CISAMS: Integrated Circularity and Sustainability Assessment of Manufacturing Systems

Deliverable 7: Project Visual Identity & Digital Presence

Greece 2.0

Basic Research Financing Action

(Horizontal support of all Sciences)

Sub-action 1: Funding New Researchers

M3

H.F.R.I. Hellenic Foundation for Research & Innovation

Greece 2.0 NATIONAL RECOVERY AND RESILIENCE PLAN

Funded by the European Union NextGenerationEU

Document control sheet

Project	Integrated Circularity and Sustainability Assessment of Manufacturing Systems
Call identifier	Greece 2.0 Basic Research Financing Action (Horizontal support of all Sciences) Sub-action 1 Funding New Researchers
Grant Agreement N°	16148
Coordinator	National Technical University of Athens
Work package	WP5 – Dissemination and communication management
Work package leader	Athanasios Rentizelas
Related Milestones	MS5: C&D plan completed and project website operational
Deliverable title	Project Visual Identity & Digital Presence
Deliverable nature	DEC
Dissemination level	PU
Authors	Athanasios Rentizelas, Eleni Aretoulaki
Version	1.0
Total number of pages	16
Issue date	31/5/2024

REVISION HISTORY			
Version	**Date**	**Author(s)**	**Changes made**
1.0	31/5/2024	Athanasios Rentizelas, Eleni Aretoulaki	

Contents

1 EXECUTIVE SUMMARY

This deliverable presents the results of the efforts made to establish a strong digital presence for the CISAMS project. It showcases the various actions taken to enhance visibility and engagement across multiple online platforms. The content is organized into key sections:

Project Website: Provides an overview of the project's website, featuring key pages and user navigation insights, to illustrate the website's effectiveness in disseminating information.

Social Media Presence: Highlights the project's activity and engagement on platforms such as ResearchGate and LinkedIn.

Promotional Materials: Displays the logo, posters, banner, and e-brochure created for the project, emphasizing their design, distribution, and impact on raising awareness about the project's objectives and achievements.

2 CISAMS'S WEBSITE

The following images present the official website of the CISAMS project, highlighting its structure, key sections, and digital resources designed to communicate the project's objectives and activities. The website is available at https://cisams.eu/

The **homepage** introduces the project's focus on advancing circular economy principles and sustainability practices in manufacturing. Visitors can explore the site to learn more about the project's goals, activities, and outputs.

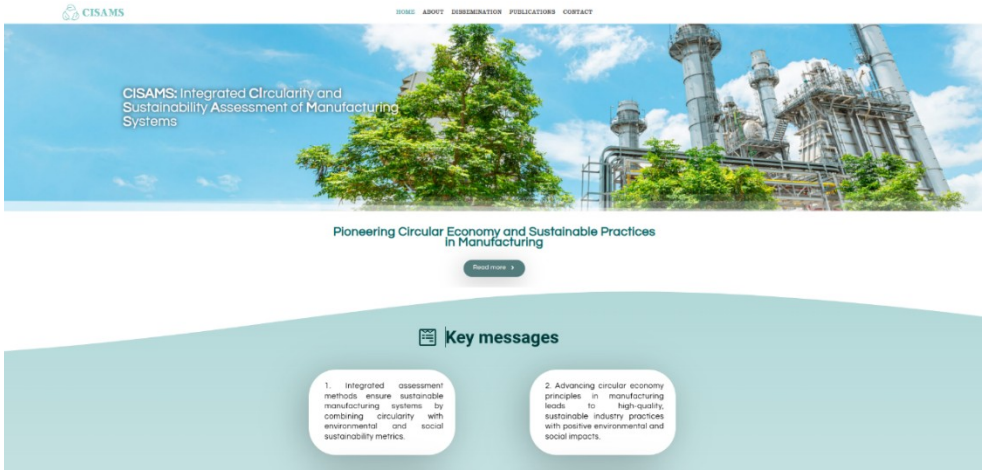


Figure 1: CISAMS's Website – Home

The **Meet the Team page** introduces the dedicated individuals behind the CISAMS project, showcasing their expertise and contributions. This tab provides insights into the team's background and their specific involvement in the project.

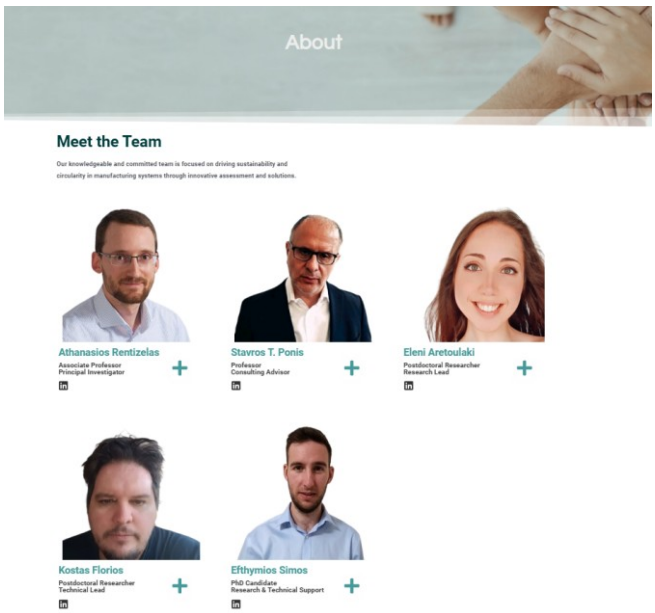


Figure 2: CISAMS's Website – About

The **Dissemination section** provides access to promotional materials, including the project flyer and poster, which outline CISAMS's goals, scope, methodology and funding details. This section is designed to share updates and key findings with a broader audience.

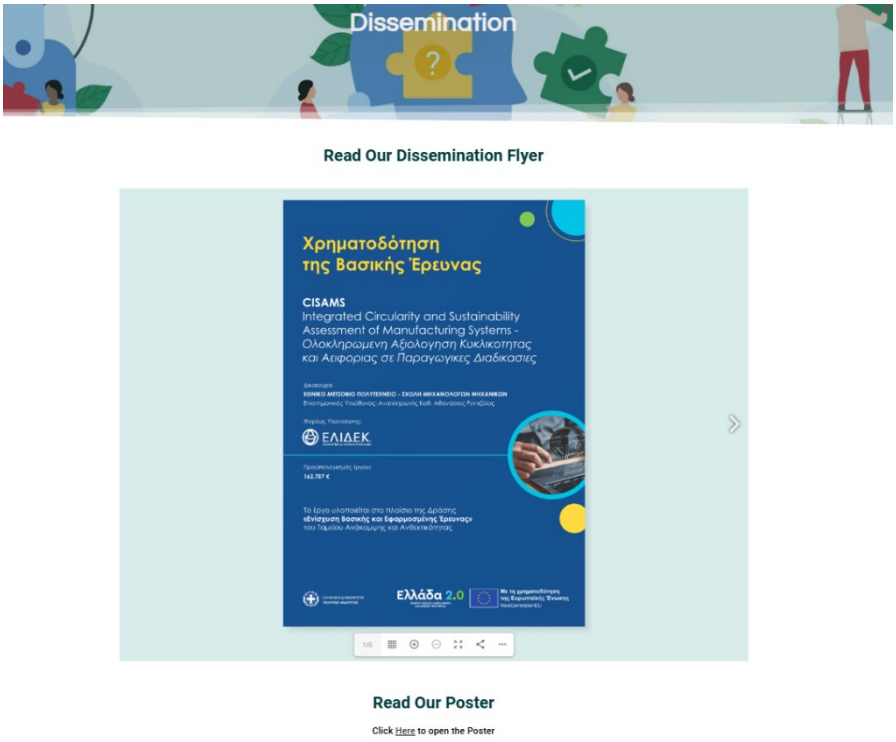


Figure 3: CISAMS's Website – Dissemination

The **Publications page** is dedicated to showcasing academic contributions and outputs from the project. This section will be updated as research results and publications become available.

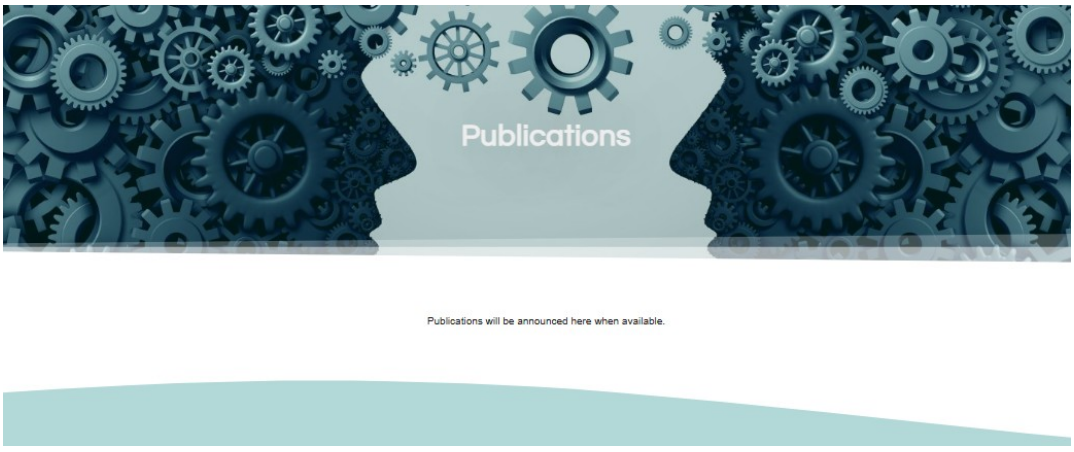


Figure 4: CISAMS's Website – Publications

The **Contact page** allows visitors to connect with the project team through a form. It serves as a point of interaction for inquiries and collaboration opportunities.

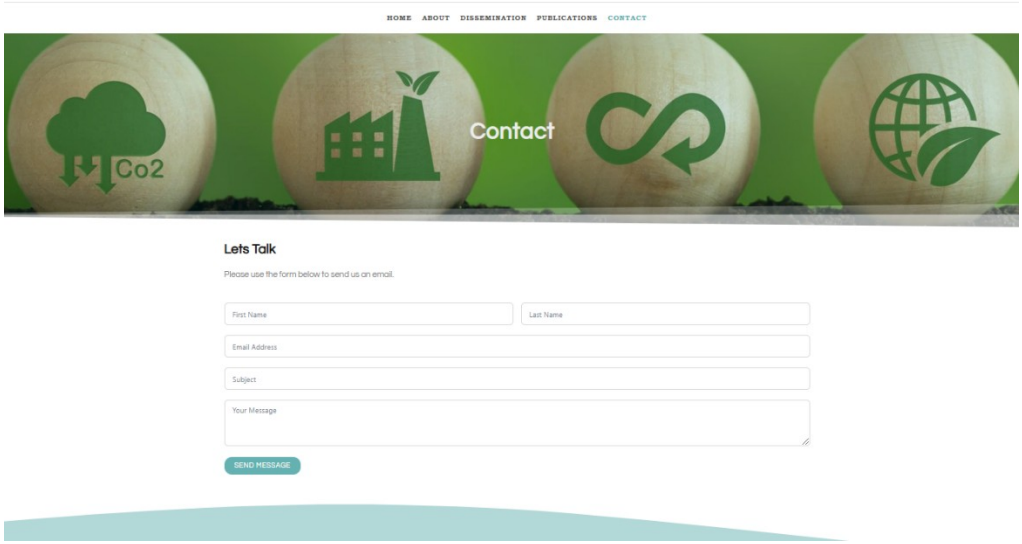


Figure 5: CISAMS's Website – Contact

Last, the **foote**r, present on every page of the website, highlights the project's key partnerships and funding under the Greece 2.0 framework, supported by the European Union's NextGenerationEU initiative. It also includes links to external pages, such as LinkedIn, ResearchGate, and the ORLOG Laboratory for further engagement.

Figure 6: CISAMS's Website - Footer

3 CISAMS'S SOCIAL MEDIA PAGES

This chapter presents the CISAMS project's social media presence, showcasing its **ResearchGate and LinkedIn pages**, which serve as platforms for disseminating updates, engaging with stakeholders, and sharing research findings.

3.1 CISAMS's Page on Research Gate

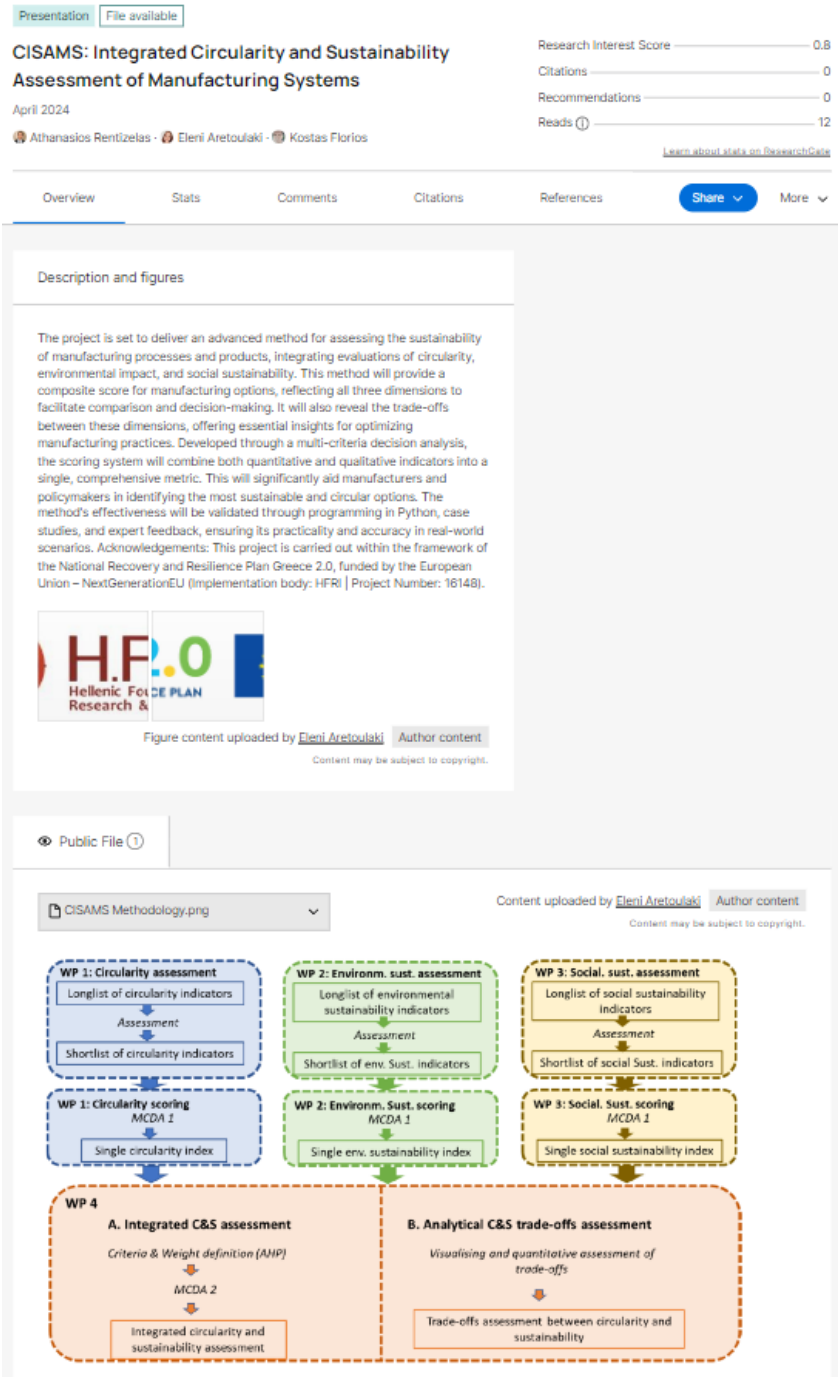


Figure 7: CISAMS's Digital Presence on Research Gate

The Research Gate CISAMS Page is available on the following URL: https://www.researchgate.net/publication/379827037_CISAMS_Integrated_Circularity_and_Sustainability_Assessment_of_Manufacturing_Systems

3.2 CISAMS's Page on LinkedIn

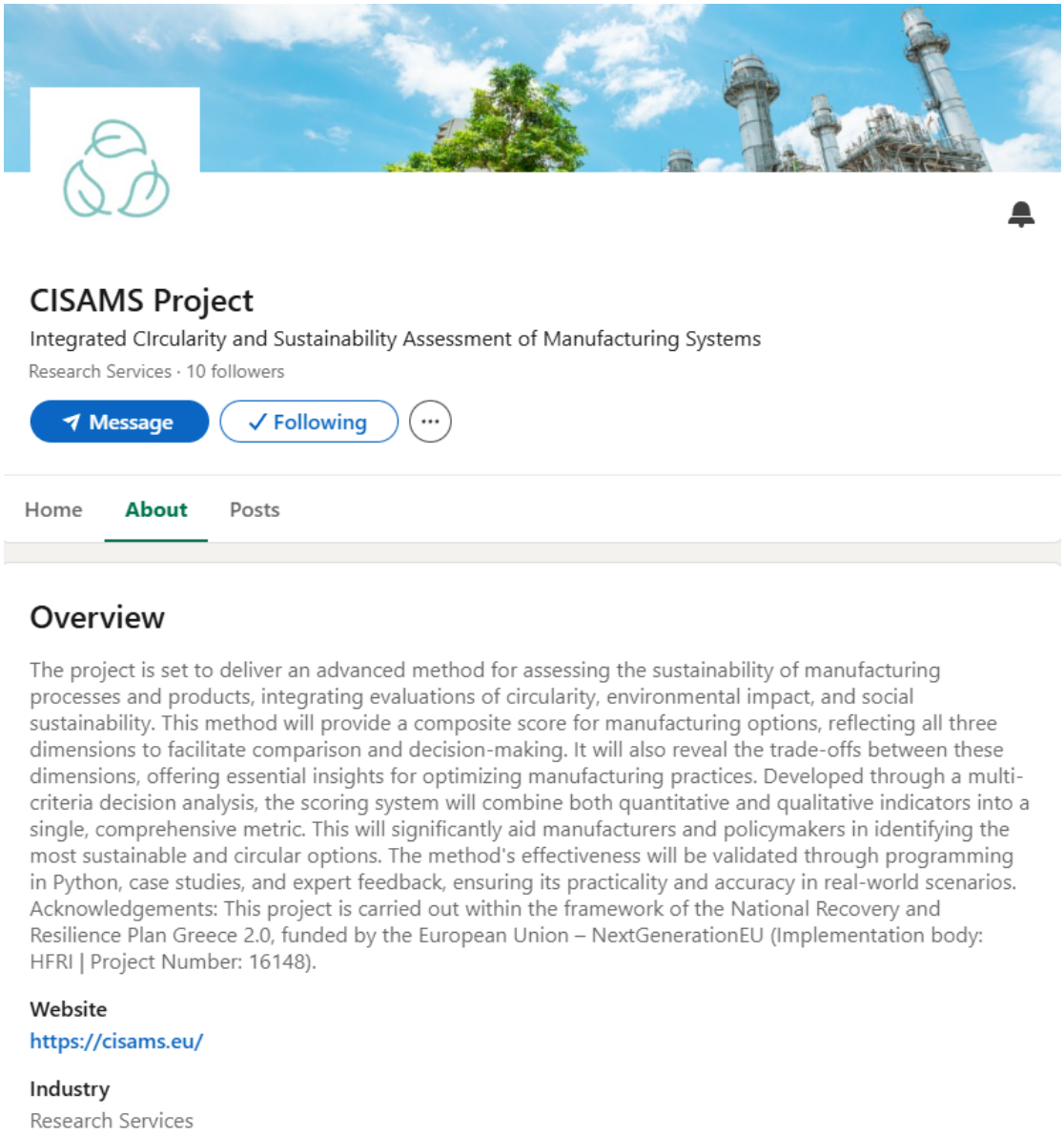


Figure 8: CISAMS's LinkedIn Page Overview

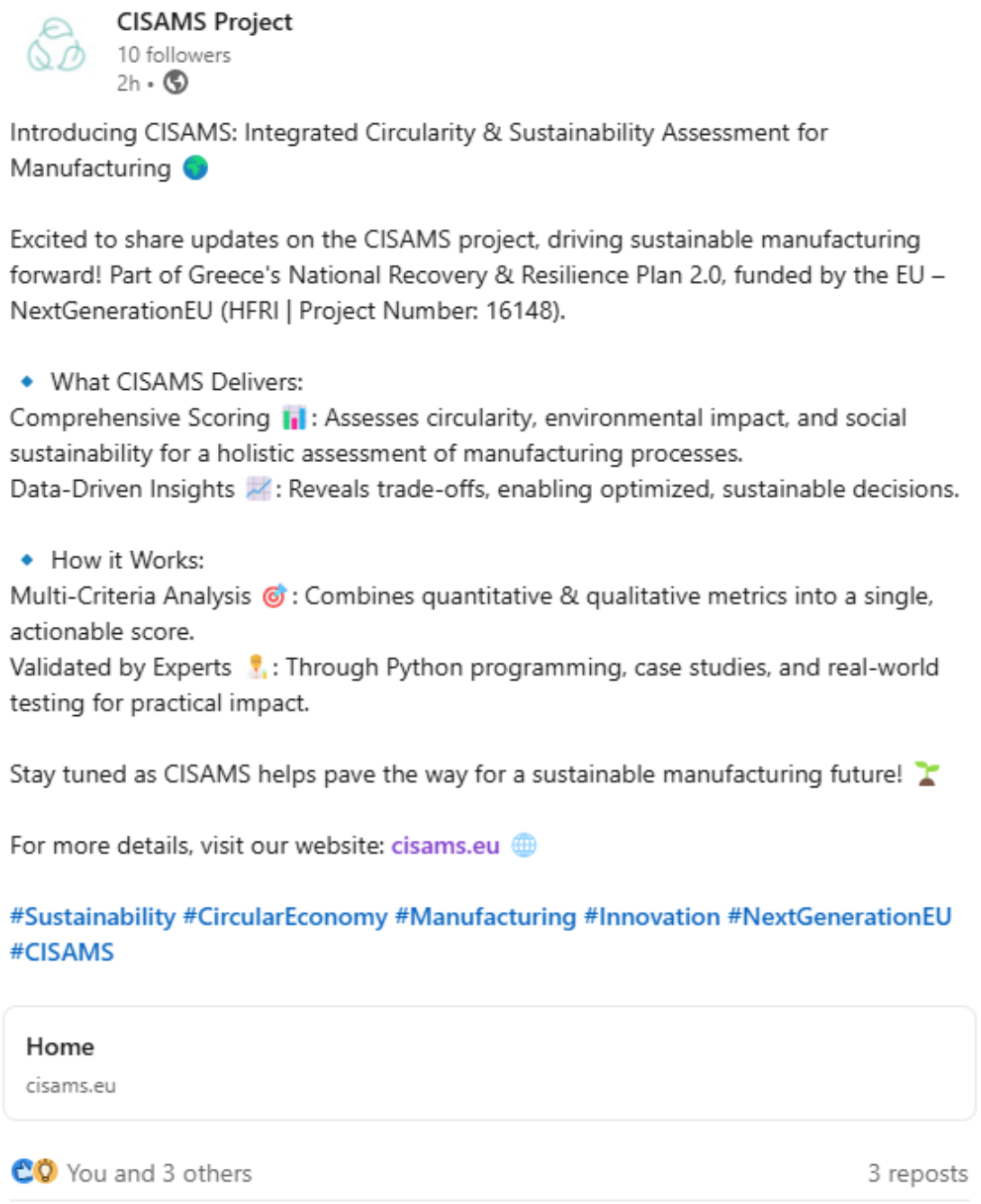


Figure 9: CISAMS's First LinkedIn Post

The LinkedIn CISAMS Page is available on the following URL: https://www.linkedin.com/showcase/cisams/?viewAsMember=true

4 CISAMS'S VISUAL COMMUNICATION MATERIAL

This chapter presents CISAMS's visual communication materials, including an overview poster (in Greek), a research poster (in English), a project banner, an e-brochure, and the official logo, all designed to effectively convey the project's identity and objectives.

4.1 CISAMS's Overview Poster (Greek)

Figure 10: CISAMS's Overview Poster (Greek)

The overview poster is printed in A3 size and available in publicly accesses spaces of the National Technical University, as required by the Communication and Dissemination guidelines of HFRI (Fig. 11).

Figure 11: CISAMS's Overview Poster in A3 format in public space of the NTUA

4.2 CISAMS's Research Poster (English)

ORLOG NTUA
OPERATIONAL RESEARCH & LOGISTICS LAB

Integrated Circularity and Sustainability Assessment of Manufacturing Systems

CISAMS

Background

Circular economy, as outlined by the Ellen MacArthur Foundation, advocates for **a shift from linear resource usage to sustainable, circular pathways**, emphasizing **renewable energy** and **waste reduction.** Initiatives, such as the European Green Deal, reflect global recognition of the need for integrating circularity with sustainability in economic practices. Tools such as Circulytics and the Material Circularity Indicator have been developed to quantify circularity, but there is **an increasing demand for methodologies that encompass also both environmental and social sustainability**. This need points to a crucial gap: true sustainability encompasses **environmental impacts** as well as **social implications**, necessitating comprehensive assessment methods in manufacturing and industry. In order to ensure that increased circularity in the industry and manufacturing systems actually leads to positive environmental and social impacts, there is a need for novel assessment methods that will include **all three dimensions of analysis**, rather than just circularity in isolation

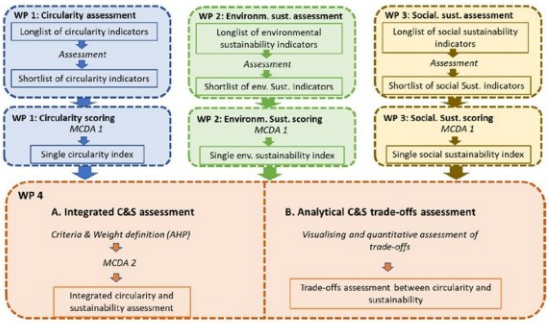
Objectives

The project aims to develop a comprehensive assessment method for the manufacturing sector, focusing on understanding the environmental and social impacts of circular economy practices beyond their circularity. Objectives include:
1. Identifying **key indicators** for **circularity, environmental**, and **social sustainability**.
2. Creating an **integrated assessment method for comparing manufacturing options**, highlighting trade-offs between circularity, environmental, and social sustainability.

Research Methodology

The research methodology for assessing circularity, environmental, and social sustainability in manufacturing unfolds in key stages:

1. **Indicator Identification**: Through desk research, a comprehensive list of indicators from scientific literature and existing models is compiled, evaluated, and refined with expert input to create a shortlist for each sustainability dimension.
2. **Scoring System Development:** A scoring mechanism, based on Multi-Criteria Decision Analysis (MCDA), calculates composite scores for each dimension, integrating quantitative and qualitative indicators.
3. **Integrated Assessment and Trade-off Analysis:** Two main methods are developed: one for a holistic assessment across all dimensions and another to examine trade-offs between circularity, environmental, and social sustainability.
4. **Implementation and Validation:** The assessment methods are programmed in Python and validated through case studies and expert feedback via surveys, workshops, and conferences.



Expected Results

The project is expected to result in a nuanced assessment method that integrates circularity with environmental and social sustainability for manufacturing processes and products. This method will allow for the **ranking of various manufacturing options** based on a **composite score** that **reflects all three dimensions—circularity, environmental, and social sustainability**. Additionally, it will facilitate a deeper understanding of the **trade-offs** involved between these dimensions, providing essential insights for decision-making in the manufacturing sector. The composite scoring mechanism, developed through a **multi-criteria decision analysis approach**, will simplify the evaluation process by **combining a range of quantitative and qualitative indicators into a single, actionable metric**. This will enable manufacturers and policymakers to identify the most sustainable and circular options effectively.

Acknowledgements

This project is carried out within the framework of the National Recovery and Resilience Plan Greece 2.0, funded by the European Union – NextGenerationEU (Implementation body: HFRI | Project Number: 16148).

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Funded by the European Union NextGenerationEU

Figure 12: CISAMS's Poster (English)

4.3 CISAMS's Banner

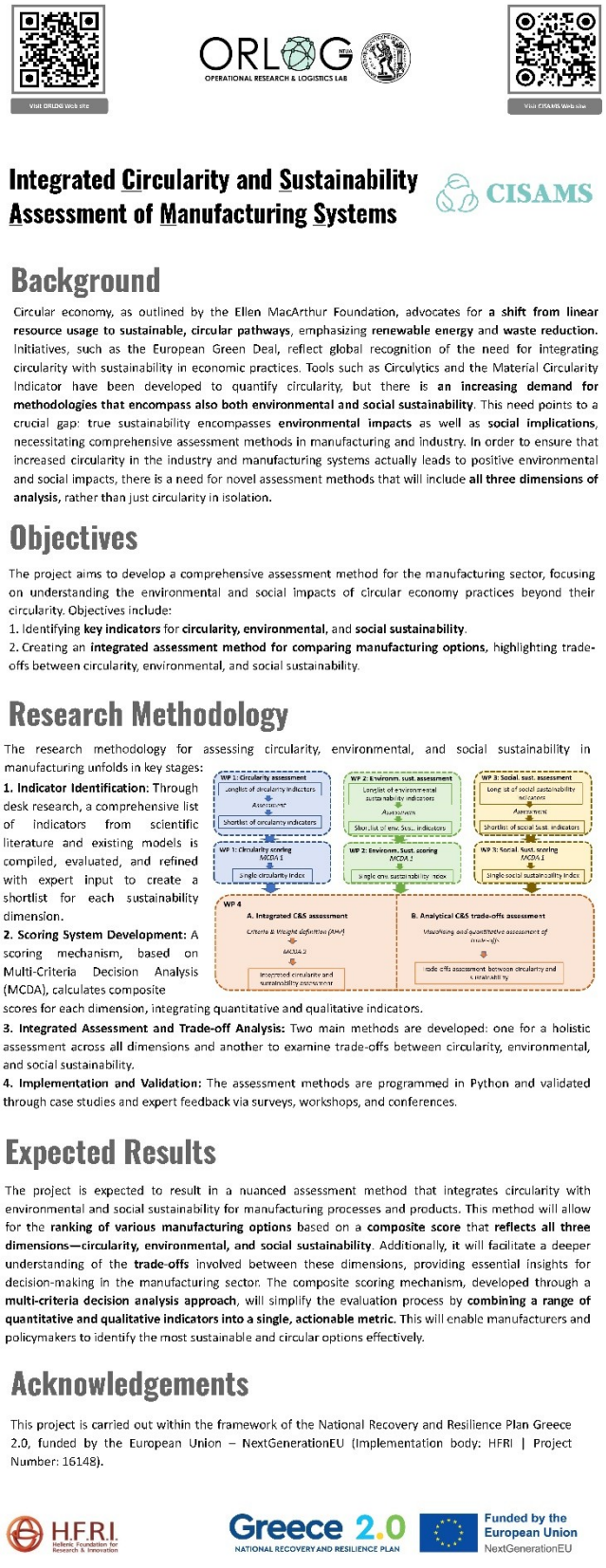

Figure 13: CISAMS's Banner

4.4 CISAMS's E-Brochure

CISAMS

Integrated Circularity and Sustainability Assessment of Manufacturing Systems

Research Methodology

The research methodology for assessing circularity, environmental, and social sustainability in manufacturing unfolds in key stages:

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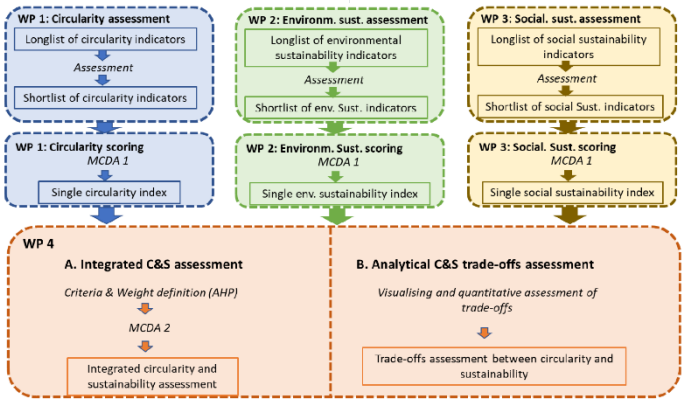

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Figure 14: CISAMS's E-Brochure (INSIDE)

Objectives

The project aims to develop a comprehensive assessment method for the manufacturing sector, focusing on understanding the environmental and social impacts of circular economy practices beyond their circularity. Objectives include:

Objective 1: Identify relevant **key indicators** for assessing **circularity.**

Objective 2: Identify relevant **key indicators** for assessing **environmental sustainability** aspects.

Objective 3: Identify relevant **key indicators** for assessing **social sustainability** aspect.

Objective 4: Develop the **integrated circularity and sustainability assessment method**. The method will have a two-fold scope: to perform a **ranking of alternatives for manufacturing systems or products** based on an integrated circularity and sustainability assessment; while at the same time offering insights into the **trade-offs** between the key dimensions of **circularity, environmental** and **social sustainability** performance.

Meet the Team

Principal Investigator: Athanasios Rentizelas, *Associate Professor of Sustainable Supply Chains*

Research Team Members: Prof. Stavros T. Ponis

Dr. Konstantinos Florios, Dr. Eleni Aretoulaki

CISAMS ORLOG

Visit CISAMS Web site

Visit ORLOG Web site

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This project is carried out within the framework of the National Recovery and Resilience Plan Greece 2.0, funded by the European Union – NextGenerationEU (Implementation body: HFRI | Project Number: 16148).

H.F.R.I Greece 2.0 Funded by the European Union

CISAMS

Integrated Circularity and Sustainability Assessment of Manufacturing Systems

Setting the Context

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Figure 15: CISAMS's E-Brochure (OUTSIDE)

4.5 CISAMS's Logo

Figure 16: CISAMS's Logo