D6.6 MODEL TRANSFER AND EXPLOITATION PLAN (a)

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	30 April 2025
Date of delivery	30 April 2025
Version	1.0
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.

Disclaimer: The views expressed in this document do not necessarily reflect the views of the EC.

Revision History

Version	Date	Created / modified by	Comments
1.0	14/03/2025	ETF, PAL	First draft
1.1	20/03/2025	PAL	Exploitation rules and roadmap, PAL individual plan and exploitation trajectory
1.2	20/03/2025	ETF	Exploitation objectives and roadmap, ETF individual plan and exploitation trajectory
1.3	31/03/2025	UCD	UCD individual plan and exploitation trajectory
1.4	31/03/2025	POLIMI	KER, POLIMI individual plan and exploitation trajectory
1.5	31/03/2025	ABACUS	KER, ABACUS individual plan and exploitation trajectory
1.6	31/03/2025	GLUON	KER, GLUON individual plan and exploitation trajectory
1.7	31/03/2025	MADE	MADE individual plan and exploitation trajectory
1.8	31/03/2025	UB-ART	UB-ART individual plan and exploitation trajectory
1.9	31/03/2025	UB-TECH	UB-TECH individual plan and exploitation trajectory
1.10	31/03/2025	UoM	UoM individual plan and exploitation trajectory
1.11	28/04/2025	GLUON	Revision
1.12	30/04/2025	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.

The exploitation approach is organized in two phases:

Phase 1 (M12–M32) focused on drafting initial exploitation strategies, and establishing IP management guidelines.

Phase 2 (M32–M36) involves finalizing KERs, aligning individual partner plans with market needs, and developing a sustainability framework.

The report also outlines risk mitigation strategies (e.g., for low adoption rates, limited SME engagement, or interdisciplinary resistance) and provides concrete measures to address them. Each consortium member has developed an Individual Exploitation Plan tailored to their institutional role, capabilities, and target audiences, ensuring that MUSAE outcomes are adopted, scaled, and integrated beyond the project's duration.

Table of Contents

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, SMEs, 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 experv imentation.
- 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 is 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 all project partners gathered to collaboratively define the Key Performance Indicators (KPIs) required to achieve the expected impact of the project. The workshop facilitated the structured identification of exploitation goals and provided a foundation for aligning project outcomes with stakeholder needs. Following this, the first draft of the Exploitation Plan was created, outlining the key points of the document, including an initial framework for individual exploitation strategies. Building on the activities already carried out, a more detailed description and continuous update of the Key Exploitable Results (KERs) was undertaken to ensure that all developments were consistently tracked and refined for maximum impact. Additionally, this initial phase focused on shaping IPR guidelines to safeguard intellectual property and support the sustainable exploitation of project results.

Second Phase (M32 to M36):

The finalization of KERs will ensure that all exploitable outcomes are fully defined. The exploitation strategy will be solidified, ensuring its alignment with market opportunities, policy frameworks, and industrial applications. Partners will update and finalize their individual exploitation plans in line with market and project developments. Finally, a sustainability plan will be created to ensure that MUSAE innovations continue to deliver value and remain relevant beyond the project's duration.

1.5. Exploitation rules

All exploitation activities will comply 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 will be addressed to 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 could serve 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 ETF could 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
	wider DIHs landscapes	

		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 will provide consultancy and support for art-tech residences. Knowledge gained during these interactions (from other technology providers, SMEs, artists and designers) will be integrated into their expertise and 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 will be 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 will benefit 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 will rely on the knowledge generated in academia (technology, art and design related). At the same time, the project results will be 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 will reach 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 will add a complementary focus to the existing robot's functions. UoM will also reach out to 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 is delivering 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

At least 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
Documentation	**Orientation Guidelines** (to be added later) / **Introductory video course** (to be added later) / **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, Universities
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
Documentation	**DFA method platform** (Link) / **DFA Miroverse** (Link) / **Introduction video to DFA method** (to be added later)
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	(links to the videos of their work)
WP involved	WP5
Contact person	TBD
Documentation	Feasibility and Prototyping guidelines: Concept Feasibility, Prototyping Iteration and Prototype Assessment Training guidelines (video tutorials) DFA method Deliverable 2: Concept description from all 11 teams Deliverable 3: Workplan from all 11 teams Deliverable 4: Demonstration of prototype from all 11 teams Deliverable 5: Final prototype description, including a User Study Validation. Final exhibition: a video will document the 11 prototypes exhibited in a final event Videos of the 11 developed prototypes explaining the process of the DFA method and introducing the final prototypes.
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 (TRL 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	TBD
Documentation	This package includes a database with descriptions and contact details of the potential stakeholders
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 will be 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 impact 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, encouraging 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	Planned Activities	Exploitation Trajectory (completed steps)	Exploitation type	Status	WP(s)	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	Prepare recommendations for scaling the MFMP to community, city levels, and new sectors and engage stakeholders through dissemination activities. Create 4 videos which will be posted on MFMP website. Prepare a MUSAE label checklist and follow up e-mail and send it to the EDIHs. Present the MFMP at the online events for DIHs (events organized by other EDIHs and European Commission). UB-Tech will participate at the Open Innovation Challenge organized by "Generalitat de Catalunya". MUSAE will encourage cross industry collaborations during the	Recommendations prepared. Early engagement with opinion leaders through MUSAE advisory board and follow-up emails showing interest in participation and adoption. Four videos are being created for the MFMP website. The MUSAE label checklist created and available on MFMP website. MFMP presented at the European Robotics Forum (1500+ attendees). E-mail about MFMP and checklist is being prepared for EDIHs. Preparation for presenting the MFMP at the online events for DIHs is ongoing. UB-Tech participated at the Open Innovation Challenge organized by "Generalitat de Catalunya". The cross-industry collaboration is achieved through cross	New Service	Under development	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	1st and 2nd residencies. The representatives of the Science Technology Parks in Serbia will be invited to the STARTS Academy in Belgrade where they will learn about the benefits of applying MFMP.	collaboration between FSTP parties during the 1st and 2nd residencies. One Serbian start-up has already used MFMP (BeeHold) through the 2nd residency. Preparations for the STARTS Academy are ongoing.				
KER	**Long-term KPIs**	**Planned Activities**	**Exploitation Trajectory**	**Exploitation type**	**Status**	**WP**	**Partners**
The DFA method	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 discussions and policy framework initiatives)	Develop DFA training materials, conduct workshops, and distribute to universities and networks. Presentation of MUSAE project and DFA method on relevant events	Integrated into 7 universities (e.g., Politecnico di Milano and Universidade de Madeira), supported by workshops, training kits, and outreach efforts to CUMULUS/ELIA networks. MUSAE project and DFA method presented at two events: 1) Food Waste Prevention Week at Politecnico di Milano - *Poster of the event reward* and 2) Milan Design Week 2024 One event dedicated to presenting 9 future scenarios on "Food as Medicine" based on the DFA method: "Alimentazione del Futuro: verso un Mondo Sostenibile" (english: The food of the future:	Research achievement	Ongoing exploitation	WP2 WP7	POLIMI

			towards a sustainable world) in the set of initiatives “Interdependence” during the Milan Design Week 2024 23 discussion panels organised within the POLIMI School of Design in 2023, 2024, 2025 with guest speakers to discuss the value and potential of Art-driven and Futures-driven innovation, and the topic of “Food as Medicine”.				
KER	**Long-term KPIs**	**Planned Activities**	**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 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	The consortium will promote success stories, i.e. prototypes developed during the second residency at MFMP. MUSAE website and Factory model will include link to the STARTS funding opportunities. SMEs will be supported in developing business plans and improving their prototypes’ TRL level. Organize workshops on HMI and ethics for the 2nd residency teams. Prepare survey for the 2nd residency teams and attendees of the final exhibition regarding the prototypes’ impact and participants’ engagement, attitude and trust, and	Eleven prototypes developed and promoted. MFMP includes the link to the STARTS funding opportunities. FSTP products and DFA method are incorporated into training programs. SMEs are receiving support in developing business plan and increasing their TRL through the 2nd residency. Workshops on HMI and ethics conducted (Dec/Jan); The 2nd residency teams such as *Symphony of Solace, Neuro-Cooking, Nourish and Remedy Garden* are already tackling health-related applications with their prototypes. Preparations for the final exhibition event and post-event surveys that will track prototypes’ impact and participants’ engagement, attitude and trust are ongoing.	Product development	Under development	WP3 WP4 WP6 WP7	Abacus UoM PAL MADE GLUON

	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	perform follow-up monitoring					

KER	Long-term KPIs	Planned activities	Exploitation Trajectory	Exploitation type	Status	WP	Partners
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	GLUON will create Integrated stakeholders to encourage collaboration between EDIHs and artists. Make a dissemination campaign to the stakeholders. GLUON will monitor the growth of the network.	Integrated stakeholders network created, MUSAE label created, access to the network granted to all EDIHs with the label. Preparation for presenting the integrated network and the MFMP at the online events for EDIHs is ongoing, which will encourage EDIHs to collaborate with the artists. An email campaign to partners' SME and EDIHs networks is	New service	Under development	WP6 WP8	GLUON POLIMI MADE ETF

	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	Provide access to the network for all EDIHs with the MUSAE label. The artists and students from Belgrade art universities will be invited to the STARTS Academy. They will also be informed about the STARTS Knowledge Hub at ETF.	ongoing. A dissemination campaign is already made and described in Deliverable 7.1. We will use channels such as STARTS media, STARTS newsletter, press release, social media subscribers. Through STARTS Academy in Belgrade, the artists will learn about the MFMP, the DFA method and also they will be informed about the potential for collaboration in facing societal challenges through ISN.				

2.7 Risks & Mitigation Strategies

Identify any risks related to adoption, market barriers, regulatory challenges.

Define strategies to overcome these risks.

Risk	Impact	Mitigation strategy
Low adoption rate among DIHs	Model may not scale effectively	Provide tailored training and certification incentives for EDIHs
Limited SME and startup engagement	Reduced impact on digital innovation	Offer co-creation incentives, and highlight success stories from pilots
Resistance to interdisciplinary collaboration	Reduced effectiveness of the DFA method	Provide cross-sector training, mediate collaboration through structured workshops and shared goals
People do not have interest in joining the network	Weak engagement from key actors may limit the network's ability to scale or sustain activities beyond the project lifetime	Promote the value of the network through targeted outreach, success stories, and continuous engagement at all relevant events, including online events for the EDIHs and the final exhibition; leverage existing partnerships and personal invitations to attract key players
Prototypes are not adopted by SMEs	Reduces the project's contribution to market innovation	Provide SMEs with business development support, including business plan creation, IP advice, and go-to-market guidance to facilitate prototype adoption

3. Individual Exploitation Plans

To ensure the sustainable impact of the MUSAE project, each Individual Exploitation Plan (IEP) will be 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 will 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 will follow this interdisciplinary framework, ensuring that the project's results are effectively integrated into academic research, industrial innovation, and policy development. The plans will 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 will be 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 fully exploit MUSAE's outcomes, PAL Robotics will pursue a multi-faceted strategy, including:

- Utilize knowledge gained through the MUSAE project to enhance its product portfolio. Particularly by incorporating new HRI methodologies, artistic-driven design elements and transdisciplinary functionalities into its humanoid platforms TIAGo and ARI. These enhancements will directly inform upcoming product development cycles, contributing to usability and market readiness.
- Investigating new applications of social robotics in "Food as Medicine" scenarios and testing it with real users in collaboration with healthcare partners, where human-robot interaction can improve food access, nutrition guidance and wellbeing.
- Engaging with food and health industry stakeholders to explore new applications of robotics in the food industry domain.

The MUSAE Factory Model will give PAL Robotics a space to experiment with new applications of robotics in creative industries, healthcare and sustainable food solutions. The insights gained from MUSAE will help drive research in art-tech collaborations, human-centered design and robotics, feeding into both PAL's internal R&D and partnerships with universities and research centers.

Beyond that, PAL Robotics is looking for ways to integrate MUSAE's findings into future research projects. A key follow-up will be the EU project called ARISE where PAL is a partner, focused on making industrial HRI more adaptable and scalable. Learnings from MUSAE will feed into PAL' contributions, helping to bring advanced HRI solutions to industrial settings.

At the same time, PAL Robotics will stay engaged with the broader community such as technology providers and SMEs to share MUSAE findings through workshops, exhibitions and public forums. By fostering collaborations across disciplines, the company hopes to push the boundaries of what's possible at the intersection of technology and artistic expression.

3.2. ETF - Individual Exploitation Plan

ETF contributes to the project through its ETF Robotics Lab, which specializes in human-motion analysis and collaborative robot applications. By integrating the MUSAE Factory Model Pack (MFMP) into its research and DIH infrastructure, ETF ensures that the MFMP is tested and adapted for real-world implementation in Digital Innovation Hubs (DIHs) and industrial applications. ETF facilitates the dissemination of MUSAE outcomes by connecting with the DIH networks, supporting educational initiatives, and expanding the project's impact across the European DIH ecosystem.

Building on its participation in DIH2, DIH-HERO, and BOWI EDIH networks, ETF will promote the adoption of the MUSAE Factory Model among peer hubs. The structured methodology developed within MUSAE will be transferred through collaboration, workshops, and capacity-building sessions with other EDIHs in our future work. The MUSAE Factory Model Pack will become part of ETF's innovation support portfolio, serving as a reference and testbed for applying the DFA method in more traditional innovation ecosystems in Serbia and the Western Balkans.

In this context, ETF will exploit several **Key Exploitable Results (KERs)**:

- ETF will integrate the MUSAE Factory Model Pack (**KER1**) and DFA method (**KER2**) into two new European Digital Innovation Hubs where it is a core partner: *EDIH SIP* and *AI4S*. These hubs will adopt the approach developed in MUSAE to support local SMEs, particularly through applied research and innovation projects. With over 40 SME-related projects conducted annually, ETF already has strong ties to industry, allowing for direct application of MUSAE methods through real-world collaborations.
- The DFA method (**KER2**) will be embedded into ETF's educational offer, including courses such as *Human-Robot Interaction* (as part of a newly accredited curriculum). It will also be used in interdisciplinary projects like *Citadels*, which supports students in career planning through innovation and creative methodologies. Additionally, ETF will further develop its testbeds to reflect a human and planet-centered approach, including collaborations with artists from the Faculty of Dramatic Arts (FDU) and Faculty of Applied Arts (FPU), supported by the ETF Knowledge Hub located in the Palace of Science.
- ETF will support prototyping efforts (**KER3**) using the DFA method, such as the development of new prototypes for companies like *mBrainTrain* (participant of the 2nd MUSAE residency). Their prototypes will serve as a concrete example of how HMI (Human-Machine Interaction) innovation can transition from research to market, inspiring other innovators in the *HMI2Market* ecosystem.
- ETF will exploit an integrated stakeholder network (**KER4**) to support the long-term planning of innovation projects, including initiatives under *EIT HEI* and *HMI2Market*. A specific focus will be placed on engaging local artists and creative professionals who can help SMEs in Serbia access new markets and communicate the value of human-centered HMI solutions more effectively.

ETF will ensure that MUSAE's legacy lives on through tangible applications, peer-to-peer knowledge

transfer, and lasting integration into Serbia's innovation landscape and education system.

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. 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 is also responsible for developing the MUSAE Factory model and creation of the Factory Model Pack.

Regarding **KER 1**, POLIMI will disseminate the model in the networks - Futures Europe Network, as well as events (the nearest one is Futures4Europe conference in Vienna, Austria in May 2025), Creative Skills Week in September 2025 in Prague, Czech Republic, which is the event specifically targeted at the creative professionals and companies. 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 working groups to promote the Factory Model.

Regarding **KER 2**, 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. POLIMI will also disseminate the DFA method to other educational institutions. For example, Cumulus network (design students) and ELIA network (art and design students) will be reached out to promote the integration of the DFA method into the curriculum. The email will be sent to these networks and stakeholders with the link to DFA website, introductory video and brochures of scenarios and prototypes as case studies.

Moreover, POLIMI is also planning to take further the implementation of the DFA method in different contexts - for example, preparing the proposal applications for other calls to support creative professionals in upskilling and provision of new and relevant knowledge. In this way, the DFA method will become the foundation of the educational course to help creative entrepreneurs gain skills in innovative methods.

Regarding **KER 3**, POLIMI will include concepts and prototypes developed by the teams of artists and SMEs as case studies in the Design Futures course for Master's students in Integrated Product Design.

Regarding **KER 4**, POLIMI will continuously invite relevant stakeholders to join the network. POLIMI will leverage its memberships in Futures Europe Network, ELIA network.

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 developing by 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.

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* (STARTS 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 locationd 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 assesses how the MUSAE results – particularly the Factory Model (**KER 1**) and the DFA Method (**KER 2**) – will be integrated, adapted, or used as inspiration for future training, technology transfer, or collaborative initiatives.

There is an interest in further exploring the potential of these tools, especially in connection with the services already offered to companies and the activities carried out within the Teaching Factory. Looking ahead, the materials and methodologies developed during the project will serve as a reference point for designing new innovation support pathways, potentially in collaboration with other DIHs or academic institutions.

Furthermore, MADE explores how the transdisciplinary approach promoted by MUSAE can be applied in different industrial or thematic contexts beyond food and health. The prototypes developed throughout the project (**KER 3**) also represent a valuable output. Some of them are exceptional case studies for training programmes and will be shared with companies and stakeholders as examples of art-driven innovation, with a particular focus on human well-being, sustainability, and future-oriented design.

In addition, MADE acknowledges the value of of the MUSAE Integrated Stakeholders Network (**KER 4**) and is interested in maintaining a connection with this community. The network will thereby serve as a useful resource for identifying future collaborators – such as artists, technology providers, or DFA experts – and for promoting cross-disciplinary dialogue within the broader EDIH ecosystem. While no specific standardisation activities or spin-offs are currently planned, MADE will promote any considerations on possible future developments stemming from MUSAE's results, including participation in European networks or projects that align with its principles and methodology.

Finally, MADE will further contribute to the dissemination of the MUSAE model within its network of companies and stakeholders, and support its broader uptake as a reference approach for human-centred innovation, particularly in the context of European policies on digital and green transition.

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.

By organizing the exploitation roadmap into two well-defined phases, 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 ensures 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.