D6.7 MODEL TRANSFER AND EXPLOITATION PLAN (b)

Project Number	101070421
Project Acronym	MUSAE
Project Name	A human-centred factory for a future technological sustainable development driven by arts
Project starting date	1 September 2022
Project end date	31 August 2025
Work Package producing the document	WP6
WP Lead Partner	GLUON
Other Partner(s) involved	POLIMI, ABACUS, UoM, UB, MADE, PAL, UCD, ETF
Deliverable identifier	D6.6
Deliverable lead beneficiary	ETF
Due date	31 August 2025
Date of delivery	31 August 2025
Version	1.7
Author(s)	ETF, PAL, POLIMI, ABACUS, GLUON, UoM, MADE, UB, UCD
Classification	PU
Document Status	Final version

This project has received funding from the **Horizon Europe Framework Programme (HEU)** under grant agreement No 101070412.

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Revision History

Version	Date	Created / modified by	Comments
1.0	08/07/2025	ETF	First draft
1.1	16/07/2025	UB ART	UB ART individual plan
1.2	17/07/2025	UB Tech	UB Tech individual plan
1.3	17/07/2025	PAL	PAL individual plan
1.4	21/07/2025	POLIMI	KER, POLIMI individual plan and exploitation trajectory
1.5	22/07/2025	ETF	Revision
1.6	22/07/2025	MADE	MADE individual plan
1.7	27/08/2025	ETF	Final version

Executive summary

This report outlines the MUSAE project's exploitation strategy, designed to ensure the long-term sustainability and impact of MUSAE's key outcomes. This document defines the strategic framework and operational mechanisms for transferring the project's outputs to relevant stakeholders, including European Digital Innovation Hubs (EDIHs), SMEs, research institutions, policymakers, and the artistic community.

The plan is centered around four primary KERs:

KER 1 – MUSAE Factory Model Pack: A structured, transferable framework for integrating art-driven, human-centered innovation within EDIHs. It includes guidelines, tools, and formats for open calls, residencies, training, and stakeholder engagement.

KER 2 – Design Future Art-driven (DFA) Method: An interdisciplinary methodology that combines design futures thinking with art to anticipate and address societal and technological challenges.

KER 3 – Prototypes of New Products and Services: Eleven TRL5 prototypes co-developed by artists and SMEs, demonstrating the practical application of the Factory Model and DFA Method in the domains of health, food, and well-being.

KER 4 – Integrated Stakeholders Network: A curated database of cross-sector actors (artists, technologists, domain experts, and DIHs) designed to facilitate collaboration and support the replication of the MUSAE model across Europe.

Each consortium member has developed an Individual Exploitation Plan that leverages their unique institutional strengths, specialized expertise, and distinct stakeholder networks. These plans establish clear pathways for integrating MUSAE innovations into existing frameworks—from academic programs and research curricula to industrial development processes and cross-sector partnerships.

By systematically integrating MUSAE's outputs into the practices of research institutions, businesses, and public organizations, the consortium aims to ensure that the project's legacy extends well beyond its formal conclusion. This long-term vision supports Europe's leadership in human-centered, ethical digital innovation while fostering inclusive growth, sustainable development, and stronger connections between technology, art, and society.

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1. Introduction

1.1. Purpose of the document

This Exploitation Plan outlines the key exploitable results (KERs) generated by the MUSAE project and defines the strategies to ensure their sustainability and long-term impact. The plan provides a structured approach to transferring knowledge, methodologies, and innovations developed within the project to relevant stakeholders, including European Digital Innovation Hubs, startups, small and medium enterprises, policymakers, researchers, citizens, and artists. It aligns with the MUSAE project's mission of fostering interdisciplinary collaboration between the arts and digital technologies to drive human-centered innovation. The document also sets forth guidelines for intellectual property management, stakeholder engagement, and commercialization strategies to ensure the broad adoption and integration of the project's outcomes

1.2. Terms and acronyms

Acronym	Description
KER	Key Exploitable Result
EDIHs	European Digital Innovation Hubs
SMEs	Small and Medium Enterprises
C&D Plan	Communication and Dissemination Plan
IEP	Individual Exploitation Plan
MFMP	MUSAE Factory Model Pack
DFA Method	Design Future Art-Driven Method
TBD	To be determined
FSTP	Financial support for third parties
ISN	Integrated Stakeholders Network

1.3. Exploitation objectives

Ensuring the sustainable exploitation of the MUSAE Factory Model is crucial for maximizing its long-term impact beyond the project's duration. By integrating arts and technology within (E)DIHs, MUSAE fosters a structured and continuous collaboration that enables SMEs, startups, and researchers to develop innovative solutions addressing future challenges. Sustainable exploitation ensures that the project's methodologies, training programs, and digital tools remain accessible and adaptable, allowing for widespread adoption across different sectors. Moreover, by scaling the model within the STARTS ecosystem and (E)DIHs, MUSAE creates a self-sustaining innovation hub that continues to drive technological advancements, interdisciplinary collaboration, and industry transformation, reinforcing Europe's leadership in human-centered digital innovation.

Main Objectives of MUSAE for Sustainable Exploitation and Model Scalability

Establishing the MUSAE Factory Model within (E)DIHs

- Develop a structured, replicable Factory Model that integrates arts and technology within (E)DIHs to support continuous interdisciplinary collaboration.
- Create training and mentoring programs for artists and technologists to facilitate the adoption of AI, Robotics, and Wearables in future applications.
- Build an extensive network of stakeholders, including artists, technology providers, and research institutions, enhancing the STARTS network.
- Implement a standardized mediation process to foster collaboration between industry, artists, and researchers, ensuring clear communication and effective knowledge exchange.
- Deploy the Factory Model within MADE and ETF and integrate it into the broader STARTS and (E)DIH networks, making it accessible for further adoption.

Implementing and Validating the Design Futures Art-Driven (DFA) Method

- Develop and refine the DFA method, combining Design Futures and Art Thinking approaches to envision and address future challenges using digital technologies.
- Validate the DFA method through academic programs at UB and POLIMI, integrating it into university curricula for long-term adoption.
- Test and refine the methodology through pilot applications involving artists, technology providers, and industry partners to ensure its adaptability and effectiveness in real-world scenarios.

Piloting the MUSAE Factory Model through the STARTS Ecosystem

- Conduct art-tech experiments to explore the future role of digital technologies in "Food as Medicine," generating innovative scenarios and use cases.
- Organize open calls to engage artists, SMEs, and researchers in collaborative residencies, driving innovation through artistic experimentation.
- Develop and test industrial prototypes (TRL 5) based on the DFA methodology, demonstrating the practical applicability of project outcomes in real-world environments.

Scaling and Expanding the MUSAE Model Across the STARTS Ecosystem and (E)DIHs

- Create a transferability framework to allow widespread adoption of the MUSAE Factory Model within (E)DIHs beyond the initial implementation.

- Establish a certification process and labeling system for (E)DIHs adopting the Factory Model, ensuring quality and alignment with MUSAE standards.
- Develop a scalability roadmap, extending the MUSAE model to community and city levels to enhance its impact beyond the food sector.

Disseminating the Factory Model and Enhancing Technology Awareness

- Increase public and industry awareness of the Factory Model's potential through high-profile exhibitions, conferences, and publications.
- Utilize the STARTS platform to distribute project outcomes, ensuring long-term visibility and accessibility.
- Organize webinars, podcasts, and training sessions to educate industry professionals and policymakers on the benefits of integrating arts into digital innovation.
- Showcase MUSAE-developed prototypes and case studies, demonstrating the effectiveness of the model in fostering innovation across various sectors.

1.4. Exploitation roadmap

The exploitation process in MUSAE was structured into two distinct phases to ensure a systematic and collaborative approach to maximizing project impact.

First Phase (M12 to M32):

This phase began with an interactive in-person Exploitation Workshop, where partners jointly defined Key Performance Indicators (KPIs) to measure project impact. The workshop laid the groundwork for identifying exploitation goals and aligning outcomes with stakeholder needs. Based on this input, a first draft of the Exploitation Plan was developed, including a framework for individual exploitation strategies. During this phase, the Key Exploitable Results (KERs) were continuously refined and documented, and Intellectual Property Rights (IPR) guidelines were shaped to support the future use of MUSAE results.

Second Phase (M32 to M36):

In the second phase, the exploitation strategies were finalized. All KERs were clearly defined and documented, ensuring their usability and relevance to market, societal, and research needs. Partners updated and aligned their **Individual Exploitation Plans** to reflect their institutional missions and the specific target groups they serve—ranging from SMEs and startups to students, citizens, and public institutions. This phase concluded with the creation of this comprehensive Exploitation Plan, capturing both the shared and partner-specific approaches for sustaining MUSAE's outcomes.

After the project ends

With the project now complete, MUSAE enters a new phase where the focus shifts from planning to implementation. Each partner will begin integrating MUSAE's results, especially the four KERs, into their ongoing work and regular activities - ranging from research and innovation projects to educational programs and new services - thus ensuring continued relevance and real-world application. By anchoring these results in the daily practices of research institutions, businesses, and public organizations, MUSAE ensures that its legacy extends far beyond the project's timeline. The exploitation strategies outlined and

committed to by each partner represent a long-term investment in a more inclusive, ethical, and sustainable digital future for Europe.

1.5. Exploitation rules

All exploitation activities were completed with the terms outlined in the Grant Agreement (GA) and Consortium Agreement (CA), focusing on:

[Grant Agreement]

1.5.1. Access to Background

Beneficiaries must provide access to relevant background knowledge (data, information, or IP owned before joining the project) needed for the project or result exploitation, ensuring third-party rights are respected.

1.5.2. Results Ownership

The results of the project (data, knowledge, IP) remain the property of the party that generates them. The funding body does not claim ownership.

Use of Project Materials by the Granting Authority:

The granting authority may use non-confidential project outputs (documents, visuals, summaries, etc.) for communication, dissemination, and policy purposes during or after the project. This use is allowed under a royalty-free, non-exclusive, irrevocable license, including rights to:

a) Use internally and with EU institutions

b) Share publicly (online, print, broadcast)

c) Edit, adapt, or summarize

d) Translate

e) Store and archive

f) Sub-license or authorize third parties

g) Process and create derivative works.

These usage rights will remain valid for the entire duration of the intellectual property or industrial property rights involved. If third-party or moral rights are concerned, beneficiaries are responsible for obtaining all necessary permissions to ensure compliance.

1.5.3. Specific IPR Provisions

Further detailed rules regarding IPR, results, and background are outlined in Annex 5 and reflected in

Article 8 of the CA.

1.5.4. Non-Compliance Consequences

Any breach of these obligations may result in a reduction of grant funding.

[Consortium Agreement]

1.5.5. Ownership of Results

Results belong to the party that produces them. Software results are owned by the code author.

1.5.6. Joint Ownership

Joint results can be exploited or licensed by each owner independently, without needing permission or payment to others, unless otherwise agreed. Protection measures and costs are agreed upon jointly.

1.5.7. Transfer of Results

- Ownership of results can be transferred, following GA procedures. Pre-identified third parties in Attachment 3 can receive transfers without prior notice or objections from other members.
- Transfers must not affect other parties' rights, and updates to Attachment 3 require General Assembly approval.
- In mergers or acquisitions, advance notice might not be possible due to legal constraints.
- Transfer obligations remain in place as long as access rights for other parties apply.

1.6. Target Groups

The Exploitation strategy is addressing multiple Direct target groups, as defined in C&D Plan. Direct target groups include: (E)DIHs network; Industries and industry association; Scientific and research community; STARTS regional centers and artistic association.

Direct Target Groups	Audiences Segmentation	Specific exploitation objective
(E)DIHs network	during the project	MADE and ETF have gained valuable experience in applying and contextualising the MUSAE Factory Model within an industrial environment. This has included experimenting with methods of technology and knowledge transfer that connect SMEs, artists, and innovation facilitators. As part of this, MADE and ETF contributed to the development of training and mentoring materials that served as a foundation for potential capacity-building activities addressed to other DIHs. A Teaching Factory format has been outlined to share the MUSAE approach in a structured and replicable way, which might be further developed in the future to support peer learning
	DIHs dealing with AI, Robotics and Wearables	
	After the project	Based on its involvement in MUSAE, MADE and

	wider DIHs landscapes	ETF will act as a reference point within the EDIH ecosystem for DIHs interested in adopting or adapting the Factory Model and the DFA Method. There may be opportunities to share insights and formats developed during the project with other hubs, companies, or institutions. While no fixed plans are in place, MADE and ETF are open to exploring how the MUSAE approach might be extended to other sectors.
Industries & industry association	During the project tech driven SMEs, startups, and companies within the food value	Technological companies provided consultancy and support for art-tech residences. Knowledge gained during these interactions (from other technology providers, SMEs, artists and designers) is integrated into their expertise and will be used in future work and projects.
	After the project chain broader landscape of EU SMEs. startups and public sector organizations	Being the members of MUSAE network, companies will be able to provide mentorship and support for new upcoming collaborations within (E)DIHs in the format of Factory Model. Also, they might benefit from the Factory model in their own products' development.
STARTS regional centres and artistic associations	During the project	The results from the usability experiments and prototyping pilots was promoted among the STARTS ecosystem, and exhibitions at Gluon and Prototyping Park so that more regions in Europe can benefit. Programs within STARTS Regional Centers benefited from the generated project results by having access to them, as well as feeding into completed projects and use cases.
	After the project	MUSAE Factory Model and DFA method will be promoted among the new and upcoming STARTS Lighthouse projects and STARTS Regional Centers. As MUSAE will thrive based on the results of 66 art driven technology design and development experiments (21 in Repairing the Present, 45 in Vertigo), it will be included in the portfolio of signature-practices in industrial context for future projects and collaborations.
Scientific & research Community	During the project research and academic organization in areas related to MUSAE objectives i.e., technology, nutrition, arts and design	MUSAE as both scientific and artistic driven project relied on the knowledge generated in academia (technology, art and design related). At the same time, the project results was used in the universities by integrating the DFA method into the curriculum of graduate and postgraduate programs for students.
	After the project research and academic organization in areas related to MUSAE objectives i.e., technology, nutrition, arts and design	Universities reached out to other Art and Design universities in Europe within Cumulus Association, ELIA network and other networks with the goal to disseminate and include DFA method in their curricula ensuring the widespread use of the innovative method for students to develop future products with ethical, inclusive and sustainable approach in mind. The robotics tools developed in this project with ongoing and future projects at UoM on social robot for older people (e.g. UKRI TAS Trust Node project at UoM), MUSAE focus on robotics and technology for food and wellbeing added a

		complementary focus to the existing robot's functions. UoM also reached out to a further academic audience through a workshop regarding robotics and arts in the food industry during the 2025 International Conference on Social Robotics + AI. UB will exploit the project results (e.g. various AI-linked wearable sensors) to market them for the use among the general public and for clinicians, including nutritionists. In addition, developed AI solutions could be patented and interested industries will be explored to implement project results in their work (e.g. AI tool to help clinicians and nutritionists in their decision-making).

2. Key Expected Results to be transferred

The MUSAE project delivered several Key Exploitable Results (KERs) that will be transferred to relevant stakeholders for long-term use and scalability. These include:

KER 1: MUSAE Factory Model Pack

A structured framework for DIHs, including:

- Factory Core Design Futures Art-driven Method: Guidelines and tools for Art-Driven experiments.
- Residency & Open Call Format: A framework for selecting artists and conducting residencies.
- Training & Mentoring Guidelines: A structured approach for upskilling stakeholders in the DFA method.
- DFA projects and use cases: A collection of residency results (future scenarios and prototypes) from the MUSAE project
- MUSAE Integrated Stakeholder Network: An open network for artists, tech providers, (E)DIHs, experts in nutrition

KER 2: Design Future Art-Driven (DFA) Method

A methodology combining Design Futures Thinking with Art Thinking to address societal challenges using digital technologies.

KER 3: Prototypes of New Products and Services

11 industrial prototypes developed through the MUSAE Factory Model focusing on health and food innovation.

KER 4: MUSAE Network

An interdisciplinary community of DIHs, artists, researchers, and industry partners to sustain innovation beyond the project's duration

2.1 KER 1: A new transferable People-Planet-Centred Factory model

Name	MUSAE Factory Model Pack
IPR information	Politecnico di Milano (POLIMI)
URL	https://musae.starts.eu/factory-model-pack/
WP involved	WP6
Contact person	Marita Canina - POLIMI
Documentation	**Orientation Guidelines** (Link) / **Orientation Guidelines for Educators** (Link) **Introductory video course** (Link) / **Factory Model brochure** (Link) / **DFA method platform** (Link) / **DFA Miroverse** (Link) / **Residency guidelines** (Link) / **Open Call guidelines** (Link) / **Mentoring guidelines** (Link) / **Training guidelines** (Link) / **Integrated Stakeholder Network** (Link) / **MUSAE Factory Label** (Link)
Description	The **MUSAE Factory Model Pack** is a comprehensive framework designed to support Digital Innovation Hubs (DIHs), companies, policymakers, and researchers in integrating human-centered, art-driven digital innovation. It provides a structured methodology, tools, and resources for fostering interdisciplinary collaboration, technology adoption, and sustainable innovation. **The Factory Model Pack** consist of a: **Factory Core Method**, including written guidelines and tools for application of the DFA method to develop Art-driven use experiments and design (RIA) scenarios and prototype concepts; **Open call and Residency Format** with a guideline for setting up, selecting artists, residency activities, evaluation process, and disseminating results; **Training and Mentoring Guidelines** with specifications on how to train the DFA method and technology skills for the artists, as well as establishing guidelines for building a common language between artists and technology providers. **DFA projects and use cases** as demonstrators of the scenarios and concepts emerged from the pilots to serve as inspirational material for other DIHs or end-users to see the potentialities of the DFA method. **An integrated stakeholder network**, disseminating DFA methodologies and pilot results toward the network of DIH and future EDIH Ecosystem.
Partners	POLIMI, MADE, GLUON, ABACUS, UB-ART
Exploitation	
Target group	EDIHs, Academia
Potential	The MUSAE Factory Model Pack represents a framework that has the potential to reshape digital innovation across industries by integrating people-planet-centered, interdisciplinary approaches. By bridging the gap between technology, arts, and industry, the Factory Model enables European Digital Innovation Hubs E(DIHs), SMEs, startups, research institutions, and policymakers to adopt new technologies in ways that prioritize sustainability, ethics, and inclusivity. Its scalability and adaptability make it a powerful tool for fostering collaborative ecosystems where artists, technologists, and businesses co-create future solutions. Moreover, the Factory Model Pack's

	structured training programs, technology transfer guidelines, and innovation methodologies empower organizations to stay ahead in the digital transformation while ensuring that technological advancements are accessible, ethical, and aligned with societal needs.

2.2 KER 2: Design Future Art-driven (DFA) method

Name	Design Future Art-driven (DFA) method
IPR information	Politecnico di Milano (POLIMI)
URL	https://musae.starts.eu/dfa-method/
WP involved	WP2
Contact person	Marita Canina - POLIMI
Documentation	**DFA method platform** (Link) / **DFA Miroverse** (Link) / **Introduction video to DFA method** (Link)
Description	The Design Futures Art-Driven (DFA) Method is an innovative, interdisciplinary approach that combines Design Futures Thinking with Art Thinking to explore and shape future technological developments. Developed within the MUSAE project, DFA is designed to foster human-centered innovation by integrating artistic exploration, speculative design, and emerging digital technologies. **Core Principles of DFA** **Future-Oriented Thinking** – The DFA method anticipates long-term societal and technological changes, helping stakeholders envision and prepare for emerging challenges. **Art as a Catalyst for Innovation** – Artistic practices are used to provoke new perspectives, challenge conventional assumptions, and generate unconventional solutions. **Interdisciplinary Collaboration** – By bringing together artists, designers, technologists, and industry experts, DFA fosters cross-sectoral knowledge exchange and ideation. **People-Planet-Centered & Ethical** – DFA ensures that technological advancements align with social, ethical, and environmental values, promoting inclusivity and sustainability. **Prototyping & Experimentation** – The method emphasizes hands-on experimentation, producing tangible future scenarios, concepts, and prototypes.
Exploitation	
Target group	EDIHs, SMEs, Universities
Potential	**Expected Outcomes of the DFA Method** • New future scenarios showcasing the impact of digital innovation in food, health, and beyond. • Innovative prototypes demonstrating the practical application of AI, robotics, and wearable technology. • Strategic insights for policymakers on how to foster sustainable digital transformation. • Enhanced collaboration between artists, researchers, and industry leaders, promoting an inclusive and creative innovation ecosystem.

	By using art as a foresight tool, DFA goes beyond traditional R&D approaches, ensuring that digital innovation is not just technologically advanced but also socially responsible, ethical, and meaningful.

2.3 KER 3: Prototypes of new products and services

Name	Prototypes of new products and services
IPR information	Ownership belongs to the art-tech teams and is determined by the Contract.
URL	https://musae.starts.eu/activities-dfa-projects/
WP involved	WP5
Contact person	Maria Bulgheroni - Ab.Acus
Documentation	**Videos of the 11 developed prototypes explaining the process of the DFA method and introducing the final prototypes** (Link) / **Feasibility and Prototyping guidelines: Concept Feasibility, Prototyping Iteration and Prototype Assessment** (Link1, Link2, Link3) **Training guidelines** (Link) **Training best practices** (Link) **DFA method** (Link) **Final exhibition: a video will document the 11 prototypes exhibited in a final event**
Description	This KER includes a methodology for the development and the validation of TRL5 prototypes of new products and services, fostering a fruitful collaboration between artists and technical experts, and the 11 prototypes realized in the context of the MUSAE project following such methodology. The process of prototyping is based on: ● Concept Feasibility Assessment, a preliminary step to the actual development of the prototype, fundamental to lay a solid foundation for the following step of the process that aligns artistic vision with technical feasibility ● Prototyping Iteration, a complex activity that describes an entire cycle of development and includes activities planning, running and review subphases. The iteration needs to be repeated multiple times to achieve the complete development of a prototype reaching TRL5. ● Prototype Assessment: During the MUSAE project the assessment of the prototypes has been achieved through two plenary meetings: ○ A Midterm Prototype Assessment, where the developing team presents the prototype's evolution and current status, showcasing its technical development and evaluating its progress towards achieving the final project goals. ○ A Final Prototype Assessment, with the objective of proving that the prototype not only reaches Technology Readiness Level 5 but also demonstrates enough future-oriented innovation to meet long-term project goals. During the session, the functional and value-driven aspects of the prototype, as well as its future potential, need to be evaluated.

As a result of the MUSAE project, 11 prototypes have been developed by trans-disciplinary teams formed by artists and innovative or technological SMEs.

Specifically:

- **Soil.AI:**an accessible cyberphysical system (easy-to-use and affordable) that allows automated analysis of the microbiome in soil samples, with video and image processing and Artificial Intelligence. The device, built from a scanning digital microscope + desktop App + AI module + dashboard, can scan a glass slide with a soil sample that has been collected and prepared very easily, only with some water dilution and pipetting
- **BEE-SUSTAIN:** an application that includes an Art Book, which interactively visualizes data collected and used for training of artificial intelligence (AI). This AI predicts ideal locations for placing beehives to achieve higher honey yields and, consequently, to pollinate a broader range of ecosystems.
- **Sprout To Flourish:** an innovative tool designed to lower the complexity of transitioning to regenerative farming practices in Europe, addressing critical challenges like an aging farming population and the growing need for sustainable agriculture. The simulator empowers farmers to design biodiverse, climate-resilient systems, lowering barriers to entry for younger and part-time farmers.
- **NOURISH:** a tool powered by an advanced artificial intelligence system designed to uncover how food affects emotional and cognitive states. By analysing EEG signals, the tool provides real-time feedback on how dietary choices influence mental well-being and performance. Its machine learning algorithms process this data, identifying meaningful patterns that reflect emotional responses like joy or calmness and cognitive factors such as focus or clarity.
- **Growing Futures:** a regenerative design process that creates sustainable habitats at different scales from mycelium materials through a symbiotic ecosystem where humans, mycelium, and robots collaborate.
- **Remedy Pavilion:** a bio-inclusive architectural system that cultivates medicinal plants to enhance urban biodiversity and health. Built using reclaimed materials and 3D-printed biomorphic modules, it provides habitats for plants, insects, and microbes, fostering interspecies relationships. Designed for integration with healthcare facilities, it offers a sensory experience and promotes 'food as medicine'.
- **Symphony of Solace:** a desktop robot, to be a companion during meals and other parts of the day. The robot also gently nudges the user into better food choices, for example by simply reminding them about eating fruits and drinking fluids. It thereby focuses on the pleasant and nutritional appropriate parts. The robot can also have some gamification elements, and keep track of the users intake of different nutriates, and give praise when completing the daily goal.

	• **Fermenting Traditions:** a fermentation tracking system designed with small kombucha brewers in mind. It is a wearable to be placed on the brewing vessel to help the brewers monitor the microbial activity and create a flavour wheel based on an AI model trained with over 100 Kombuchas. • **Neuro-Cooking:** a wearable, that is including EEG, motion, pulse and muscle contraction trackers. With these sensors we are able to analyze the emotional state of the user in realtime and respond with instructions that aim to improve the mental state by different techniques in the field of food preparation. • **S.O.I.L.:** a wearable garment designed to focus on the human torso, utilizing technology to create a profound connection between the wearer and their surrounding environment. The garment incorporates common sensors to collect biometric data, such as heart rate (via pulse sensors) and galvanic skin response (GSR), alongside actuators like piezos and micro speakers to transduce soil data into sound and vibration. Each soil parameter—pH, humidity, temperature, and NPK levels—is mapped to specific areas of the garment, creating a spatialized geography of stimuli on the body. This mapping establishes a hybrid body-landscape interaction, where the wearer experiences a feedback loop between soil and biometric data. • **Open Agroecology Accounting Kit (OAAK):** a biodiversity storytelling and data-gathering tool for organizations, governments and activists that helps them run community-driven biodiversity-listing events that is better than automated techno-centric solutions because it brings people to the field, starts conversations and generates public datasets.
Exploitation	
Target group	SMEs, Artists, Trans-disciplinary teams
Potential	This KER holds strong potential for broad adoption and long-term impact within innovation ecosystems that involve the convergence of art, design, and technology. The methodology developed through the MUSAE project provides a structured yet flexible framework for guiding transdisciplinary teams—from concept feasibility to the development and validation of TRL5 prototypes. Its potential lies in: • **Scalability and Transferability**: The methodology is adaptable to various domains beyond the context of the MUSAE project, including health, mobility, sustainability, and digital transformation. It can be adopted by SMEs, research institutions, cultural organizations, and innovation hubs seeking to integrate creative perspectives into technical R&D processes. • **Strengthening Artistic-Technical Collaborations**: By formalizing the collaboration process between artists and tech experts, this KER promotes more inclusive and innovative product and service development pipelines. It encourages the co-creation of visionary yet feasible solutions, unlocking new innovation potential.

	• **Support for Early-Stage Innovation**: The methodology bridges the gap between conceptual design and market-ready innovation by embedding assessment points and iteration loops. This supports more robust early-stage innovation strategies for SMEs and startups. • **Training and Capacity Building**: With associated training materials (e.g., video tutorials and guidelines), the methodology has the potential to serve as a foundation for training programs that build creative and technical capacity among diverse stakeholders. • **Inspiration and Best Practices**: The 11 prototypes developed serve not only as proof-of-concept demonstrations but also as inspirational models and best-practice references for future initiatives. By empowering creative and technical actors to co-develop prototypes that are both visionary and technically sound, this KER lays the groundwork for new pathways of innovation in Europe and beyond.

2.4 KER 4: MUSAE Integrated Stakeholders Network

Name	MUSAE Integrated Stakeholder Network
IPR information	None. The Network is formed of contact data.
URL	https://musae.starts.eu/factory-model-pack/
WP involved	WP6
Contact person	GLUON
Documentation	**This package includes a database with descriptions and contact details of the potential stakeholders** https://shorturl.at/0koyL
Description	The **Stakeholders Integrated Network** will function as a database to find potential stakeholders according to their profile, expertise and location. Thus, any EDIH working with the DFA Method will be able to find the profiles they are missing within the team. For this purpose, the database will be divided into categories, as follows: - **Artists** - **Tech providers** - **DFA experts** - **Domain experts** - **EDIHs** that have already received the MUSAE Label Registration via Google Form will be required to access it.
Exploitation	
Target group	EDIHs, Artists, SMEs, MUSAE experts and experts from different domains
Potential	The expected potential of this Stakeholders Integrated Network is that it will serve as a reference for all those professionals or institutions interested in developing a collaborative project between art, science and technology.
Strategy	In order to give content to this network, the partners involved in the MUSAE project have cooperated in the creation of a list of potential profiles interested in appearing on this list. They sent an invitation to join, including information about the project and an explanation of how the network will work.

2.5 Impact definition

The MUSAE project is shaping a more inclusive, innovative, and sustainable Europe by placing people at the center of digital transformation. Through its unique Factory Model and the dynamic STARTS ecosystem, MUSAE empowers universities, SMEs, startups, public institutions, and citizens to co-create solutions that address some of today's most pressing societal challenges. From improving health and well-being and supporting climate action, to fostering ethical innovation and strengthening the role of education and research, MUSAE delivers real impact aligned with the Sustainable Development Goals, the European Green Deal, and the DIGITAL Europe Programme. By building bridges between art, science, and technology, the project ensures that digital innovation is not only cutting-edge—but also ethical, inclusive, and deeply rooted in European values. Main expected impacts are listed below:

I1. Promoting Inclusiveness Through People-Planet-Centered Innovation

MUSAE puts people at the heart of technology development, making sure that digital innovation respects European social and ethical values and supports sustainability. By using a People-Planet-Centered approach, the project helps the future workforce better understand both the opportunities and the challenges of new technologies.

MUSAE also contributes to building a more inclusive, resilient, and democratic Europe — one that can effectively respond to crises like COVID-19, reduce inequalities, provide better healthcare, and empower citizens to actively take part in the green and digital transitions.

I2. Supporting Quality Jobs and Skills for the Future

MUSAE promotes sustainable, high-quality jobs by helping people gain the skills they need to thrive in a fast-changing digital world. Through the Factory Model — developed within the STARTS ecosystem and Digital Innovation Hubs (DIHs) — the project offers companies and their future workforce a space to learn new, in-demand skills, boosting their ability to innovate and stay competitive.

By continuously strengthening the STARTS network, MUSAE also creates opportunities for exchanging knowledge, discovering cutting-edge technologies, and connecting with potential collaborators, employees, or trainers.

I3. Strengthening Innovation and Research in Widening Countries

MUSAE helps boost science and innovation capabilities in countries that are still building up their research and development potential. Partners from the University of Belgrade – School of Electrical Engineering (ETF) are working closely with leading European tech experts in areas like robotics, artificial intelligence, and wearable technology.

By adopting new, cutting-edge innovation methods, ETF will not only strengthen its own capacity but also share these methods with others. This approach is designed to create long-term positive impacts on both the economy and society in Widening Countries.

I4. Empowering Universities in Research and Innovation

MUSAE strengthens the role of universities in driving research and innovation that truly benefits society. The project supports:

- **Transdisciplinary research** that combines different fields to use digital technologies for the common good.
- **New innovation opportunities**, especially in regions at risk of brain drain, encourage talented individuals to stay and grow locally.
- **Stronger connections to real-world challenges**, such as promoting health through the concept of

"Food as Medicine."

I6. Contributing to Climate Action (SDG 13)

MUSAE supports global climate goals by highlighting the environmental impact of digital technologies when creating new products and services. Using the Factory Model and the DFA method, the project encourages sustainable innovation from the start.

Through public engagement and dissemination activities (WP7), MUSAE shares future scenarios and prototypes with citizens, showing why it's urgent to develop solutions that respond to today's environmental challenges.

I7. Supporting Sustainable Innovation and the Green Transition (SDG 9 & European Green Deal)

MUSAE contributes to building a more innovative and sustainable Europe by connecting art, science, and technology. Through the Factory Model and the growing STARTS network (WP2), the project promotes collaboration across disciplines to create human-centered, ethically designed solutions.

MUSAE helps small businesses and public institutions adapt to the green and digital transitions by offering new skills, business models, and innovative methods. It also ensures that the DFA method and insights from project experiments are openly shared with both citizens and companies—making the transition fair and inclusive.

I8. Advancing the Goals of the DIGITAL Europe Programme

MUSAE directly supports the objectives of the DIGITAL Europe Programme, especially the work focused on European Digital Innovation Hubs (EDIHs). While helping small and medium-sized enterprises (SMEs), the project also extends its impact to public sector organizations by addressing their digital transformation needs.

Through the Factory Model, MUSAE offers a platform for innovation. A key focus is also on expanding the use of artificial intelligence (AI), particularly in the health sector, which is a priority area for DIGITAL Europe.

I9. Supporting Health, Well-being, and Sustainable Food (SDG 3 & Farm to Fork Strategy)

MUSAE contributes to better health and well-being by exploring how food and health are connected. Through the Factory Model, the project develops future scenarios and creates 11 innovative industrial prototypes designed to support both physical and mental health. These solutions aim to make it easier for people to adopt healthier, more sustainable diets.

The project also lays the groundwork for ongoing innovation, turning the Factory Model into a platform within European Digital Innovation Hubs (EDIHs). This will showcase real, evidence-based solutions that support preventive healthcare—starting with healthier food choices at home.

2.6 Exploitation Trajectory

KER	Long-term KPIs	Exploitation Trajectory	Exploitation type	Status	WP	Partners
MUSAE Factory Model Pack	>30% of the targeted Key Opinion Leaders have shown interest in developing new solutions with the Factory Model >20% of targeted (E)DIHs (AI, Robotics, Wearables) will integrate the model and receive a devoted label, as integration of the STARTS label; >5% of (E)DIHs with other technologies (apart from AI, Robotics, Wearables) integrate the Model and receive label every year, STARTS certified (E)DIHs initiate at least 2 residencies between artists and SMEs to develop new solutions >80% of all DIHs across Europe are aware of the Factory Model and DFA method and at least 50% of 536 DIHs (188 EDIH) across Europe, specializing in AI, Robotics, Wearables become service provider for SMEs and public sector organizations to develop innovations over 5 years after the project ends	Recommendations for scaling the MUSAE Factory Model Pack (MFMP) to community and city levels, as well as new sectors, were prepared and supported by early engagement with stakeholders (Deliverable 2.7). Opinion leaders were initially reached through the MUSAE Advisory Board and follow-up communications, many expressing interest in adopting or promoting the MFMP. To support outreach, four explanatory videos were created and made available on the MFMP website, alongside the MUSAE label and an automated email template for Digital Innovation Hubs (DIHs). An email campaign targeting EDIHs was performed and several online presentations to EDIHs were conducted. The MFMP was also presented at major events, including the European Robotics Forum (with over 1,500 attendees) and the Futures4Europe conference in Vienna (200+ attendees), and was added to the Futures4Europe platform for broader dissemination among policy-makers, researchers, and organizations as a project result. Cross-industry collaboration was fostered through interactions among FSTP-funded teams during both the first and second residencies. UB-Tech participated in the Open Innovation Challenge	New Service	Developed	WP4 WP6 WP7 WP8	POLIMI MADE ETF Abacus UoM

	>50% of more than 300 (E)DIHs specialized in AI adopt the Factory model; >60% increase in access to technologies and financial services for SMEs to upgrade their technological capabilities at least 20% of new products and service developed within Factory Model have included cross industry collaborations 5 start-ups in the Widening countries have fully or partially applied the Factory Model + 10% EU projects in AI/robotics and + 50% journal articles and conferences (top 10%) for ETF ≥95% population in WiCo reached directly/indirectly by project to increase awareness about AI and robotics as technologies for facilitating human work and contributing to human wellbeing	organized by the Generalitat de Catalunya, further expanding visibility and industry connections. As for the widening country, one Serbian start-up, BeeHold, applied the MFMP in the development of their prototype during the second residency. The MFMP was introduced at the S+T+ARTS Academy event held in Belgrade and communicated through emails, social media and online events for the widening countries (please refer to Deliverable 8.6 for more details). ETF will maintain MUSAE consortium partnerships and develop new networks, embedding project methodologies into future Horizon Europe and national proposals. The Factory Model Pack and DFA method will position ETF to lead consortium formation and joint research initiatives building on MUSAE outcomes. ETF will disseminate results through workshops, exhibitions, publications, and online campaigns, reaching the WiCo to promote AI and robotics as enablers of human wellbeing.				

KER	Long-term KPIs	Exploitation Trajectory	Exploitation type	Status	WP	Partners
	at least 10% out of 302 art and design universities across Europe incorporate DFA method course in their curriculum Positioning the universities as an initiator of social dialog among stakeholders for topics on Food and Health (≥10 new panel	A tailored dissemination package for universities was developed, including Guidelines for Educators on using the DFA method, an introductory video, and a ready-to-use email for outreach. The package also offered the opportunity to book online sessions or webinars with POLIMI. The DFA method was successfully integrated into seven universities—including Politecnico di Milano and Universidade de Madeira—supported by workshops,	Research achievement	Developed	WP2 WP7	POLIMI

The DFA method	discussions and policy framework initiatives)	training kits, and targeted outreach through the CUMULUS and ELIA networks. The MUSAE project and DFA method were presented at key public events, including the Food Waste Prevention Week at Politecnico di Milano—where the poster received a recognition award—and the Milan Design Week 2024. As part of the "Interdependence" initiative during the Design Week, a dedicated event showcased nine future scenarios on Food as Medicine, developed using the DFA method under the title "Alimentazione del Futuro: verso un Mondo Sostenibile" (The Food of the Future: Towards a Sustainable World). Between 2023 and 2025, 19 discussion panels were organized at the POLIMI School of Design, featuring guest speakers exploring the value of art-driven and futures-driven innovation, with a particular focus on the "Food as Medicine" theme. The DFA method was also recognized with the ADI Design Index 2025 award, one of Italy's most prestigious design honors. From October to December, three public events with exhibitions were planned as part of this recognition.				

KER	Long-term KPIs	Exploitation Trajectory	Exploitation type	Status	WP	Partners
Prototypes of new products and services	at least 5% of SMEs within each DIH has applied DFA method to develop new digital solutions,and the % will increase each year. At least 30% of reached out SMEs and public organizations have shown interest in adopting digital technologies 30% increase in products and services that are designed with	Eleven prototypes were developed and actively promoted during the second residency. Several teams such as Symphony of Solace, Neuro-Cooking, Nourish, and Remedy Garden focused on health-related applications, embedding ethical and human-machine interaction (HMI), which were explored in depth during dedicated workshops held in December and January. The participating SMEs received support in business planning and advancing their technology readiness	Product development	Developed	WP3 WP4 WP6 WP7	Abacus UoM PAL MADE GLUON

	inclusivity in mind(gender/ disability/ geography-related, etc 70% of the developed prototypes by SMEs within the Factory Model get access to the market SMEs increase their profit by at least 10% thanks to the new developed innovations; 11 prototypes developed during the project consider environmental implications, as well as >90% of new products and services developed in the future through the Factory Model >80% of citizens report changing attitude towards environmental challenges and climate change; at least 80% of consumers (citizens) reported increased trust in selected technologies after interacting with the prototypes at least 70% of European citizens reported consideration to change eating habits after interacting with the prototypes; prototypes increase both physical and mental health by at least 40%; at least 20% of developed products and services are adopted by the public health institutions over 5 years after the project ends	levels during the 2nd residency. The post-event surveys were designed and conducted to assess the impact of the prototypes and evaluate participants' engagement, attitudes, and trust, with the results shown in D5.3 and in a workshop paper of the RAFFI-el workshop.				
KER	**Long-term KPIs**	**Exploitation Trajectory**	**Exploitation**	**Status**	**WP**	**Partners**

			type			
Integrated Stakeholders Network	at least 20 new future scenarios are developed and showcased within(E)DIH and STARTS networks each year 100 SMEs can have access to the STARTS Integrated Network through DIHs (MADE, ETF); 30% growth of STARTS Integrated Network of stakeholders within 3 years after the project ends at least 3 more industries (apart from Health and Food) have joined the STARTS Integrated Network with thematic experts, technologists, SMEs and start-ups at least 30% of SMEs initiate collaborations with artists and technologists through the network All scenarios and concepts developed within (E)DIH network are exposed to at least 2000 European citizens (for each exhibition) through different channel involving more artists (≥50%) in facing societal challenges	A dedicated section on the MUSAE website now showcases all EDIHs that have adopted the MUSAE Factory Model Pack (MFMP), reinforcing visibility and uptake. The MFMP has been presented at several online events targeting EDIHs, encouraging collaboration with artists and promoting engagement with the integrated stakeholders network (ISN) created through MUSAE. Moreover, an email campaign targeting partners' SME and EDIH networks was conducted, while broader outreach has been performed through a previously launched dissemination campaign (outlined in D7.1 and D8.6), leveraging STARTS media, newsletters, press releases, and social media. As for the widening country, participants of the events (the first MUSAE workshop and the S+T+ARTS Academy in Belgrade) were introduced to the MFMP and the DFA method, and offered to join the ISN, resulting in around 150 more members of the ISN. GLUON will continue monitoring the growth of the network to ensure sustained engagement.	New service	The network is developed and continuously populated	WP6 WP8	GLUON POLIMI MADE ETF

3. Individual Exploitation Plans

To ensure the sustainable impact of the MUSAE project, each Individual Exploitation Plan (IEP) is tailored to a specific partner institution, addressing their unique needs and potential for adopting the project's outcomes. By aligning with the structured MUSAE Factory Model, these plans provide a clear pathway for the transfer, adoption, and further development of Key Exploitable Results (KERs) across different sectors.

The MUSAE methodology is built on a multi-stakeholder approach, fostering collaboration between technology providers, researchers, policymakers, and creative industries to drive digital transformation in the food and health domains. Each exploitation plan follows this interdisciplinary framework, ensuring that the project's results are effectively integrated into academic research, industrial innovation, and policy development. The plans also incorporate insights gained from the Exploitation Workshop, where partners defined the long term key KPIs and exploitation strategies based on their specific roles in the project.

Individual Exploitation Plans are structured based on the following target groups:

- **Universities**: Focus on integrating the Design Futures Art-Driven (DFA) Method into academic curricula, fostering new research collaborations, and training future professionals in digital innovation.
- **DIHs**: Ensure the long-term adoption of the MUSAE Factory Model within European Digital Innovation Hubs (EDIHs), expanding support for SMEs and startups through structured innovation programs.
- **Companies**: Facilitate the commercialization and technology transfer of AI, robotics, and wearable solutions developed within the MUSAE framework, integrating them into market-ready applications.
- **STARTS Regional Centers**: Strengthen the art-tech collaboration ecosystem, promoting the role of artists in shaping technological innovation and expanding the reach of the MUSAE model within the STARTS network.
- **Food Research Centers**: Advance the integration of Food as Medicine concepts, leveraging project outcomes to drive policy recommendations, scientific research, and industry engagement in sustainable food innovation.

By structuring Individual Exploitation Plans, MUSAE ensures that its methodologies, tools, and technologies are effectively transferred, sustained, and scaled beyond the project's duration, reinforcing Europe's leadership in human-centered digital innovation.

3.1. PAL Robotics - Individual Exploitation Plan

PAL Robotics is providing technical support, mentorship and expertise in robotics for MUSAE participants, ensuring the integration of robotic solutions into the Factory Model and supporting the implementation of robotic applications within the MUSAE framework.

To ensure the long-term impact and full exploitation of MUSAE's outcomes, PAL Robotics will pursue the following strategic directions:

1. Enhancement of Product Portfolio:

- Integrate knowledge and methodologies developed during MUSAE´s FSTP residencies into PAL's humanoid platforms, TIAGo and ARI.

- Apply MUSAE HRI approaches and artistic-driven design elements to improve usability and inclusivity of the company platforms.
- Feed the project results into upcoming product development cycles of the company to strengthen market readiness and differentiation.

2. Development of New Applications in Health and Nutrition:

- Investigate use cases of social robotics in "Food as Medicine" scenarios.
- Continue collaborating with healthcare partners to pilot and evaluate HRI for supporting healthy eating habits and promoting well-being through engaging interfaces.

3. Engagement with Industry Stakeholders:

- Leverage MUSAE outcomes to explore robotics applications in sustainable food ecosystems and assistive technologies for food services and healthcare.
- Establish dialogue and co-creation activities with actors in the food and health industries.

4. R&D, Exploration and Future EU Research Projects:

- Incorporate MUSAE findings into PAL's internal R&D and research collaborations with universities and innovation hubs.
- Contribute to advancing art-tech and human-centered design practices in robotics.
- Build on MUSAE results in upcoming projects, especially the Horizon Europe project ARISE, where PAL is a key partner.

3.2. ETF - Individual Exploitation Plan

The University of Belgrade – School of Electrical Engineering (ETF) contributes to the MUSAE project through its Laboratory for robotics, with expertise in human-motion analysis and collaborative robot applications. ETF ensures the practical application of the MUSAE Factory Model Pack (MFMP) by integrating it into its research and Digital Innovation Hub (DIH) infrastructure, and by facilitating knowledge transfer across Europe's DIH network.

In order to sustain and extend the benefits of MUSAE, ETF will engage in a set of focused exploitation and integration measures:

Integration of the Factory Model Pack into DIH and innovation infrastructure

- Implement the **KER 1 - MUSAE Factory Model Pack** in two new EDIHs in Serbia where ETF is a core partner: CIPS and S4AI.
- Use the Factory Model Pack as part of ETF's innovation support services, especially for SMEs and startups in Serbia and the Western Balkans.
- Promote adoption of the MUSAE methodology among peer hubs, building on ETF's involvement in large networks of digital innovation hubs across Europe in the fields of manufacturing (DIH2), healthcare (DIH-HERO), and digital innovations in the widening countries (BOWI).

Educational aspects

- Integrate the Design Future Arts (DFA) method (**KER 2 - DFA method**) into accredited courses such as Human-Robot Interaction at the University of Belgrade - School of Electrical Engineering.
- Apply DFA in interdisciplinary education initiatives such as CITADELS project, focused on student career development through innovation and creative methodologies.
- Foster collaboration with art institutions, such as Faculty of Fine Arts and Faculty of Applied Arts in Belgrade, and overall artistic community in Serbia and Europe to support a human- and planet-centered innovation culture, through the newly established S+T+ARTS Knowledge Hub at the Palace of Science in Belgrade, Serbia.

Prototyping and industrial collaboration

- Support the development of new products and services (**KER 3 - Prototypes of new products and services**) using the Design for Adoption (DFA) method, drawing on the experience gained through mentoring the companies *mBrainTrain* and *BeeHold*, which participated in the 2nd MUSAE residency.
- Demonstrate how HMI (Human-Machine Interaction) innovations can move from lab to market, inspiring other actors in the HMI2Market ecosystems in Western Balkans (and the EU) in labour intensive industries (particularly automotive, material joining, quality inspection).

Strengthening the stakeholder network

- Leverage the integrated stakeholder network (**KER 4 - MUSAE Integrated Stakeholder Network**) to plan and implement long-term innovation activities, including those under Higher Education Initiatives of the European Institute of Innovation and Technology (EIT HEI).
- Involve local artists and creative professionals to help SMEs expand into new markets and better communicate the value of human-centered technologies.

Post-project implementation and knowledge transfer

- Ensure the continued use of MUSAE results in future R&D projects, institutional strategies, and collaborative innovation. ETF will maintain close collaboration with MUSAE consortium partners and extend these ties to new networks, ensuring that the project's methodologies and results are systematically embedded into future Horizon Europe and national research proposals. By positioning the Factory Model Pack and DFA method as proven assets, ETF will strengthen its role in forming and coordinating new consortia, while also driving joint research initiatives that build directly on MUSAE's outcomes.
- Organize capacity-building sessions, workshops, and peer exchanges to embed the Factory Model across the regional innovation ecosystem. ETF will ensure that the WiCo is widely reached, raising awareness of AI and robotics as enablers of human wellbeing.
- Position ETF as a national reference point for human-centered and artistic-driven innovation in engineering education and industrial application.

3.3. POLIMI - Individual Exploitation Plan

POLIMI, through the IDEActivity research team, contributed its expertise in Design Futures and creativity-driven innovation to develop the DFA method during the project, starting from its own DF

method developed for the education context. During two art-tech residencies, POLIMI provided training to artists and consortium partners in the method, collected feedback and refined the method through several iterations. Finally, POLIMI has also developed the MUSAE Factory model and creation of the Factory Model Pack, which consists of seven complementary components - DFA method, DFA projects and Use Cases, Mentoring and Training guidelines, Open Call and Residency format and Integrated Stakeholder Network, along with the creation of a video training on the Factory pack and the MUSAE label and automatic email for DIHs checklist. In addition to the guidelines for using the Musae Factory pack, POLIMI has created a tailored dissemination package for universities, including the Guidelines for Educators on how to use the DFA method, an introductory video and an email for dissemination, offering an opportunity to book an online session/ webinar with POLIMI. The Design Futures Art-Driven Method has been selected for inclusion in the ADI Design Index 2025, one of the most prestigious design awards in which POLIMI applied (link). This means it will be featured across ADI's official channels, events, and exhibitions, and is now eligible for the Compasso d'Oro Award.

Regarding **KER 1 - Factory Model Pack,** POLIMI will

- disseminate the model in the networks - Futures Europe Network, Futures4Europe network & platform, STARTS Academy, CUMULUS design researchers and profesionals as well as events and conferences where POLIMI will participate (e.g. the nearest one planned after the end of the MUSAE project is RAFFI-el workshop on Robotics and Arts at the the 17th International Conference on Social Robotics + AI in Naples, Italy).
- Recently, IDEActivity Center became a member of the Creative Pact for Skills (https://www.creativepactforskills.eu/) to adhere to the goal to promote new skills for culture and creativity sectors, and it will leverage its LinkedIn group and working groups to promote the Factory Model.
- Factory Model will also be disseminated also among the DIHs with whom POLIMI has connections, for example Cefriel, to offer including Factory Model as one of their services and also train companies in the DFA method.
- Factory Model was also added as a project result to the Futures4Europe platform, which is the online platform for the European foresight community. In this way, the Factory Model is disseminated among the wide audience of professionals in the futures field.

Regarding **KER 2 - DFA method**, POLIMI will

- keep integrating the DFA method in the Design Futures course for Master's students in Integrated Product Design at Politecnico di Milano, which takes place every year in the second semester.
- disseminate the DFA method to other educational institutions. For example, Cumulus network (design students) and ELIA network (art and design students) will be regularly reached out to promote the integration of the DFA method into the curriculum. The email for these networks and stakeholders contains the tailored EDU pack which was developed by POLIMI, and includes the Orientation Guidelines for Educators, the video about the DFA method and also invitation to book an in-depth online session or webinar to learn more about the method.
- be looking for different ways to disseminate further the DFA method in different contexts. To do this, in March 2025 POLIMI submitted an application with the DFA method for *ADI Design Index*, which is the annual selection of the ADI Association for Industrial Design that collects the best Italian design put into production, selected by the ADI Permanent Design Observatory. The

selection includes products or product systems of each product category, theoretical-critical research, process and business research, services, social initiatives: all with particular attention to sustainability. In May 2025, it was officially announced that the DFA method was selected for the ADI Design Index (the official announcement will be made on October 15, 2025). This means that the DFA method will participate in the prestigious Compasso d'oro ADI, which is the oldest and respected design award in the world established in 1954. As part of the dissemination activities of the ADI Design Index, the DFA method will be included in the ADI Design Official Publication and also presented at two events - on October 15th, 2025 at ADI Design Museum in Milan, and on November 11th, 2025 at Palacongressi in Agrigento as part of Agrigento 2025 - Italian Capital of Culture.

- Currently, POLIMI is in the process of finalising writing the book on Design Futures approach in education, where the Design Futures method is explored in educational activities, and also the application of the DFA method in the MUSAE project is presented. The book will be submitted for publication for the Design International series with Franco Angeli publisher by the end of 2025. It will be then widely disseminated among the universities and networks to promote the DFA method and foster its incorporation among other universities in Europe. In addition to that, POLIMI has been invited to contribute with a chapter for the book prepared by the Italian Institute for the Future on the application of the DFA method to explore the future of food. For this chapter, POLIMI has described the DFA method based on the example of the result from the first MUSAE STARTS residency of the future scenario created by Chloe Rutzerveld. At the moment, the book is planned to be presented at the Più Libri Più Liberi fair in Rome, Italy on December 4-8, 2025. In general, POLIMI is committed to exploit any other opportunities for publications to describe the DFA method.

- POLIMI is integrating the DFA method in different contexts to open it up for different audience as well. For example, POLIMI applied with the workshop proposal to be part of the Dubai Future Forum 2025, based on the DFA method. The proposal now passed the first selection and interview, and the final result will be announced by the end of July 2025. Dubai Future Forum is the world's largest gathering of futurists, among whom are policy-makers, companies, creatives, academics, and others. POLIMI will also conduct a workshop for creative entrepreneurs at the Creative Skills Week 2025 to train them in the DFA method.

- Moreover, POLIMI has already started to develop further the application of the DFA method in different contexts - for example, a Future Ready Entrepreneur Framework was developed, consisting of four pillars which are essential to support future creative professionals, and which are based on the DFA process. With this framework, POLIMI is planning to apply for new projects, among which for example is the call of EIT Culture & Creativity for proposing the Master's and PhD modules, designed to upskill professionals in the cultural and creative sectors and industries (CCSI). In the same manner, other opportunities for projects will be explored.

Regarding **KER 3 - Prototypes of new products and services**, POLIMI will

- include the future scenarios, concepts and prototypes developed by the teams of artists and SMEs as case studies for inspiration and discussion in the Design Futures course for Master's students in Integrated Product Design.
- use these case studies also in other presentations for the events and conferences where POLIMI will participate to showcase the potential of the Factory Model and the DFA method

Regarding **KER 4 - MUSAE Integrated Stakeholder Network**, POLIMI will

- continuously invite relevant stakeholders to join the network. It will leverage its memberships in Futures Europe Network, Futures4Europen, ELIA network, Creative Pact for Skills and other networks and platforms that will be joining in the future.

3.4. ABACUS - Individual Exploitation Plan

ABACUS provides technical support through mentorship to teams consisting of artists and SMEs participating in the MUSAE project, bringing specialized expertise in wearables and sensor technologies. Additionally, ABACUS has developed comprehensive Training Guidelines, which were employed during training sessions in the project's second residency. These guidelines targeted both the participating artists and companies, aiming to equip them with essential knowledge and practical tools to ensure a productive and effective collaborative experience. ABACUS also actively delivered several of these training sessions.

The methodologies developed within the MUSAE project hold significant potential for broader application in ABACUS development projects. Possible uses include enhancing ABACUS's own design and development processes, particularly in scenarios involving multicultural and multidisciplinary team management. Additionally, the method is intended to inform research and development activities that engage citizens directly, maximizing the practical application of new insights and discoveries to improve future designs and citizen-centric innovations.

Being involved in international projects focused on the development of mobile applications and systems aimed at monitoring and empowering citizens in healthcare and wellbeing, ABACUS expects that the DFA method, enriched by insights gained through the MUSAE project, will contribute significantly to achieving a broader, citizen-centered, and environmentally sustainable perspective in design and development.

Specifically, the ongoing co-creation practices within the Horizon Europe STAGE project—addressing healthy ageing and multimorbidity across the lifespan—and Youth-GEMs project—developing self-management tools for young people coping with mental health challenges—are anticipated to benefit greatly from the knowledge and methodologies designed through MUSAE. The application of the methodologies and tools developed in MUSAE, will enhance these initiatives by fostering more effective and user-responsive solutions within the sensitive healthcare panorama.

Looking ahead to future projects and developments, ABACUS anticipates that its adherence to the DFA method, acquired through their experience in MUSAE, will offer significant added value in establishing new collaborations and innovative project proposals, fostering deeper connections with diverse communities and stakeholders.

3.5. UB Tech - Individual Exploitation Plan

University of Barcelona (UB) Provides technical mentoring support to the SMEs to implement their AI models. Additionally, UB plays a key role in the development and continuous enhancement of the MUSAE website, ensuring that all versions are updated, optimized and aligned with the project's needs.

- The University of Barcelona is contributing to the MUSAE project by supporting research and innovation in AI-driven food systems and the "Food as Medicine" approach. UB-Tech will leverage the Human-Centered Factory Model to advance studies on Digital Transformation (DT) in health and Nutrition, exploring how this can affect their collaboration with Nutritionist and Health care professionals, reflecting in their future invited talks and seminars, and in future publishing scientific papers.
- UB-Tech's work will assist the MUSAE consortium in developing AI-powered health applications, sustainable Food-tech solutions, and the European Green Deal. Research findings will help establish best practices. standardization efforts, and policy recommendations for integrating AI into the Food and Health sectors.

The MUSAE Factory Model, including its guidelines for Art-Driven experiments and approaches to artist residencies and training, will be considered as a foundation for future use in academic research and education like Human-Computer Interaction (HCI) to support the development of more sustainable and human-centric approaches.

UB-Tech will be exploring opportunities within the upcoming European Projects to leverage the Design Future Art-driven (DFA) Method – a powerful methodology combining creative and forward-thinking approaches to address societal challenges through digital technologies. We believe this method in our future research work/project that intersect art, technology and health and we believe it offers significant potential to assist educational institutions in integrating innovative techniques.

UB-Tech will take inspiration from the prototypes developed through the MUSAE Factory Model with a focus on health and food innovation, as inspirational showcases for cross-sector innovation. They are providing concrete examples for businesses and valuable learning tools for academia. For instance, the prototype developed by the team **Nourish** could be explored further as a reference for future research in the area of AI, personalized health, and digital nutrition system. Additionally, the University will maintain contacts with the MUSAE Integrated Stakeholder Network to support the future collaboration opportunities. These contacts will be particularly valuable when the upcoming projects align with the scenarios explored in the MUSAE or with the technologies from the technical partners.

Through these general application strategies, UB-Tech aims to maximize the reach and impact of the MUSAE project results, contributing to advancements in sustainable practices, innovative methodologies, and collaborative ecosystems across our key stakeholder groups.

3.6. UB Art - Individual Exploitation Plan

UB Art is providing support in the MUSAE project in the WP4 where we develop part of the graphic materials, templates, communication and dissemination. UB Art provides mentorship to the artists and SME´s during their residencies and expertise in art, design and research.

Regarding **KER 1**: The group of professors and researchers who make up UB Art plays a fundamental role as a channel for disseminating the knowledge and experience generated within the framework of the Musae project, especially through the mentoring sessions held with the various artists who have participated in the two project calls. Their position within the academic field and their connection to research and teaching spaces allow them to act as bridges between artistic and scientific knowledge, fostering an interdisciplinary dialogue that is precisely one of Musae's conceptual pillars.

Possible places or institutions to disseminate.
Conference of Doctoral Researchers EAPA - Advanced Studies in Artistic Productions. Doctoral program at the University of Barcelona.

The Journal for Artistic Research (JAR) is an international, online, Open Access and peer-reviewed journal that disseminates artistic research from all disciplines.

Regarding **KER 2**: UB-Art will use the knowledge acquired in the MUSAE project to implement the DFA method in the Design and Visual Arts program at the University of Barcelona. The experience gained during these three years of collaboration between the various partners in the Musae project will generate a wealth of knowledge that will allow for the development of theoretical frameworks for teaching. Master's students can benefit from the interdisciplinary theoretical framework developed within Musae. Understanding the interaction between art and science is a valuable exercise because both disciplines, far from being opposed, represent complementary ways of interpreting and transforming reality. In contexts such as the climate crisis, artificial intelligence, or pandemics, we need both scientific analysis and art's ability to generate awareness, empathy, and reflection.
The implementation of the DFA methodology is currently being defined and will be introduced in the following courses:

- Methodologies I, taught by Diego Marchante
- Methodologies II, taught by Eloi Puig

Additionally, the approach may be applied in production workshops and Final Degree Projects to encourage critical thinking and transdisciplinary practices in students' creative processes.

3.7. University of Manchester - Individual Exploitation Plan

The University of Manchester provides mentorship to all the SME-artist groups in relation to the human-robot interaction aspects that could characterise the developed prototypes. It also provides support in the design of the user study validations required during the prototyping phase, and they have exposed the cohort to the related methodologies through training sessions. Furthermore, it has guided two groups throughout the full development of their prototypes. The University of Manchester also contributes to the future acceptance of the selected technologies and their impact on the end users over time, through some of the long-term KPIs of the project.

The University of Manchester keeps track of the ongoing progress of all the projects, as it seeks at further expanding the results that will derive from the completion of the prototyping phase. More precisely, it will exploit the results by informing the research methodologies carried out at their institution and enhance them, especially regarding user study validation. It will gather the design methodologies of the prototypes proposed by the groups to find trends that can be used as standard or guidelines for future experiments regarding end users applications for the food industry.

Technological results achieved during the project that are relevant to the research subjects of the institution (e.g., human-robot interaction, trust in automation, affective computing), together with the

whole Factory Model, will be considered by the institution to foster potential collaborations with the related groups to continue enhancing the prototype. Furthermore, it will treasure the further development of the prototypes of interest by seeking collaborations with the Stakeholders Integrated Network and other academic and/or industrial institutions outside the consortium. Besides, The University of Manchester will continue its outreach to advertise the DFA method and the prototypes resulting from the prototyping phase. This will be mainly done through dissemination activities, including academic workshops within the contexts of international conferences. These will gather different people from other research institutions and disseminate the work carried out during the MUSAE project.

3.8. GLUON - Individual Exploitation Plan

GLUON participates in MUSAE by offering art mentorship to the teams formed during the two residencies (3 during the first residency and 3 during the second). Given that a specifically artistic outcome is not expected in the context of MUSAE, this mentorship has been based on accompanying the teams in the DFA Method process and ensuring that the design and development of the prototypes complies with certain ethical standards.

The fact that GLUON has extensive experience in the field of art mentoring with transdisciplinary teams has also led to the development of an Intermediary Training Program, offered to both artists and consortium partners, which covers aspects such as interdisciplinary collaboration or the fundamentals of data ethics.

Moreover, as a platform specialized in Arts+Science cooperation, the outcomes of the project will be leverage with different strategies, as follows:

- As partner of several Arts+Science projects, the DFA Method (**KER 2**) will be implemented in those where collaborative approaches are demanded, as a strategy to increase the outreach of the Method and GLUON's adherence to it. For example, at the moment of writing this document, it has been confirmed that the DFA Method will be used as a co-design tool for an *Afropean Intelligence* (S+T+ARTS Residency Project) bootcamp to be held by the end of 2025.
- GLUON's education Team is already working on bringing prototypes with schools across Brussels (**KER 3**); in this sense, if has been agreed with several schools that they will conduct workshops around BITZ, a tool to assess soil biodiversity developed during MUSAE's Second Residency.
- As for the Integrated Stakeholders Network (**KER 4**), GLUON will not only invite its contacts to join it, but it will also use it to locate available profiles in case it is needed for a project or a specific collaboration.
- In addition, an exhibition with a curated selection of the prototypes and scenarios developed within the frame of MUSAE is planned to take place during the Fall of 2025 at GLUON's gallery, in the heart of Brussels. Although it is still WIP at the moment of writing this document, the goal of this exhibition is to increase the outreach of the project's results by bringing them to another location and under another perspective.

All the information of the project will be also visible on GLUON's website, feeding the catalogue of projects it has been part of and exposing the expertise gained by this participation.

3.9. MADE - Individual Exploitation Plan

MADE participated in the MUSAE project as a Digital Innovation Hub focused on advanced manufacturing, contributing to the testing of the MUSAE Factory Model (KER 1) in an industrial context and promoting the art-driven innovation approach within SMEs. Building on the experience gained during the project, MADE is reflecting on how the MUSAE results – particularly the Factory Model (KER 1) and the DFA Method (KER 2) – might inform, inspire, or potentially be considered in the context of future training, technology transfer, or collaborative initiatives.

There is an openness to further exploring the potential of these tools, especially in relation to the services currently offered to companies and the activities carried out within the Teaching Factory. Over time, the materials and methodologies developed during the project could become a useful reference for conceiving innovation support pathways, possibly in synergy with other DIHs or academic institutions.

Furthermore, MADE recognises the relevance of the transdisciplinary approach promoted by MUSAE and considers how it could eventually be interpreted or extended to different industrial or thematic areas beyond food and health. The prototypes developed throughout the project (KER 3) are also regarded as valuable outputs. Some of them could serve as case studies in training contexts and may be shared with companies and stakeholders as illustrative examples of art-driven innovation, with a focus on human well-being, sustainability, and future-oriented design.

In addition, MADE acknowledges the value of the MUSAE Integrated Stakeholders Network (KER 4) and is open to maintaining informal ties with this community. The network may prove to be a useful source of inspiration or connection when identifying future collaborators – such as artists, technology providers, or DFA experts – and for nurturing cross-disciplinary dialogue within the broader EDIH ecosystem. Although no specific standardisation actions or spin-offs are foreseen at this stage, MADE remains attentive to potential opportunities that could emerge from MUSAE's outcomes, including participation in European networks or initiatives that align with its principles and methodology.

Finally, MADE intends to continue giving visibility to the MUSAE model within its network of companies and stakeholders, fostering awareness of its potential as a reference for human-centred innovation, especially in relation to European digital and green transition priorities.

3.10. UCD - Individual Exploitation Plan

University College Dublin (UCD) contributed to the MUSAE project as a nutrition mentor and lead partner in the thematic refinement process. Drawing on our expertise in human nutrition and food systems science, we helped to ensure the selected trends were evidence-based, relevant and impactful. As mentors our main contribution was guiding the creative teams (artists and SMEs) in understanding the role of nutrition within the broader food system and helping to ensure that future concepts and artworks reflected credible and meaningful public health futures.

From an exploitation perspective, UCD intends to continue promoting the MUSAE project. In particular, we see potential in disseminating the DFA method as a tool for engaging stakeholders in long-term

thinking around nutrition and food and health futures. These methods will be promoted through engagement with Irish and European networks, including industry bodies such as IBEC (Irish Business and Employers Confederation).

In addition, we will engage with the UCD Innovation Academy in order to use the Factory Model Pack for their design and future-thinking modules.

Conclusion

This deliverable report presents a comprehensive exploitation strategy for the MUSAE project, detailing a clear pathway for ensuring the sustainability, scalability, and long-term impact of its key outcomes. Through the structured articulation of four Key Exploitable Results - ranging from the transferable MUSAE Factory Model and the Design Futures Art-driven (DFA) method, to real-world product prototypes and an integrated stakeholder network - the strategy emphasizes the project's commitment to embedding people-planet-centered, art-driven innovation within European Digital Innovation Hubs and beyond.

MUSAE has laid the foundation for both immediate action and long-term vision, aligning its goals with the broader European agenda for digital transformation and cultural-technological integration. The strategic emphasis on training, stakeholder engagement, intellectual property management, and dissemination have ensured that the project's results are not only preserved but actively expanded through replication, certification, and cross-sector collaboration.

Ultimately, the MUSAE exploitation strategy affirms the project's role as a catalyst for innovation at the intersection of art, technology, and society. It provides a solid framework for transferring knowledge and fostering interdisciplinary ecosystems that can respond to future challenges with creativity, resilience, and inclusivity - positioning MUSAE as a model for sustainable, impactful, and forward-thinking innovation in Europe.