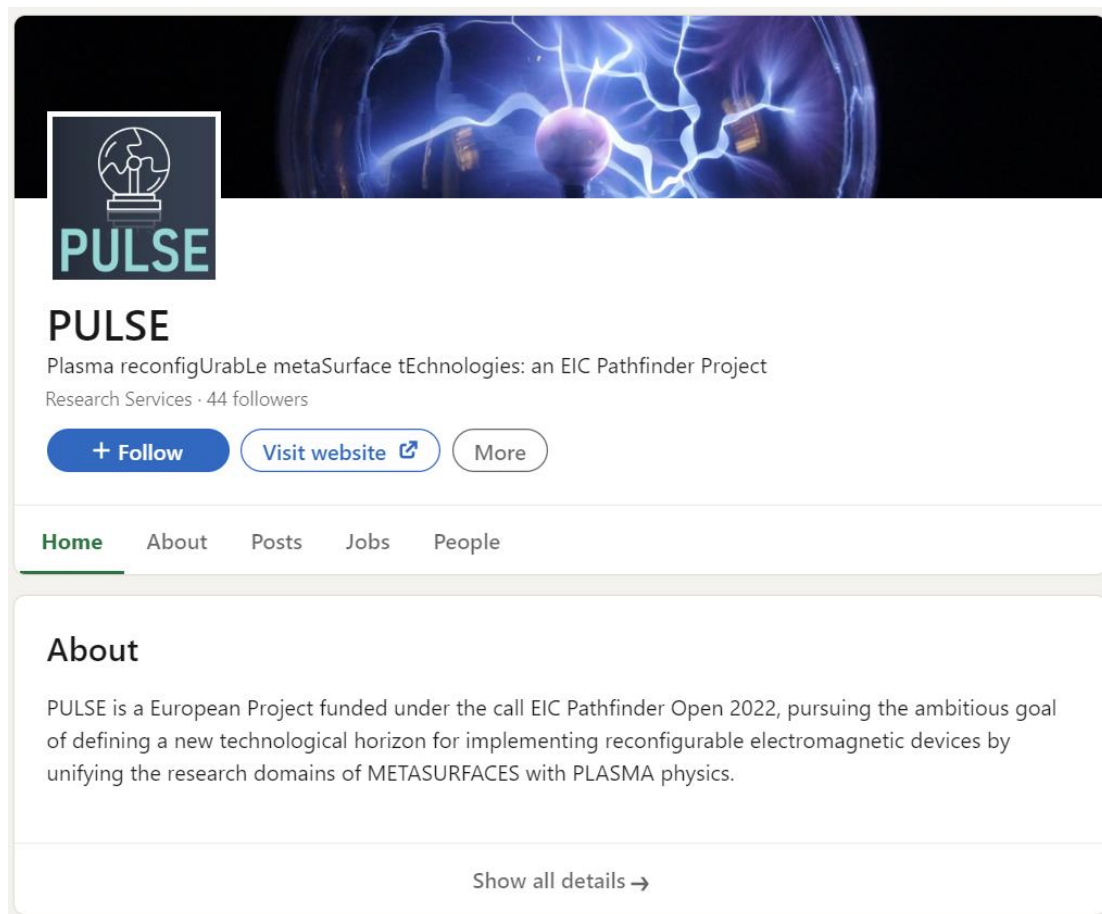


Figure 4: Screenshot of the PULSE profile on linkedIn.



Figure 5: Screenshot of the PULSE profile on twitter.