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*HORIZON EUROPE
EUROPEAN HEALTH AND DIGITAL; EXECUTIVE AGENCY (HADEA)*

MADE-3D

Multi-Material Design using 3D Printing

Starting date of the project: 01/01/2023
Duration: 42 months

= Deliverable D7.1 =

Initial Communication Kit

Due Date: 31/04/2023
Date Submitted: 15/05/2023
Responsible TL: Marina de Souza Faria
Version: 2

| Dissemination level | | |
|----------------------|----------------------------------------------------------------|---|
| P | Public | x |
| SEN | Sensitive, limited under the conditions of the Grant Agreement | |
| Classified R-UE/EU-R | EU RESTRICTED under the Commission Decision No2015/444 | |
| Classified C-UE/EU-C | EU CONFIDENTIAL under the Commission Decision No2015/444 | |
| Classified S-UE/EU-S | EU SECRET under the Commission Decision No2015/444 | |



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D7.1 Initial communication kit (website, factsheet, leaflet, etc)

MADE-3D

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VALIDATION

| Reviewers | Name | Validation date |
|---------------------|-----------------------|-----------------|
| Work Package Leader | Marina de Souza Faria | 10/05/2023 |
| Project Manager | Marina de Souza Faria | 12/05/2023 |
| Project Coordinator | Dennis Lehnert | 15/05/2023 |

Executive Summary

Deliverable 7.1. Initial Communication Kit is part of task 7.1 Dissemination and communication activities, which ensures the results of the project will be disseminated to the European research and industrial community and will be communicated to the general public, the scientific community, technicians, experts, media, policymakers, industries, end-users, and other stakeholders. The initial communication kit of MADE-3D is a set of promotional materials aimed to inform the wider public about MADE-3D, its objectives, and its expected impact. The package includes MADE-3D (1) logo, (2) leaflet, (3) factsheet, (4) and webpage. In addition, the social media accounts of the project are presented.

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1. Introduction

The deliverable D7.1 is associated with task T7.1 – “Dissemination, Communication and Exploitation of the project’s outcomes”. The objective of this task is to ensure that the results of the project will be disseminated to the European research and industrial community, will target all important stakeholders, and will assure an ongoing communication flow with general public, scientific community, technicians, experts, media, policymakers, industries, end-users.

The task also includes the creation of a dedicated website for the project, presenting comprehensive information about the project in a visual and interactive way. This public website is created at the beginning of the project and will be actively maintained during the whole implementation of the project.

2. Results and Discussion

2.1. MADE-3D Logo

The project logo was prepared by an AMIRES designer and proposed three options for the Project Coordinator (UPB) and WP4 leader (AMI) to establish a visual identity for the project and its consortium. The logo is used in all project-related communication materials, websites, leaflets, posters, and brochures as well as internal document templates and confidential materials.

The logo is inspired by the triangle shape which refers to three of the MADE-3D printing. The different colours scheme refers to multi-materials (orange, red, and blue). Besides, the texture and colour of the letters in black refer to the manufacturing and industrial background. The logo was presented and approved by all partners at the project kick-off meeting held on 31 January 2023. All files referred to the logo package can be found in project SharePoint¹ and available in Appendix 1.



Figure 1: Logo of MADE-3D Project.

¹ Available at [Partner Logos](#) (request access)

2.2. MADE-3D Leaflet

Project leaflet (Figure 2) is a short print material to provide a brief overview of the project in an attractive text, to make the reader curious to learn more and visit the project social media and website. It's summarized the overview, goals, impacts and partners at glance to those interested in the topic.

The leaflet can be distributed at conferences, events and on the premises of the partners. The leaflet provides acknowledgement of EU funding and includes the EU emblem.



Figure 2: MADE-3D Leaflet

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2.3. MADE-3D Roll-Up.

The Roll-up (Figure 3) will be present in the main events and meetings to present the MADE-3D. It's a similar layout as the leaflet, however without the text with attractive description, it's focused to expose the main objectives and application areas (use-cases).



Figure 3: MADE-3D Roll-Up.

2.4. MADE-3D Fact Sheet

Project fact sheet (Figure 4) was prepared to provide general information about the project while including more details on the intended technology than the leaflet, which is limited in format. The factsheet elaborates on project objectives, expected impact, partners, and funding details. Contacts of Project Coordinator, Project Manager as well as the website and social media accounts of the MADE-3D project are included for networking and clustering purposes (see Appendix 3 for the complete document). The Fact Sheet provides acknowledgement of EU funding and includes the EU emblem.

Topic: HORIZON-CL4-2022-RESILIENCE-01

Type of Action: HORIZON-RIA

Multi-Material Design Using 3D Printing

MADE-3D

Introduction:

Metal additive manufactured, topology optimized components have already demonstrated the immense impact of weight reduction, resource efficiency, and mechanical performance. The mono-materials with homogeneous material properties are often insufficient to meet today's heterogeneous application requirements. New multi-material components with locally tailored mechanical, electrical, thermal, or magnetic properties must be developed to meet the new and challenging requirements and significantly improve the component performance. Based on the immense potential for 3D printed multi-material components, current problems will be solved within this project and result in high-impact industrial products: Material Design, multi-material 3D printing, component design, and sustainability. These factors will be supported by numerical simulations and validated by use case experiments.

Project description:

The project aims to enhance the additive manufacturing process in order to enable the multi-material processing for multi-material components with locally tailored properties to meet the challenging application requirements and improve component performance. The focus relies on material design, process design, component design, and sustainability and will be supported by numerical simulations and computational approaches. MADE-3D will utilize a lean system design approach with science-based models using Direct Energy Deposition (DED) and Laser Powder Bed Fusion (L-PBF). Besides, will investigate the circular material cycle to achieve sustainable manufacturing routes. The results of the project will significantly impact the entire process chain of 3D printed multi-material components, from computational material-design concepts to industrialization and sustainability.

The objectives of the project include determining material requirements, designing dissimilar, but joinable and printable multi-materials, manufacturing powder material for prototypes, optimizing AM process parameters, developing design guidelines for multi-material components, validating system-designed multi-materials, developing recycling methods, and reducing of the carbon footprint. The project also aims to validate five use cases in the automotive, aerospace, and aeronautics industries. The use cases are expected to achieve weight reduction of more than 50%, reduced lead time for multi-material products by 20%, and increased product performance by at least 30%.

Project facts:

Start date:
01/01/2023

Duration in months:
42

Project EU funding:
€5,482,007.25 €

Research & Innovation Action

Keywords:
Prototyping;
3D Printing;
Multi-materials;
Material Design;
Sustainability & Recycling
Selective Laser Melting (SLM);
Direct Energy Deposition (DED)

Topic: HORIZON-CL4-2022-RESILIENCE-01

Type of Action: HORIZON-RIA

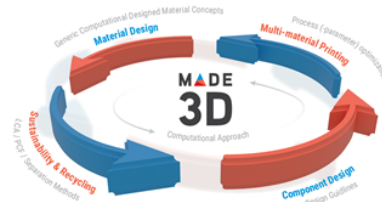


Figure: Schematic representation of MADE-3D project plan

Expected impact:

MADE-3D goals in the impact to increase the competitiveness of multi-material components and products for use in a wide range of applications, including the transport and energy sectors. It seeks to develop optimized structures that reduce weight by 50% compared to traditional designs, reduce lead time by 20%, increase product performance by at least 30% while retaining the product price, and create a pathway to industrial leadership in key strategic value chains using breakthrough technologies such as computational material design and 3D printing. The production method of additive manufacturing for multi-materials in MADE-3D enables significant energy and resource savings during production, and the lightweight components produced also contribute to sustainability and reduction of environmental impact during use. The project involves leading industrial companies, universities, and research organizations.

Consortium:


| Name | Country |
|------------------------------------------------------------------------------------------|----------------|
| Paderborn University (UPB) | Germany |
| SLM Solutions Group AG | Germany |
| FRÄUHOFFER (GSCV) | Germany |
| University of Aegean | Greece |
| FNINCE | Italy |
| Exponential Technologies | Latvia |
| Questek Europe | Sweden |
| Axi List GmbH | Austria |
| Safran Additive Manufacturing | France |
| Commissariat A L'Energie Atomique Et Aux Energies Alternatives (CEA) | France |
| Amires sro (AMI) | Czechia |
| Skvorta LTD | United Kingdom |
| Centre Suisse D'électronique et de Microtechnique Sa - Recherche et Développement (CSEM) | Switzerland |

Contacts:

Project Coordinator:
Dennis Lehnert
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Project Manager:
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souzafaria@amires.eu

Website:
www.made-3d.eu



MADE-3D project has received funding from the European Union's Horizon Europe research and innovation program under grant agreement No. 101091911.

Figure 4: MADE-3D Fact Sheet

2.5. First press release

In the first month of the project, a press release announcing the successful launch was published in the main page of the University of Paderborn (UPB) website. The press release titled *"MADE-3D': multi-material components from a 3D printer"*² is available for the public, which as a university webpage, the target public is the research society. The authors start the press release by introducing the topic of additive manufacturing and explaining the innovation and the objectives that the consortium wants to achieve. Besides, it mentioned a description of the main objectives and the solutions for the main issues. They will face several challenges such as the lack of material combinations, and the project aims to address this by substantially increasing the

² Available at <https://www.uni-paderborn.de/en/news-item/100106>

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performance of multi-material components and significantly reducing their weight to create new opportunities for lightweight construction. The press release was shared on the websites and social media channels of the project and partners.

Other press releases were produced about the successful kick-off meeting in Paderborn, Germany. And other press releases will be produced during the course of the project in connection to important meetings, results, and milestones achieved. All the releases will be available on the project website and will be circulated in the social media channels of MADE-3D. Moreover, all of the dissemination and communication records will be reported in the dissemination section of the reports.

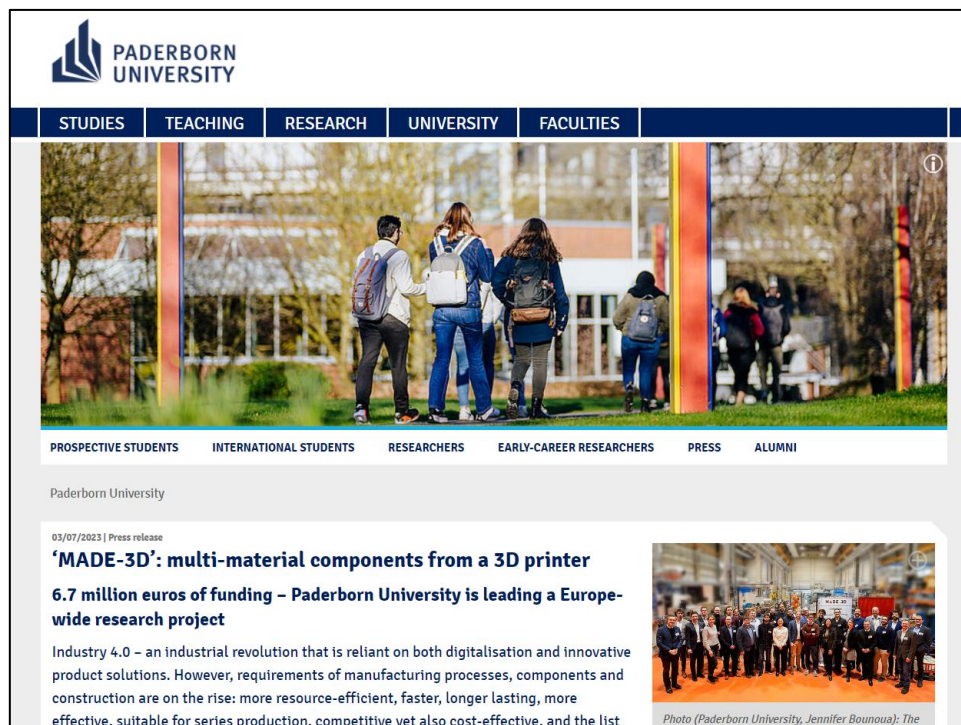


Figure 5: Main page of the University of Paderborn website, released on 03/07/2023.

2.6. Website

Before to start to create the website the project coordinator (Dennis Lehnert - UPB) and the project manager (Marina de Souza Faria – AMIRES) with the support of the designer team of AMIRES had the idea to improve the project plan scheme created during the proposal preparation (Figure 6). The goal was to transform the engineering approach scheme to a more attractive design which can easy referred to the same technical idea, the result can be seen in the Figure 7.

The project plan image (Figure 7) highlighted the objectives and the main approaches and methodologies to reach those goals. The representation in circle means the cooperation between the tasks and inputs needed from each work packages, moreover it was chosen a 3D layout to be more attractive for the communication materials. As all other materials the project image contains the logo colour palette.

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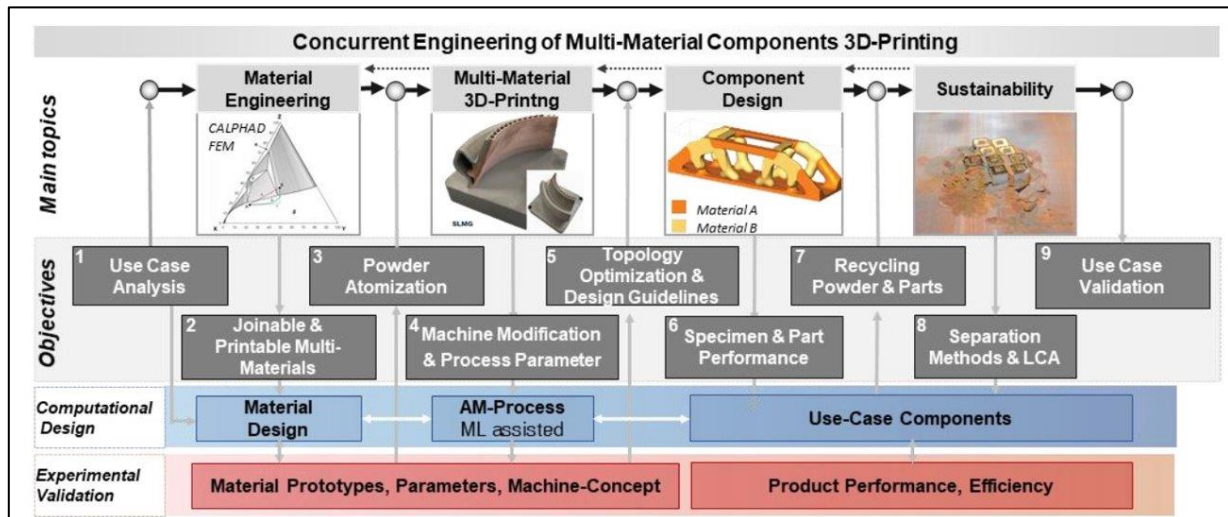


Figure 6: Old version of the project plan scheme of MADE-3D

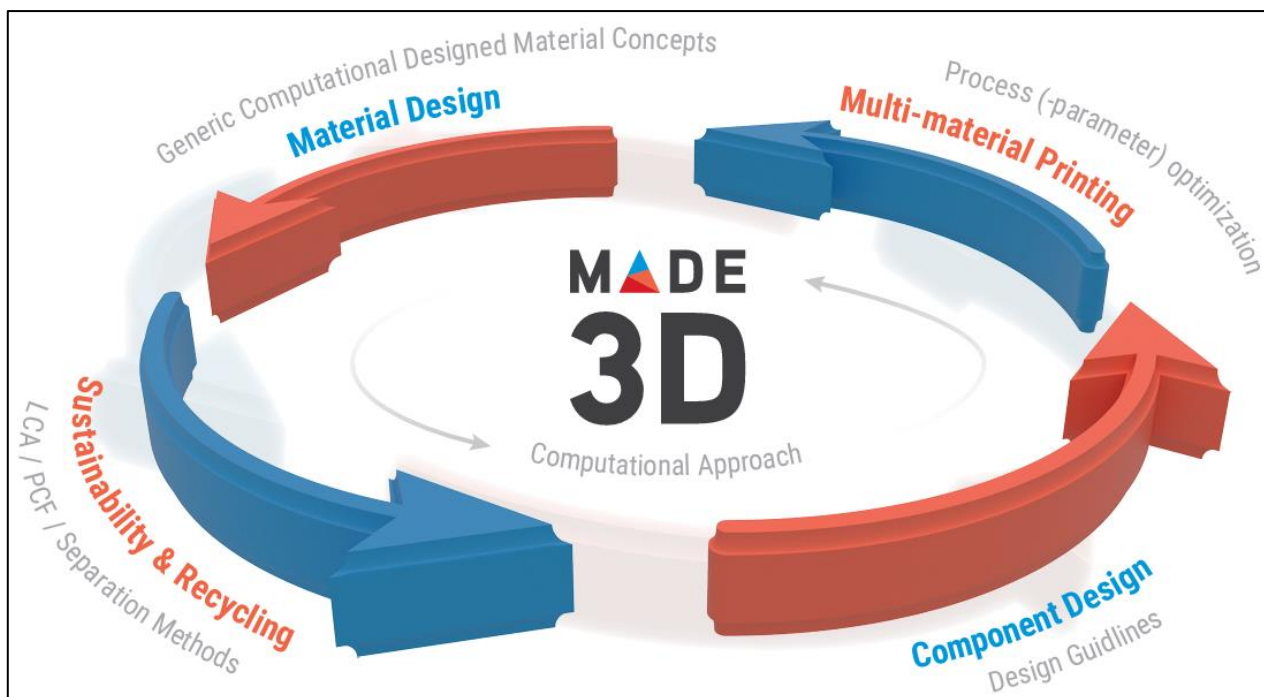


Figure 7: New version of the project plan scheme to be use in the communication & dissemination materials.

MADE-3D project website (<https://made-3d.eu/>) has been set up in order to increase public awareness about project aims and to reach potential end users. The MADE-3D website layout is finalized and available in Appendix 2. The programmer starts to code and the full online version will be released in first of June, 2023.

The website has been created in Open-Source software called WordPress. WordPress started as a blogging system but has evolved to be used as full content management system that is completely customisable and can be used for almost anything within the field of web design. It allows fast and reliable customisation and has a user-friendly back-office environment which is a key for the website updates and file uploads. The website is available for public access and will be actively maintained during the project.

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The project website integrates sections on MADE-3D project details (funding details, abstract, objectives, expected impact, public deliverables), consortium partners (role in the project, team members), news & events, and contacts (with a message section and e-mail addresses of the Project Coordinator and Project Manager). The website provides acknowledgement of EU funding and includes the EU emblem.

The project will also be promoted through websites of MADE-3D partners (e.g. News sections, projects sections) and in social media.

2.7. Social Media

In addition to the webpage and print materials, Twitter and LinkedIn accounts have been set up for the MADE-3D Project to allow more dynamic updates of project progress, engage a wider audience (especially the younger generation) and enable feedback from various audiences. The need to use additional social media partners will be assessed over the course of the project.

Short news stories about the MADE-3D project and its development will be prepared and shared on the identified tools, especially during events, conferences, and symposiums. Social media will also be used as a communication channel to disseminate potential clustering activities.

The LinkedIn page (Figure 8) was created after the Kick-Off Meeting (KOM) in Paderborn, Germany in February 2023. Therefore, the first post was about the successful of the KOM and that the consortium is looking forward to work together. The page already achieves 161 followers³ since February and as soon as the results comes the page will be updated to reach more followers over the duration of the project.

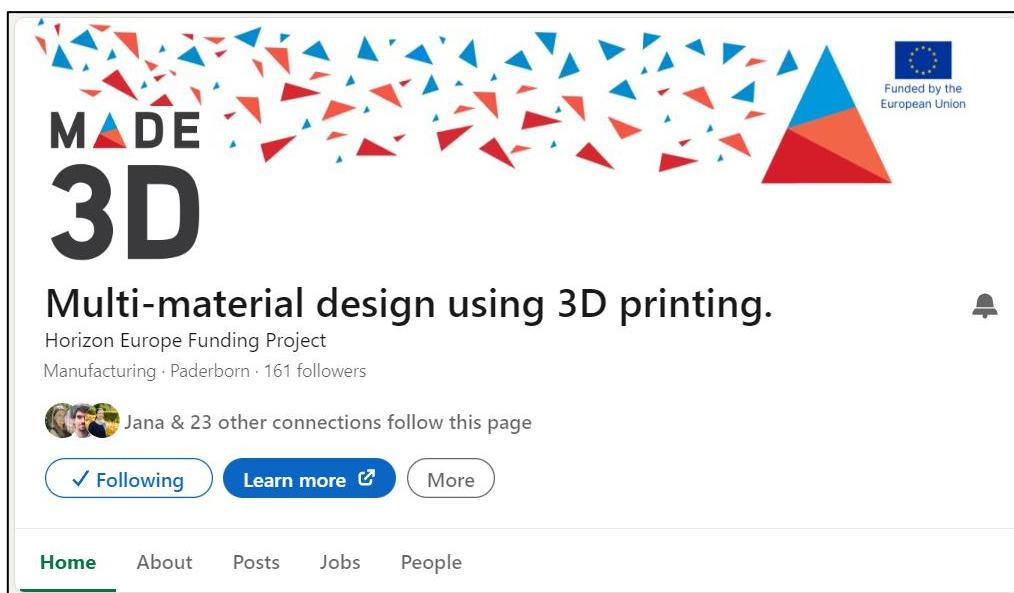


Figure 8: Main page of MADE-3D LinkedIn account.

³ Available at <https://www.linkedin.com/company/made-3d/>

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The Twitter page (Figure 9) was created in March 2023 (https://twitter.com/MADE3D_), and it will be focused on to share updated during the events and meetings that MADE-3D is involved. Twitter is an important social media for quick and simultaneously communication. However, both accounts will be maintenance with attractive and interactive contents. Both accounts provide acknowledgement of EU funding and includes the EU emblem.



Figure 9: Twitter page of MADE-3D Project.

3. Conclusions

This document represents the Deliverable D7.1 Initial Communication Kit. It includes the first promotional materials for MADE-3D project to create awareness and inform the wide and various target audiences about the MADE-3D project and its development. These materials will be extensively used by MADE-3D partners whenever they present at conferences, publish in journals and magazines, establish contacts with media, attend exhibitions, organize workshops, etc. The materials will be revised over the course of the project to integrate the project results as they are produced. Moreover, the communication kit will be expanded to include project presentation, video, and others, with additional communication means considered on a running basis.

When disseminating the results of the MADE-3D project, the following sentence, alongside the EU emblem, will always be included: "This project has received funding from the European Union's Horizon Europe research and innovation program under grant agreement No 101091911. Views and opinions expressed are those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them."

The dissemination of the project's achievements should never jeopardize the potential protection of generated intellectual property and further industrial application. Therefore, before any dissemination activity (publication, presentation) strict rules of prior notice to all partners will be applied, according to EC guidelines and MADE-3D Consortium Agreement: prior notice of any planned publication should be given to other consortium members at least 45 calendar days before the publication. The Dissemination Manager (Marina de Souza Faria - AMIRES) in cooperation with the Exploitation Manager (Dominik Ahlers – SLM) will follow the approval processes and will act as an internal executive approval body for any dissemination/exploitation action organized by different partners.

4. Degree of Progress

The deliverable is 100% fulfilled. The maintenance of the website will be carried out during the whole course of the project and consequently updated with the public results.




5. Dissemination Level

The deliverable D7.1 is public.




6. Appendix

6.1. Appendix 1 – LOGO PACKAGE

LOGO COLORS



3D



R0 G151 B220

R242 G102 B72

R213 G28 B41

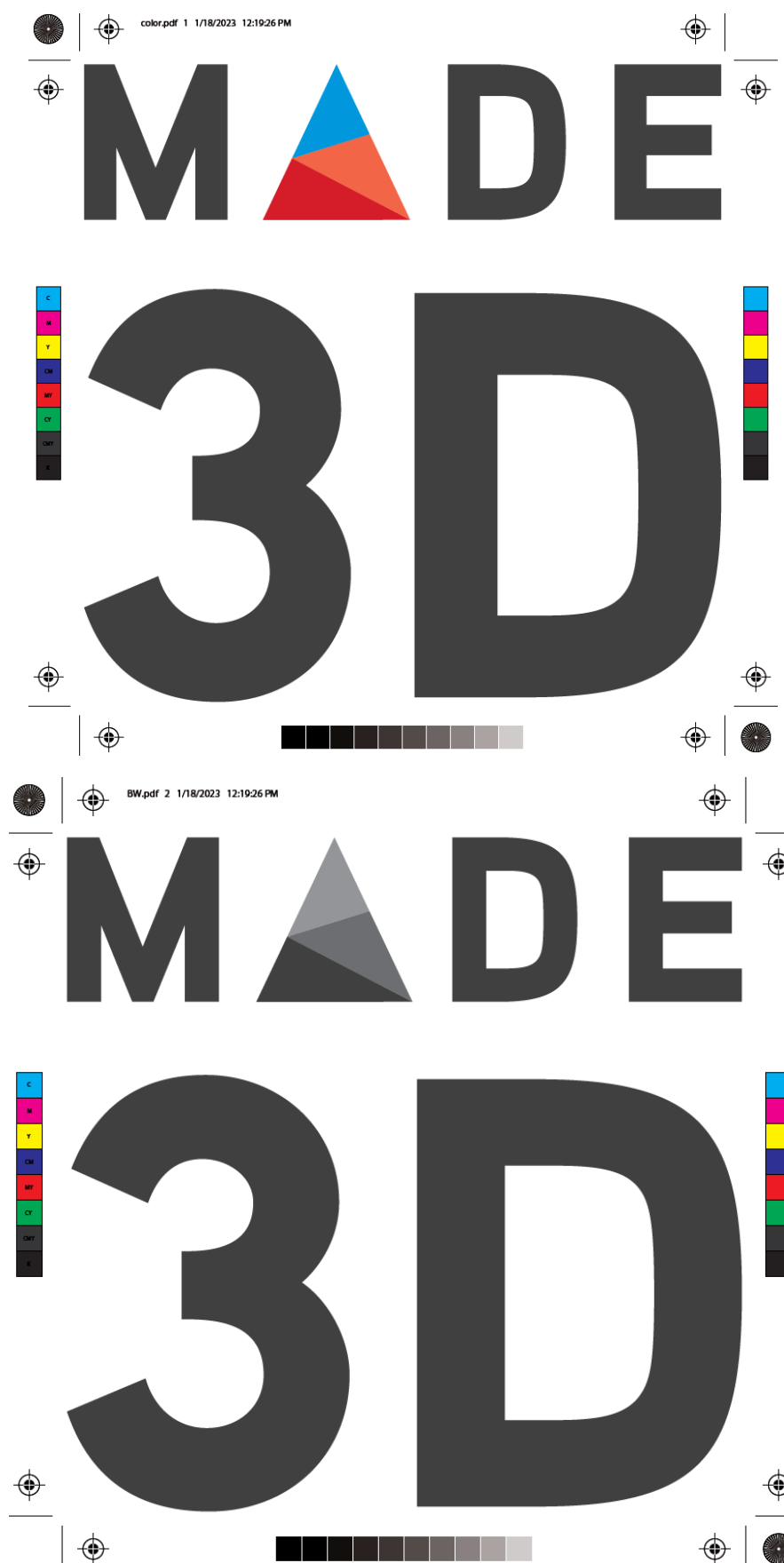
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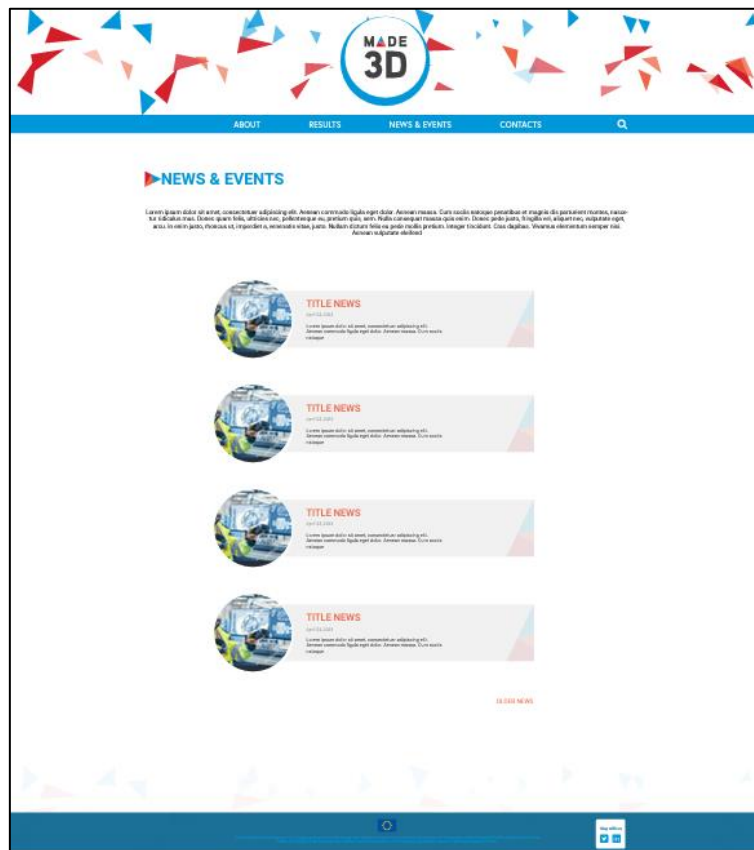
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R65 G64 B66

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6.2. Appendix 2 – Website



6.3. Appendix 3 – Fact Sheet

Multi-Material Design Using 3D Printing

MADE-3D

Introduction:

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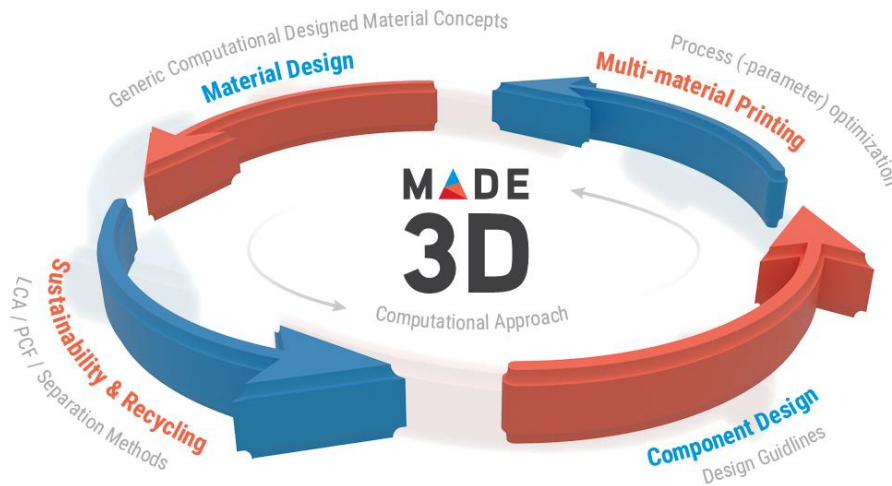


Figure: Schematic representation of MADE-3D project plan

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| University UAegean | Greece |
| F3NICE | Italy |
| Exponential Technologies | Latvia |
| Questek Europe | Sweden |
| Avl List GmbH | Austria |
| Safran Additive Manufacturing | France |
| Commissariat A L Energie Atomique Et Aux Energies Alternatives (CEA) | France |
| Amires sro (AMI) | Czechia |
| Skyrora LTD | United Kingdom |
| Centre Suisse D'electronique et Demicrotechnique Sa - Recherche et Developpement (CSEM) | Switzerland |

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