FLASH

Flexible Laser-Based Manufacturing

D9.2 – Public Website

HORIZON-CL4-2023-TWIN-TRANSITION-01-02.

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FLASH

Flexible Laser-Based Manufacturing

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1st	-	Fátima Zorro / EWF	Final Version
2nd	-	-	-
3rd	-	-	-

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General Information

Project	
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Topic	HORIZON-CL4-2023-TWIN-TRANSITION-01-02
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Executive Summary

The document at hand comprehensively outlines the structure and purpose of the public website associated with the FLASH project. Serving as a critical tool for dissemination, the project website assumes a central role in presenting FLASH to project stakeholders and a broader audience. Functioning as an informative platform, it articulates essential project information to the general public, encompassing details regarding the consortium, objectives, and operational framework. Furthermore, the website integrates links to FLASH's social media platform, thereby enabling the swift dissemination of news and updates.

Introduction

FLASH Project

The FLASH initiative aims to revolutionize manufacturing by harnessing the advantages of laser technology to achieve flexible and customizable production. Traditional manufacturing tools were designed for stability and uniformity, but with shorter product lifecycles and increasing demand for mass customization, the need for flexibility is paramount. Laser-based processes offer greater flexibility, efficiency, and precision compared to traditional methods.

However, current laser-based technologies still face limitations, such as existing machines being tailored for specific applications, traditional processes struggling with advanced materials like composites and highly reflective materials, there's a lack of expertise, making process design slow and costly.

To address these challenges, FLASH proposes advancements in laser machining technology, focusing on:

1. Integrating multiple laser sources and beam delivery heads into a single module.
2. Implementing dynamic beam shaping.
3. Developing in-process monitoring and control systems.
4. Enhancing process design for laser-based manufacturing.

The FLASH platform will feature a hybrid robotic/CNC setup with advanced digital infrastructure for process design, monitoring, and control. It aims to create a future-proof system capable of performing a wide range of production processes on various materials, enabling the flexible manufacturing of complex products such as orthopaedic implants, micro tools, automotive components, and more.

Branding

Establishing a robust project identity is crucial, as it ensures cohesive alignment across all developed materials. To achieve this, there was a focus on addressing three fundamental questions:

- What is the project about?
- What is the main aim of the project?
- What is the impact and innovation of the project?

All these inquiries will find their answers on the project webpage.

The public website is one of the most relevant dissemination and communication tools of the project, as it provides a platform to efficiently convey the more important information about project FLASH. Through its interface, stakeholders and the wider public gain access to a comprehensive overview of the project's objectives, challenges, and proposed solutions. Thus, the website serves as a conduit for facilitating a nuanced understanding of the project's focal points, including its commitment to innovation, laser processing, and technology. Therefore, to visually capture the idea of “Flexible laser-based manufacturing through precision photon distribution”, given the focus and objectives outlined for the project - which encompass innovation, laser processing, and technology, the proposed logo is represented in the Figure below.

Figure 1 – FLASH primary logotype.

The logo is also prepared to be used across a wide set of media, ranging from website icons to a large print format. Next are shown the various formats of the logo:

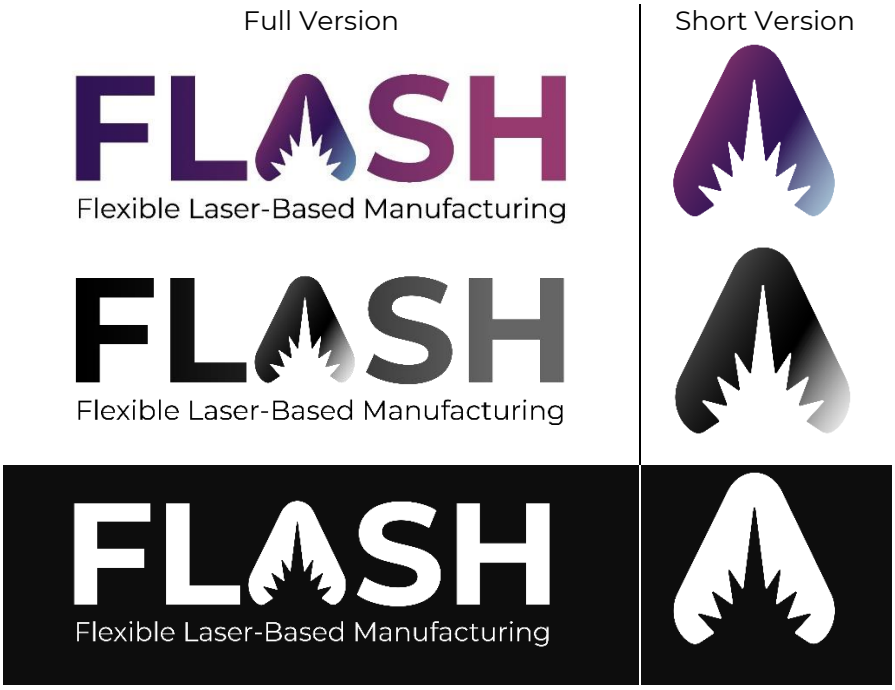

Figure 2 – FLASH logo versions.

The image of the website has the FLASH project's logo as its main element. The FLASH logo was developed in the early stages of project execution, with the goal of being simple, easily readable, and useable in different contexts, in its short or full versions. The FLASH logo is visible on the website at all times, in its full version, in the website's top menu bar.

Apart from the logo, the image of the website intends to show the connection of the project to laser manufacturing. It also uses elements related to the concept of industrial processing, to further reinforce the project's scope and goals.

Webpage

The public website of the FLASH project was designed to serve as a user-friendly and informative platform, accessible through any standard web browser. Designed with simplicity in mind, it ensures ease of readability and navigation, facilitating the dissemination of current project information both during its lifespan and beyond. The aim was to deliver an optimal user experience, enabling seamless access to up-to-date project details.

It contains contact points for those who want to know more about FLASH, allowing the promotion of the partner's involvement. The link to the project website (https://flashlaserproject.eu/) will be also the link to all the services/resources FLASH will provide. The website was constructed by EWF, with inputs from all the consortium members, and as a key performance indicator will have to be updated at least 36 times, once per month.

The website layout was developed using Adobe Illustrator, a professional vector-based design and drawing program, that lets the user create images and graphics for various digital and graphic applications; HTML, a markup language used for creating and structuring any type of website; CSS, a computer language, that allows the users to style a page created in HTML, to create a more appealing website for the user and JavaScript, a scripting language, that's allows the user to create and dynamic content for websites. It was registered under the domain flashlaserproject.eu, and it is hosted on the servers of EWF. The website is accessible and usable from any web browser and any platform, including mobile devices. The project website is simply an informative platform and provides links to the project's social media channel, LinkedIn, which is always visible at any time and updated. The social media platform will also be the channel used by the FLASH consortium to provide news regarding the project and its progress.

Structure and Contents

The project public website was designed as a "one-page" style website, composed of a main page, where the website lands when following the link, and 6 additional sections. These are divided according to the type of information and can be accessed using the horizontal menu at the top of each page. The idea is to have a simple description of the project, services, materials and news, partners, and contacts. The structure of the website as shown in the figure below is divided into the following tabs:

1. Home
2. About
    a. Project
    b. Impact
    c. Implementation
    d. Innovation
3. Newsfeed
4. Documents
    a. Media kit
    b. Results
    c. Activities
    d. Seminars
    e. Conferences
5. Partners
6. Contacts

The main page, identified in the figure below, also identified as home, contains a brief description of the project, its impact, innovation, study cases and the latest news.

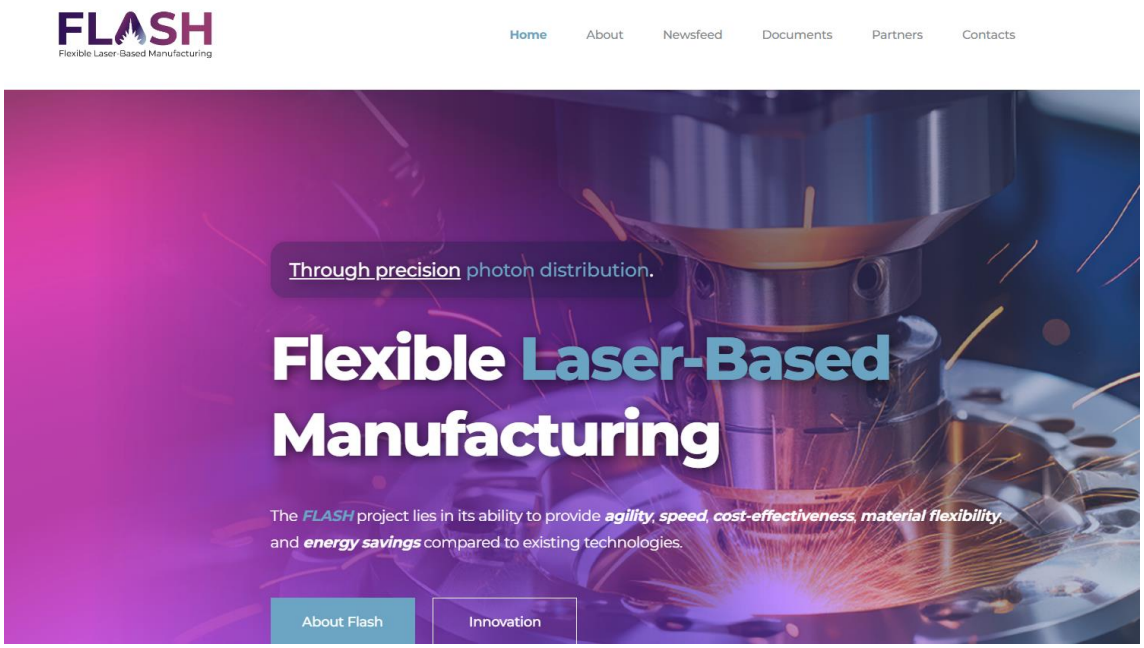

Figure 3 - FLASH Main webpage.

At the bottom of all pages, the quality of information disclaimer, the European flag, the funding statement, and an easy navigation menu are presented.

Figure 4 – Bottom area of the FLASH webpage, containing the quality of information disclaimer.

"*About*" Tab

The "*About*" tab allows the stakeholders to obtain more information about the project. It is therefore comprised of four sub-tabs as shown in Figure 5:

- Project
- Impact
- Implementation
- Innovation

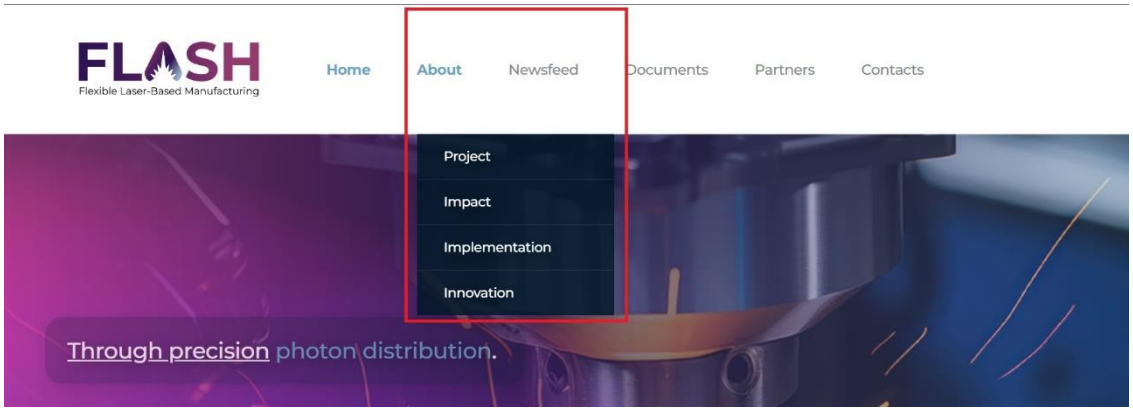

Figure 5 – "About" Subtabs in the FLASH webpage.

Whereas the website home page presents the general idea behind the project concept, this section is where the website expands on this initial information and provides the public with a more complete view of the project's goals. In this section, a short description of the project, its scope and its goals is presented, in such a way as to provide a high-level view of the proposed solution. Therefore, in the "*Project*" subtab is possible to find its four key technology developments and the following information:

"*The FLASH project aims to revolutionize manufacturing by leveraging future-proof, highly customizable and energy-efficient laser-based production systems to achieve highly precise photon distribution, with applications in cutting, drilling, welding, cladding, and micro-machining.*

The FLASH project lies in its ability to provide agility, speed, cost-effectiveness, material flexibility, and energy savings compared to existing technologies.

Its capacity to rapidly reconfigure manufacturing processes, reduce cycle time, and minimize capital investment and space requirements positions it as a forward-looking solution for industries like medical, tooling, automotive, and e-mobility."

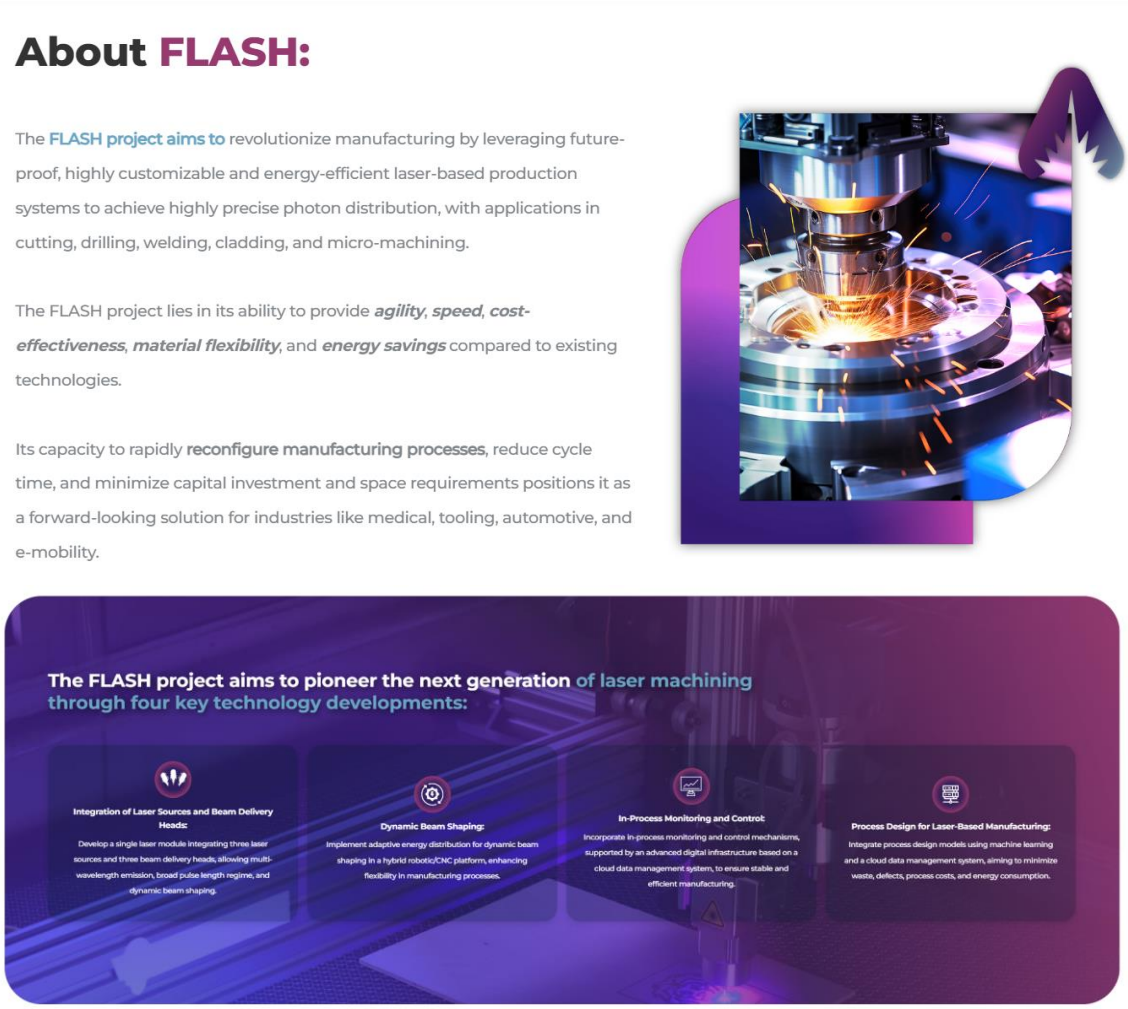

Figure 6 – Information displayed in the "Project" subtab.

The "*Impact*" subtab displays the main areas which the FLASH project will address. It is divided into Technological advancements, material flexibility and quality, agile manufacturing, energy efficiency, increased speed and efficiency, diverse industry applications, cost saving, and future-proof manufacturing. This section of the website is presented in Figure 7.

Figure 7 - Information displayed in the "Impact" subtab.

The "*Implementation*" subtab has some information about the potential of FLASH for emerging business models. It comprises the following information:

"The FLASH solution introduces the potential for emerging business models by implementing flexible and customizable tools. This approach ensures modularity, aligning the solution dynamically with market demands. Leveraging FLASH laser-based solutions aims to optimize machine utilization by keeping it consistently engaged with various processes and accommodating market requests.

This strategy aims to maximize machine uptime, leading to a swift return on investment. Furthermore, laser-based manufacturing can be easily integrated with digital manufacturing technologies, such as computer-aided design and simulation, to enable rapid prototyping and iterative design. As a result, European manufacturers gain the agility to swiftly adapt to evolving market requirements, thereby reducing the time-to-market for new products."

This section of the website can be seen in Figure 8.

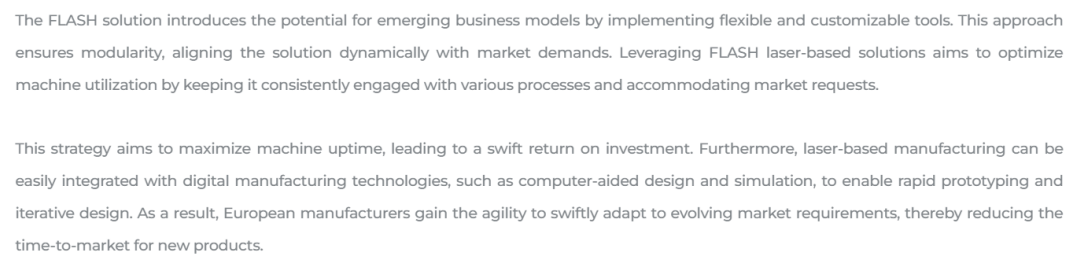

Figure 8 - Information displayed in the "Implementation" subtab.

Finally, the "*Innovation*" sub-tab, covers the study cases that FLASH will focus on, mentioning the exploration of 5 industrial case studies across 4 industrial sectors. More precisely, it reveals the advantages that the project will bring to the development of hip-implant components, PCD microdrill production, CBN Grinding wheels, copper hairpin stripping and welding, and automotive cross-car beam joining. This section of the website can be seen in Figure 9.

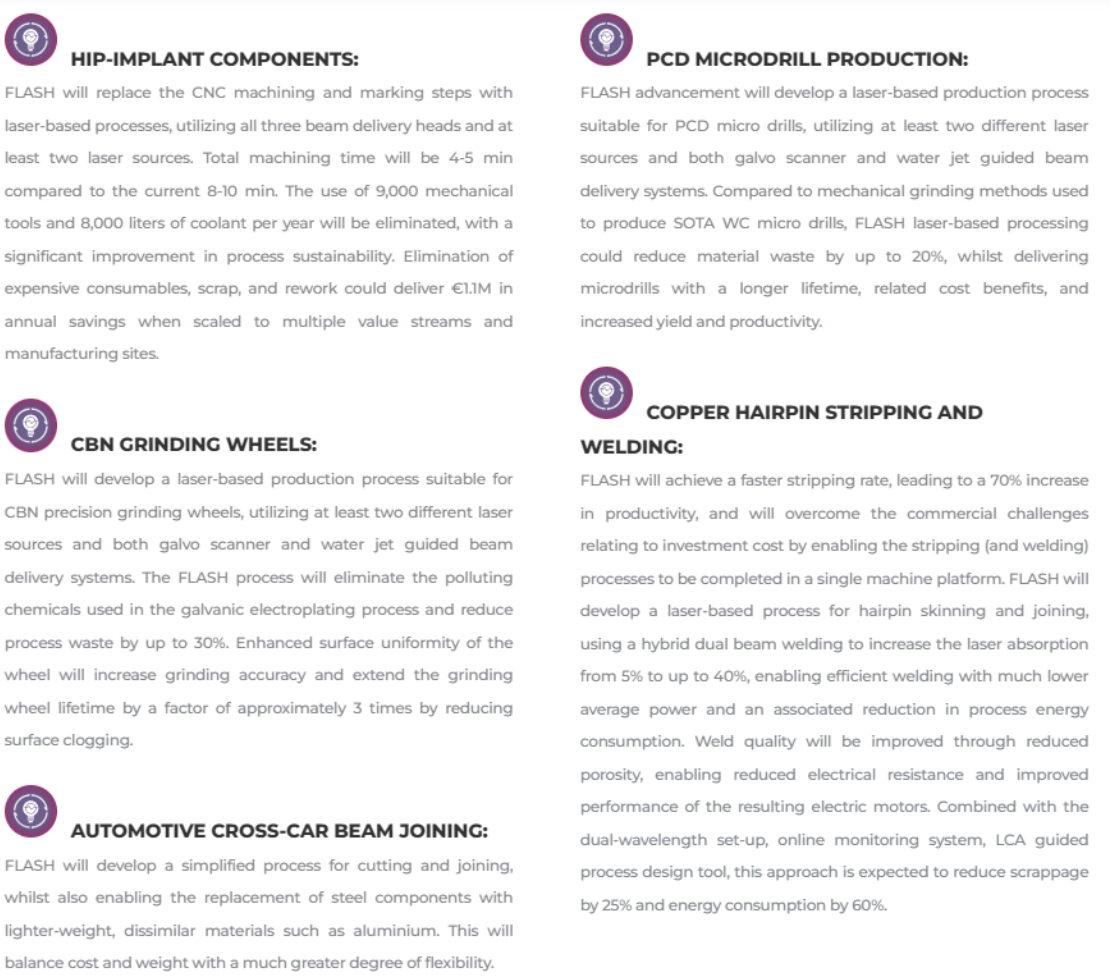

Figure 9 - Information displayed in the "Innovation" subtab.

"Newsfeed" tab

This page is dedicated to the latest news related to the development of the FLASH project. So far, only the Kick-off meeting is included, as possible to see in the Figure below.

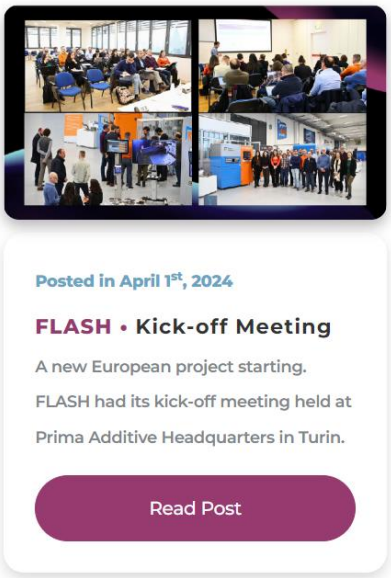

Figure 10 – "Newsfeed" of the FLASH project.

"Documents" tab

The "*Documents*" tab is still under development at the moment. Its main point is to share documents with the public, making possible their downloads. Examples of public documents are the project press release, public deliverables, and photos from events that the project consortium attends, among others. The documents will be presented as PDF files and will be able to be directly downloaded from the website.

"Partners" tab

This section identifies the project partners with the correspondent logos and a brief description. Below the description, there is a link to each partner's website. In the Partners Tab, it is possible to see all the partners involved in the project along with a brief description of their own companies. Figure 11 presents the layout of this section of the website.

Prima Additive supports its customers in developing innovative applications driven by emerging needs and demand in major industrial sectors where Additive Manufacturing is rapidly evolving.

Get To Know More

DePuy Ireland Ltd. produces imaging equipment. The Company manufactures radiographic X-ray, fluoroscopic X-ray, and therapeutic X-ray apparatus and tubes. DePuy markets its products in Ireland.

Get To Know More

Diamoutils manufacture super-abrasive cutting tools, grinding tools, super-finishing tools and wear parts. They continuously invest in our production capabilities to offer flexibility, reactivity for the most competitive cost per operation for our customers.

Get To Know More

Tofas is a Turkish trailblazing automotive manufacturer. Its production capacity, export performance, R&D competencies, and workforce of nearly six thousand make it one of the Turkish leading industrial leaders.

Get To Know More

Cailabs is a French deep-tech company which designs, manufactures and sells photonic solutions. By combining state-of-the-art beam shaping technology with optimal engineering, they create innovative products that help solve some of today's major industrial and technological challenges.

Get To Know More

3Drivers are Sustainability experts, strategists, scientists, innovators and visionaries. Using cutting-edge tools, methodologies, and supporting decision-making processes, over the years they have advocated for a paradigm shift in numerous organizations that operate throughout the resources' life cycle.

Get To Know More

At **Cosmos Thrace**, their team of Digital Transformation experts enables organizations from various sectors to implement AI solutions and optimize their business operations. Through their expertise, they adapt cutting-edge technologies that align with each customer's specific needs, requirements, and priorities in an efficient and timely way.

Get To Know More

EWF – European Federation for Welding, Joining and Cutting, is an international non-profit umbrella association aiming at the collaboration in the study and solution of welding-related problems encountered within its fields of competence and in the removal of technical barriers. The exchange of scientific and technical information.

Get To Know More

AIMEN is a private non-profit association founded in 1967 on the initiative of a group of Galician entrepreneurs. Their daily activity is concentrated in Applied research, technology development and innovation.

Get To Know More

Universita Degli Studi di Palermo is a consolidated cultural, scientific and teaching presence in Sicily. Its 16 Departments cover the most important domains of contemporary scientific and technological knowledge. About 122 courses are yearly offered as well as 44 master and specialization and 23 PhD courses.

Get To Know More

ATOP, is a company part of the IMA Group leading in manufacture of machines and automatic lines for the production of electric motors for several industrial and automotive applications, including e-mobility. ATOP manufactures production lines that guarantee the utmost performances in the assembly of traction hairpin stators.

Get To Know More

ROBUST AO GmbH (Robust Adaptive Optics) develops and sells fast Z-axes under the brand Zwobbel® for high speed laser material processing. For ROBUST AO customers, the time saved during the machining process translates into higher production efficiency and therefore, reductions in cost.

Get To Know More

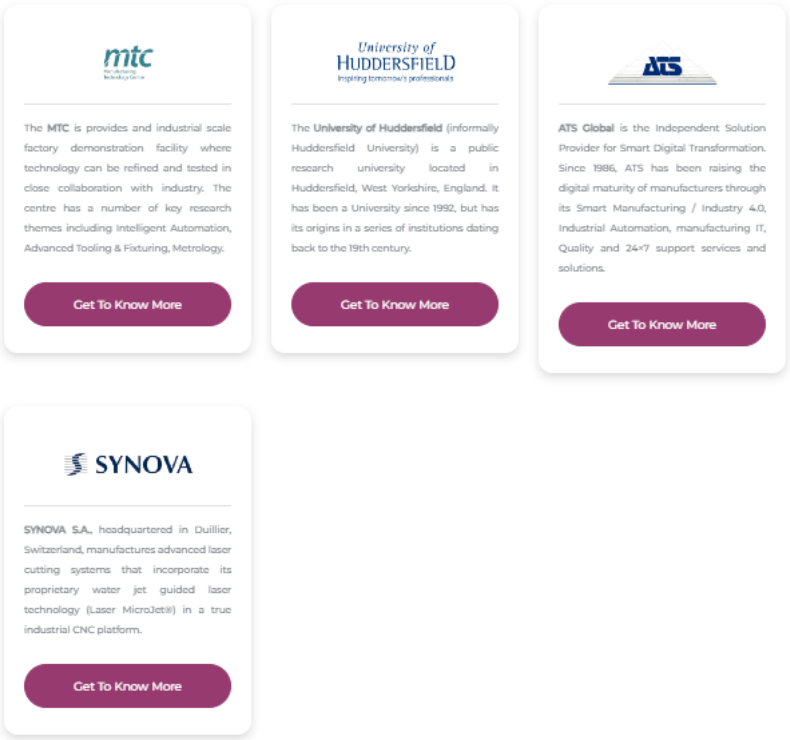

Figure 11 – Flash's website's section: "Partners"

"*Contacts*" Tab

Displays a contact form in case users have questions, doubts, and inputs. The "*contacts*" tab's main objective is to allow the public in general who can be interested in the project results to know or to have direct contact with the consortium. In this case viewers can contact the FLASH project's coordination directly. This section is shown in Figure 12.

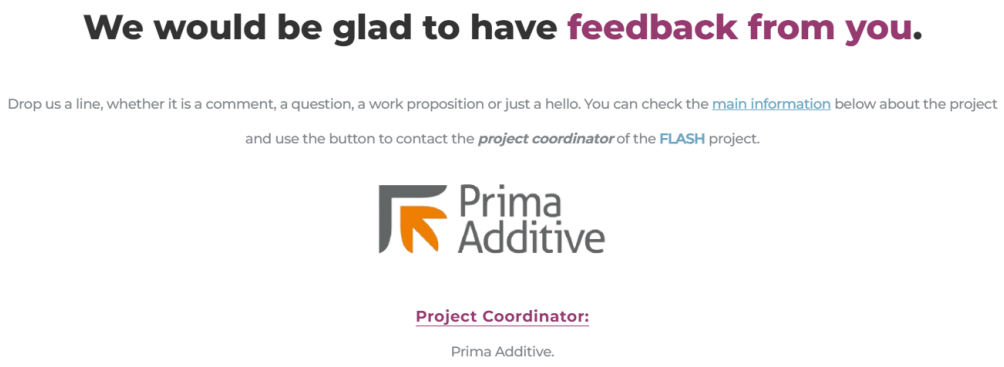

Figure 12 – "Contacts" section of the FLASH webpage.

Mobile version

Internet users are increasingly surfing and interacting with the Web on their smartphones and other mobile devices. The "web design" approach focuses on crafting websites that provide an optimal viewing experience across a wide range of devices, from mobile phones to desktop computer monitors. This ensures that the FLASH audience won't miss any content, image, or interactive features when they visit the project site, no matter what interface they're using. Some screenshots of the mobile display are presented below.

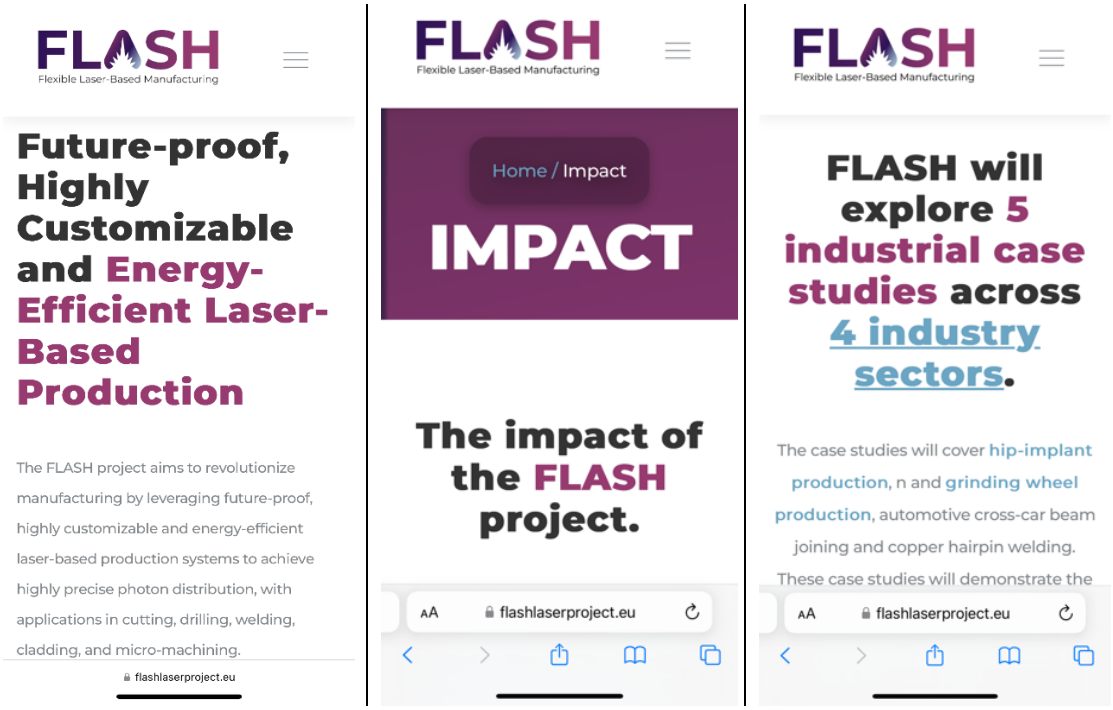

Figure 13 – Screenshots from the FLASH webpage on a mobile device.

Google Analytics

It is also possible to evaluate the impact of the website in a detailed way using Google Analytics.

Figure 14 - Google Analytics logo.

The information that will be tracked along the project duration is the number of sessions along the days of the months the website has been live, dividing it by New or Returning visitors and by country. Regarding the page views, it will be possible to conclude which tab is the most important to the users, considering the time spent on each one.

Information about the gender and country of visit is also possible by using the above-mentioned tool.