D4.1 STARTS Residencies programme (a)

Grant Agreement 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	WP4
WP Lead Partner	UB- ART
Other Partner(s) involved	UB-ART/ GLUON /UCD / POLIMI / PAL
Deliverable identifier	D4.1
Deliverable lead beneficiary	UB - Art
Due date	January 31, 2024
Date of delivery	February 19, 2024
Version	1.0
Author(s)	Eloi Puig, Ramón Parramón, Natalia Morales
Classification	PUBLIC
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
0.1	01/12/2023	UB-Art, E. Puig, R. Parramón, N. Morales	First draft
0.2	15/01/2024	PAL Robotics, Gizem Bozdemir	Input for Section 3
0.3	16/01/2024	GLUON, Ramona Van Gansbeke	Input for Section 4.2
0.4	24/01/2024	AB-Acus, Maria Bulgheroni	External revision
0.5	01/02/2024	UB-Art, E. Puig, R. Parramón, N. Morales	Revision
0.6	02/02/2024	POLIMI, Marita Canina	Revision
1.0	16/02/2024	UB-Art, E. Puig, R. Parramón, N. Morales	Final version

Executive summary

This Deliverable describes the program of residencies that took place during the First MUSAE S+T+ARTS Residency, which took place from M11 (July 23, 2023) to M15 (November 30) to shape the MUSAE training and mentorship provided during the residency program.

The artists selected in this call undertook their projects to create 10 future scenarios in the area of Food as Medicine employing the Design Futures Art-driven (DFA) method.

The document details the phases of this residency as well as the training for the artists and mentors on the three main pillars of the Residency Program: the DFA method, the mentoring program and the training program.

D4.1 describes the format of the first residency (Chapter 2), as well as the training format in terms of the DFA method, thematic and Technology immersion available (Chapter 3) where participants experimented with various tools such as AI, GPT Chat and Robotics to employ in their research and projects. It also explains the role of mentoring (Chapter 4) and the production of the final artwork (Chapter 5).

In fact, this Deliverable is instrumental in shaping the final output of the MUSAE project, which is the final Factory Model package.

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1. Introduction

1.1. Purpose of the document

The purpose of this document is to present the training and mentoring format that have been administered in the residencies planned within the MUSAE project. This first version (a) describes the format of the first part of the residencies that took place from September to December 2023 with a group of 10 artists.

See Figure 1 for the general schedule of calls and residencies to understand the timing and purpose of the first residency programme.

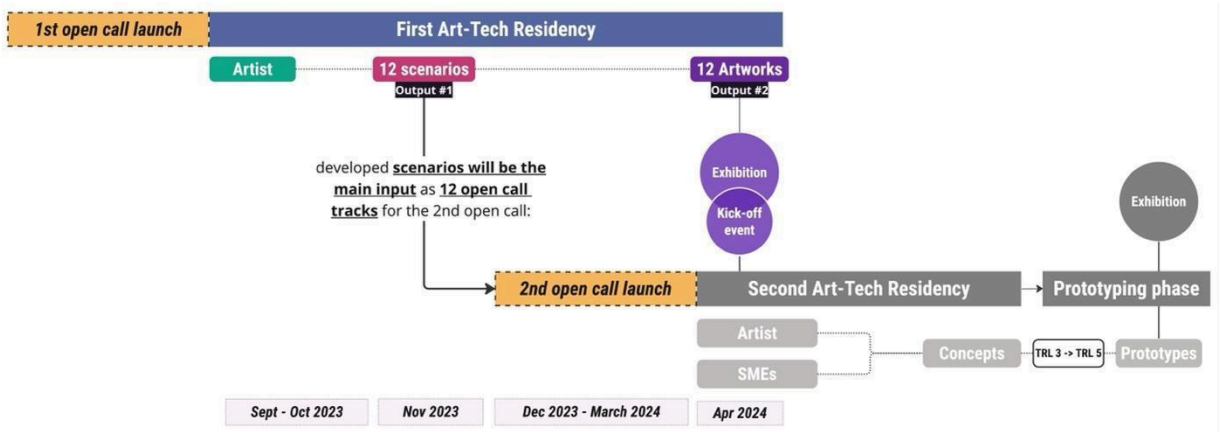

Figure 1: Overall timing of the two MUSAE open calls and related residencies programmes

The training and mentoring format, managed primarily within T2.4, runs from M8 (April 2023) to M11 (July 2023) and subsequently from M17 (January 2024) to M20 (April 2024).

According to the DoA, T2.4 is dedicated to defining the methodological and technological training format for artists in residence. Technical partners provided courses on technology in-presence format. These courses aimed at methodological training will be available in open source as part of the Final Factory Model pack. The tutorials were managed with experts from the consortium to help the artists with the aim of perfecting and executing their projects.

Task T2.4 capitalized on the results of T2.1 Thematic refinement and technological exploration executed from M1 (September 2022) to M5 (January 2023), the initial activities in T2.2 Future Design Refinement of the method of innovation-driven art were run from M4 (December 2022) to M9 (May 2023) and in T2.3 Integrated Network of Experts and Artists running from M6 (February 2023). The current deliverable is based on the content of D2.1. Three open call thematic tracks and case studies on technological applications, delivered in February 2023 and tools and guideline (a) D2.2 DFA delivered in May 2023.

Section 2 of this document summarizes the general format of the residences composed of three conceptual phases (Training, Building, Artwork Production), while the following chapters specifically address each of the planned phases. The design of the residency was developed following a highly multidisciplinary approach aimed at defining a training and mentoring format to move from the MUSAE experiments to the final MUSAE factory model to be shared with DIH for future use.

1.2 Terms and acronyms

Acronym	Description
DFA	Design Futures Art-driven
UB-Art	University of Barcelona (Department of Fine Arts)

2. Residencies format

2.1. Introduction

Detailed residency program was developed within WP4 Art-tech experiments: Scenario and concept generation starting from M11 (July 2023). The residencies facilitated the integration of artistic and technological perspectives through temporary stays in a common place where collaboration and idea generation were fostered.

Within the residencies, the 1st art-technology experiment was carried out, with the development of different phases of work. Initially, a methodological and technological **training** was carried out to provide the participants with a common technological knowledge and the appropriate methodological tools to implement and execute the following works.

The second component of the residencies aimed to transform the artist's initial vision into a scenario through the corresponding mentoring of the consortium experts (**Building**).

These developed scenarios are the starting point of the 2nd art-tech experiment. In the meantime, the 1st art-tech experiment ends its journey by allowing the participants to further develop their scenario in a public exhibition (**Artwork Production**). The objective of this exhibition is to offer the artists the possibility to materialize the scenario proposals using different artistic formats, to make public the ideas, visions and processes developed in this 1st art-technology experiment.

Thus, the total duration of the residency was 7 months.

2.2 Residencies calendar

See in figure 2, the time schedule for the first residencies of the MUSAE project.

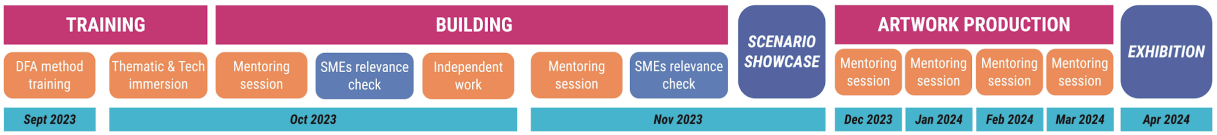

Figure 2: Timeline for the first MUSAE residency programme.

Training. Artists learned how to transform their visions of the future into scenarios, receiving tools and best practices from DFA. The artists then fully immersed themselves in selected themes and technologies. During this second part of the training, participants deepened their understanding of the topic (i.e., food as medicine) and harmonized their knowledge in reference to the technology (robotics, artificial intelligence, and wearable devices) they selected to run the experiment.

Building. The artists applied the DFA method and tools to develop future scenarios implementing a social, environmental and ethical approach. During this period, tutorials were carried out every two weeks. Furthermore, the relevance of the developing scenarios was carried out during the Assessment meetings with consortium partners, among whom were SMEs, who played this role by assessing the potential of the transferability of the scenario to further concept and potentially to prototype production in the next Residency Program. At the end of this period, the artists presented a scenario that was based on their initial vision. The developed scenarios will be exhibited and will constitute the key content for the launch of the second Open Call.

Artwork production. The artists are continuing to work on their scenarios to produce the artworks to be shown in a specific exhibition.

3. Training

As previously announced, at the beginning of the residency, the artists received training in all areas of the experiment for two weeks, one dedicated to the DFA method and the second to thematic and technological content.

3.1. Week 1 Milan : DFA method training

The artists began the program with a week-long stay at POLIMI accompanied by UB-ART, GLUON and representatives of all consortium partners. The artists attended a one-day kickoff event and spent the next five days learning the Design Futures Art-Driven method divided in the following activities: Trend Research, STEEP + V Analysis, Domain Building, Futures Exploration and Scenario Building. Collectively, they also explored how to frame scenarios and create

scenario narratives as a required outcome for the first art and technology experiment (**See 1 Annex MUSAE Training Programme Kick off Residency)**

According to D2.2, the DFA method is developed through the phases described in Figure 3 (Phase 1 – Phase 3).

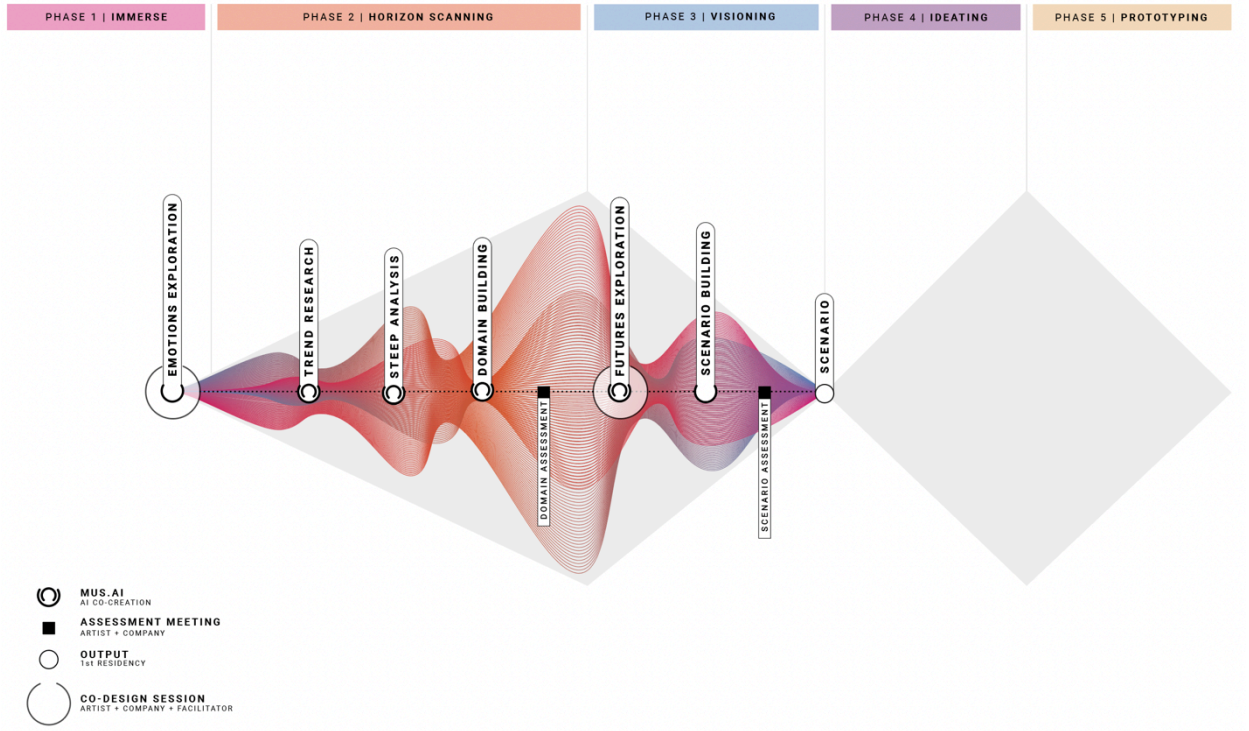

Figure 3: DFA method process

In the course of the DFA process within the MUSAE project, various valuable insights and suggestions have emerged from the participating artists. This introduction covers a spectrum of aspects, spanning from the practicalities of platform usage to the broader conceptual understanding of the project's objectives. Let's summarise these diverse notes into four key sections: Process Description, MUS.AI, Figma and Miro, and Overall Suggestions. The next subsection provides a comprehensive summary of the feedback collected from artists and mentors that contributes significantly to refining and optimising the DFA process within the MUSAE project. By addressing these nuanced points, the collaboration between artists and companies can be further enriched, fostering a more productive and creative environment.

3.1.1 TREND RESEARCH

Trend Research activity provided valuable insights into the dynamics of collaboration between artists and technological partners within the context of the DFA training programme. Below is a detailed report on the process, challenges faced, and suggestions for improvement.

3.1.1.1 Process Description:

Trend Research activity elicited mixed perceptions, with some participants expressing concerns about its ambiguity and broad scope within a limited timeframe. The collaboration between

technological partners and artists was generally productive, although discrepancies emerged concerning a shared creative process. Time management posed a challenge as teams struggled to transfer previous day's input to the Miro board, leaving limited time for AI experimentation. Integrating emotional elements into trend research was proposed as a valuable addition that underscored the requirement to balance strategic, objective research with subjectivity. The feedback highlighted issues surrounding ambiguity, collaborative productivity, time limitations, and the difficulty of guaranteeing substantial interaction.

3.1.1.2. MUS.AI - Artificial Intelligence Integration:

Participants encountered diverse challenges with integrating AI. Some found it troublesome to define their inquiry's object, reflecting persistent endeavours to demarcate their research scope. Time constraints impeded research efforts, and early-stage AI adoption caused difficulties for some. Whilst some participants found merit in AI, explanations for non-usage by others necessitate further scrutiny. Issues were highlighted with the integration of AI, and it was suggested that gaining an understanding of the reasons behind its non-usage would be beneficial for future optimisation. These insights emphasise the importance of comprehending the factors hindering effective AI integration.

3.1.1.3. Interaction with Figma and Miro:

Attendees encountered difficulties and voiced a desire for additional assistance and time in comprehending Figma and associated platforms. Input revealed intricacies within the tools and proposed the implementation of explicit communication and rudimentary guidance. Challenges included understanding the starting point on the Miro board and a call for more visuals. In summary, facilitation of a clearer starting point on Miro, amplification of visual aids, and refinement of clarity in video presentations were emphasized.

Participants faced difficulties navigating the platform and have requested additional guidance and tutorials. They also require more time to fully comprehend the intricacies of the tools. Clearer communication could be needed to alleviate these issues.

3.1.1.4. Overall Suggestions:

Some artists emphasized the importance of understanding specific company needs beyond aesthetic creation. The absence of specific feedback from one group highlighted a potential communication gap. The dual focus on artistic creation and understanding company needs emerges as crucial. Addressing communication gaps, especially in feedback, could enhance overall effectiveness.

In conclusion, the Trend Research activity provided valuable learning experiences. The insights gained contribute to refining future activities within the DFA training program, emphasizing clarity, effective collaboration, and the integration of emotional elements into trend research.

3.1.2. STEEP+V ANALYSIS

STEEP+V Analysis activity revealed a dynamic mix of perspectives and challenges. Participants sought to improve the methodology while engaging in deep discussions about collaboration dynamics, values, and entanglement. Artists raised questions about the purpose of certain phases and expressed concerns about aligning their methods with the proposed approach, emphasizing the need for clarity and avoiding unnecessary competition between artistic and corporate perspectives.

3.1.2.1. Process Description:

The STEEP+V analysis activity unfolded with distinct dynamics and challenges. Participants reflected on the absence of a prior STEEP analysis by the blue team, hindering the full achievement of the intended goal for proposing a method in the co-creation session. Recommendations were made to enhance the method, focusing on adaptive graphics, hierarchies in topic organization, and avoiding overly rigid frameworks. Discussions also delved into the crucial role of values in collaborative efforts between art, sciences, and companies, emphasizing the diverse needs, logics, goals, fears, and hopes in such collaborations.

Artists questioned the purpose of the first phase of the method, expressing a need for clarity on intended outcomes. Challenges emerged in aligning working methods with the proposed MUSAE methodology, with some hesitation rooted in a lack of understanding of DFA's purpose and alignment difficulties. A highlighted perception underscored the importance of illustrating the continuous loop between trend research and STEEP, emphasizing the interconnected nature of the two activities.

3.1.2.2. MUS.AI - Artificial Intelligence Integration:

Participants found AI valuable as a discussion partner. Some participants did not realize they needed to click on prompts during the AI phase.

3.1.2.3. Overall Suggestions:

In conclusion, the STEEP+V analysis activity provided valuable insights into refining the methodology for collaborative analysis, emphasizing the need for clarity in purpose, seamless collaboration, and understanding the interconnected nature of Trend Research and STEEP analysis. The MUS.AI phase highlighted the valuable role of AI as a discussion partner but also brought attention to the importance of clear communication regarding prompts for optimal participant engagement.

Following the STEEP+V analysis activity, the collaborative co-design session delved into addressing challenges faced by artists in their pursuit of outcomes, with a specific focus on the use of Miro's board. In navigating the co-creation process, artists encountered several hurdles:

Artists found Miro's board to be intricate, expressing difficulties in locating links and other essential elements. The openness and abstract design of the platform contributed to a perception of complexity. Navigating between phases posed challenges for the artists. Despite the conceptual soundness of the platform's open design, practical implementation proved complicated in practice. While recognizing the conceptual validity of the approach, artists encountered practical difficulties and a lack of clarity in execution.

3.1.3. DOMAIN MAP BUILDING

During the Domain Building activity, participants engaged in a dynamic process that brought to light both challenges and successful adaptations.

3.1.3.1. Process description

The collaborative effort unveiled the importance of showcasing connections and oppositions between different domains, fostering reflective discussions among participants. The tech partner played a pivotal role in visualising and clustering everyone's thoughts. However, the term "domain" lacked clarity for artists, prompting a suggestion to use a simpler mind map

approach. Artists found the initial Miro template less useful, hindering the creation of mind maps with interconnected ideas. To address this, there was a proposal to introduce the template later in the process. The use of MUS.AI was instrumental in generating keywords and fostering discussions, enhancing the overall collaborative exploration.

Following the reorganisation of workshops and morning activities, artists gained a clearer understanding of the Design Futures Art-driven (DFA) purpose. The team adeptly adapted to the changes, focusing on relevant domains and effectively managing time despite initial constraints. Domains were defined strategically, and research using AI and other sources took place within allocated time frames. The successful completion of the stakeholder creation process showcased adaptability and effective teamwork.

3.1.3.2. MUS.AI - Artificial Intelligence Integration:

Artists actively engaged with ChatGPT to explore trends within defined domains. The creation of prompts for ChatGPT became an integral part of the trend exploration process, demonstrating the artists' proactive use of AI tools to enhance their understanding and uncover relevant trends.

3.1.3.3. Interaction with Figma and Miro:

In familiarising themselves with Miro's board, some partners encountered challenges, including fixing images and adapting to a new platform. Participants requested a legend for clarification on terms, and provided feedback on multimedia support, suggesting a preference for concise text explanations alongside visual content.

3.1.3.4. Overall Suggestions:

While the interaction between technical partners and artists initiated smoothly, discussions diminished during the exploration of trends and AI usage. Artists expressed a desire to showcase examples from other companies aligned with their direction to effectively communicate their ideas.

In conclusion, the Domain Building activity underscored the importance of clear terminology, effective use of templates, and seamless collaboration between artists and technical partners. The artists' adaptability and strategic approach to research demonstrate the evolving effectiveness of the DFA training program. The challenges and suggestions provide valuable insights for refining future activities within the program.

3.1.4. FUTURE EXPLORATION

3.1.4.1. Process Description:

During the "Alternative Futures" and "What If Cards" activities, artists engaged in a thought-provoking exploration, contributing diverse perspectives and constructive feedback. The session began with artists seeking clarity on the relationship between meditation, imagination and prior elements, debating whether it represented a continuation or a fresh start.

As the activities unfolded, participants found the overall experience enjoyable, labelling it as a fun endeavour. However, the consensus emerged that clearer instructions were needed, particularly during the transition from meditation to the group workshop. A debate on the necessity of a facilitator ensued, with differing opinions. While some argued against the need for a facilitator, others supported the idea of an optional facilitator.

Experienced artists exhibited mixed reactions to the tools used, expressing both successful completion and reluctance to use them in the future. The utility of the tools varied based on specific goals, emphasizing the need for clarity on whether the activity targeted artists or the European DIH.

3.1.4.2. MUS.AI - Artificial Intelligence Integration:

The activity unfolded without the utilization of Artificial Intelligence, relying solely on discussions among participants for its development.

3.1.4.3. Interaction with Figma and Miro:

The Miro board played a pivotal role, serving as a dynamic platform for interaction during indoor activities. Participants consulted the board for domains and game cards, and the final map creation involved a hybrid approach using both paper and digital methods. Integration with Figma proved beneficial for accessing information and navigating materials.

3.1.4.4. Overall Suggestions:

Participants expressed a desire for a more active facilitator presence, especially during the final stages of the activity. The facilitator's role in summarising results and ensuring completeness was emphasised, along with the importance of the facilitator's intervention to address any missed points or aspects during the activity.

In summary, the "Futures Exploration" activity provided a platform for engaging sub activities, fostering valuable insights. The narrative highlighted the importance of clear instructions, facilitator roles, and pacing adjustments for a seamless and productive experience, showcasing the integration of both artistic and technical perspectives.

3.1.5. SCENARIO BUILDING

3.1.5.1. Interaction with Figma and Miro:

In the intricate process of Scenario Building, several refinements have been proposed to enhance the efficiency and clarity of the workflow. To streamline the experience, there is a suggestion to eliminate the Impact Matrix, aiming for a more focused and straightforward approach. Additionally, modifying the name of uncertainties on the Scenario Matrix template has been recommended to ensure better comprehension and seamless execution.

Recognizing the need for versatility in scenario-building techniques, it has been suggested to introduce alternative methods alongside the Scenario Matrix. This diversification aims to provide a broader toolkit, accommodating different preferences and facilitating a more tailored approach to scenario development. Furthermore, there's a call to address potential confusion arising from a directive like "Find a critical question" within the task description. A rephrasing or removal of this ambiguous phrase is advised for improved clarity and understanding.

3.1.5.2. Overall Suggestions:

Zooming out to the overarching recommendations, the incorporation of visual boards with images has been proposed. This addition is envisioned to not only elevate the presentation of

work to companies but also enhance the research process. By integrating visual elements, the communication of ideas becomes more impactful, resonating effectively with both artists and companies.

The aesthetic dimension of the Design Future Art-Driven (DFA) process is emphasised in the suggestion to enrich it with more images and visualisations. A visually appealing interface can significantly contribute to the overall experience, making the collaborative journey more engaging and immersive.

Introducing a preliminary step before the Emotions Exploration workshop has been suggested to deepen contextual understanding. This additional activity involves reciprocal visits, where artists familiarise themselves with the company's activities, and, in turn, the company gains insights into the artists' creative processes. This foundational interaction is anticipated to foster a more profound connection and mutual comprehension between artistic and corporate entities.

In summary, the Scenario Building activity stands to benefit from these thoughtful recommendations, aiming to refine its processes, enrich the visual aspects, and deepen the contextual understanding for a more cohesive and effective collaboration between artists and companies.

3.2. Week 2: Thematic and technology immersion

Over the next few weeks, the artists visited University College Dublin (UCD) and PAL Robotics. During these visits, they deepened their knowledge of the chosen technologies and thematic topics. During this time, the artists also had the opportunity to interact with international experts who are part of the MUSAE network and received practical input and experience on related topics.

3.2.1. Thematic training

The thematic training took place in UCD over three days (04-06th October 2023), the 10 participants of the first art-technology experiment participated (See 2. Artists residency Dublin). The training included explanatory sessions to introduce the topic, information sessions to explore the research environment related to “Food and Medicine”, interactive meetings and individual time slots to reflect. Through activities such as tracking their own diet and participating in the sensory evaluation of food, the artists had a deep dive into key aspects of food and health research. Interactive sessions with researchers to discuss their work spanning from soil to health enabled a broad understanding of key challenges in food and health. Below was the schedule of activities:

Day 1:

10 -11 am: Welcome and meet the MUSAE UCD team
Overview of the thematic tracks
Tour of UCD Conway Institute

11-12.30 pm: Understanding what we eat: track your diet
Parallel mentoring sessions

12.30 –2 pm: Lunch

2 - 3 pm: Sensory experience: Overview of sensory science
Take part in a sensory test
3.30 – 4 pm: Time to reflect

Day 2:

10 -11 am: Meet the MUSAE UCD team
Parallel brief mentoring sessions

11-12.30 pm: Research from Soil to Health: poster presentations

12.30 -2 pm: Lunch & networking

2- 4 pm: Growing Food: Tour of the crops in Rosemount. Rosemount is a facility for plant and crop research and has a number of sophisticated equipment such as 15 experimental climate chambers, glasshouses and a 3D X-ray CT scanner
file://localhost/(https/::www.ucd.ie:rosemount:facilities:).

Day 3:

10-11 am: Meet the MUSAE UCD team

11- 12 pm: Artists present to the scientists – 'opening our minds' - a view through an artists' eyes. Artists will present themselves and their work in a short 5-min presentation to give scientists a view into their world.

12 -13.30 pm: Meet the experts speed dating. Artists will meet a number of experts from a range of fields from 'soil to health' (annex MUSAE Artists Residency).

13.30 – 14.30 pm – Lunch & networking

3.2.2. Week 3 : Technology immersion – Pal Robotics (Barcelona)

The technology training unfolded over two days at PAL Robotics in Barcelona, Spain, from the 6th to the 7th of November 2023 (See Annex 3. MUSAE Technology training programme). All 10 participants in the first art and technology experiment participated in the training. The decision to centralize the training at PAL facilitated the simultaneous presence of technology partners, ensuring focused training sessions and dedicated time for addressing cross-cutting topics. This setting also provided a unique opportunity to showcase concrete applications that integrated various technological domains, particularly Robotics, AI, and Wearable.

The overall time schedule of the training was similar to that proposed for thematic training, although it was adapted to the different needs of the technological field. The training included general sessions that addressed the use of technology in general, as well as specific sessions that deepened the understanding of the three technological areas addressed in the MUSAE project: robotics, wearable sensors and artificial intelligence. Individual technology training sessions were conducted sequentially, addressing each technology separately. This approach ensured that participants, especially those who work with multiple technologies, could gain

comprehensive insights into each. Key issues related to responsible development were addressed across all technologies.

The training also delved into crucial topics like sustainability, ethics, design, and data management, featuring talks by external experts. Panel discussions focused on rethinking usability from people and planet-centered perspectives, emphasizing the impact of technology on ethics and sustainability.

Day 1:

- Meet the technological partners (PAL, ABACUS, UB-Tech, UOM, ETF)
- Participants presenting their expectations of technology's role in their vision
- Demonstration of robotic applications, some of them including also knowledge from the other technological domains
- Understanding innovation: What innovation means for the different actors?
- Technologies and humans: Dealing with the importance of co-design, usability, and technological acceptance.
- Technology and environment: Investigating the impact of technological development on the environment, addressing sustainability needs, and proposing possible actions
- Ethical, legal, and social framework: How to address these topics through the design process, with a focus on building a human-centred view.

Day 2:

- Sustainability Framework (PAL)
- Industrial Design Process (PAL)
- Talk – Ethics and generative AI : Jordi Vitria
- ELSI (Ethical, Legal and Social Implications) (AB-ACUS)
- Data Management (UB- Tech)
- Rethinking usability through People and Planet centered perspective (POLIMI)
- Panel discussion between artists and partners (Q&A, reflection on the impact of techs on ethics and sustainability)
- Future vision of technologies (Artists Interviewing Tech Providers) (AB-ACUS, UB, UoM, PAL, ETF)
- Domain Assessment (match technology to individual projects) (AB-ACUS, UB, UoM, PAL, ETF)
- Refining ideas, wrap up, next steps (AB-ACUS)

All the sessions on single technologies shared this format:

- Introduction: Establishing a common understanding of Robotics, AI, and Wearable Sensors. In this introductory presentation, definitions and key concepts were presented to create a shared perspective on each technology. Given the variety of definitions for these technologies, clarifying our pursuit in MUSAE was crucial. Basic terms were explained and shared, and a vocabulary exercise was conducted to create a common language for discussing each technology.
- Success Stories: Examples of consolidated use of the technology in other fields were introduced to transition from the abstraction of the technology per se to concrete applications.
- Future Trends: Exploring what the technology will evolve into? Future trends in the

development of the technology are introduced without specific examples of application.
- Individual time was allocated for participants to review their own technological perspectives, followed by presentations where they shared their revised expectations regarding technology´s role in their vision.

4. Building

After training, artists worked for 7 weeks to develop their scenario with the support of tools offered through the DFA method and obtaining online mentoring from consortium partners. The last week was dedicated to consolidating the scenario and interacting with MADE (DIH partner) and other tech partners focusing on understanding the relevance and potential of the scenarios for SMEs.

During this 7-week period, artists received mentoring from future thinking experts, art experts, and technology experts according to a two-week schedule.

4.1 Methodological and technological mentorship

The tutorials extended throughout the residency period. In alignment with the DFA method, mentoring will be developed through three actions (see deliverable 6.1 for a detailed description).

Phase 1 – Incorporation: In this first stage, an Art Mentor from the consortium was assigned to each Artist. Together with the Artist, he drafted the Individual Mentoring Plan, scheduled meetings and set goals and KPIs (at the kickoff event).

See 4. Annex MUSAE Individual Mentoring Plan.

Experiments (Individual artists)	Art & Design mentor to artists	Tech mentor to artists	Coordinator to teams
Artist :Chloé Rutzerveld Title:Reimagining Food with AI: Pioneering Sustainable Culinary Experiences	GLUON	UB-TECH	UB Art
Artist:Lisa Mandemaker Title: Becoming With The M/Other	GLUON	AB-ACUS	UB Art
Artist: Peter Andersen Title: Eating Worlds	POLIMI	AB-ACUS	UB Art
Artist: Sanja Sikoparija Title: Value Heuristics in Food and Technology	POLIMI	AB-ACUS	UB Art

Experiments (Individual artists)	Art & Design mentor to artists	Tech mentor to artists	Coordinator to teams
Artist: Maciej Chmara Title: Beyond Crust and Crumb	UB ART	ETF	UB Art
Artist-Collective:Nonhuman Nonsense Title: One Health Recipes	POLIMI	UOM	UB Art
Artist-Collective:Genomic Gastronomy Title: 4D Food Cultures: Imagining the transition to regenerative food systems	UB ART	ETF	UB Art
Artist: Baum & Leahy Title: Holobiont Futures	POLIMI	UB-TECH	UB Art
Artist: Frederik De Wilde Title: FoodMuse.ai	UB ART	AB-ACUS	UB Art
Artist:Eleonora Ortolani Title: Food Beyond Food	GLUON	PAL	UB Art

Phase 2 – Explore: During this stage, the Artist received support from the Art Mentor to implement the different tools provided as part of the DFA method aimed at creating a scenario. Through technological mentors, they received information about the potential and impact of technologies.

The mentors had the objective of offering different support services to the artists participating in the first Art-Tech experiment. For the first round of Art-Tech experiments, each artist was supported by a "core team" of mentors consisting of: 1 art mentor, 1 technology mentor, 1 nutrition expert, and 1 general mentor who oversaw the entire Art-Tech experiment.

The mentoring process for the first round of Art-Tech experiments follows the structure of the DFA method (see figure 3, page 9 of this document), which resulted in 3 main stages, each of which involves a subset of activities and expected results. During each phase, both individual and collective (online) meetings were established to check individual progress and implement peer-to-peer learning.

The Residency Programme Calendar has been drawn up for individual progress meetings during the first round of Art - Technology experiments (figure 3) with the following details for the exploration phase (figure 4).

Participants	Frequency	Format	Topic
Mentors + Artist + (Tech advisors)	Bi-weekly meetings during whole period	Online / 1h	Continuous support meetings between Artist and Art Mentor + Tech mentor when relevant
Tech Mentor	1 week during the Phase 1 of the Explore phase + on request when relevant	Physical / 2-3 full days per tech partner	Meeting between Tech Mentor + Artist
All (Tech advisors, mentors & artists)	End of each phase	Online / 1h	Joint meeting at the end of each phase (x5)

Figure 4: Mentorship format

The exact dates of the progress meetings were defined in the Individual Mentoring Plan at the beginning of the residency. During these meetings the evolution of the project and next steps were discussed. The mentors were there to help the artists find solutions, provide feedback, as well as support and guidance on implementing the tools that the DFA methodology offers. The mentor was responsible for coordinating the progress meetings and developing the meeting agenda.

4.2 Assessment Meetings

The objective of Assessment Meetings was to allow the artists to present the intermediate results of the process activities to the company representatives, which has allowed them to evaluate the results jointly, in order to proceed to the next steps.

The evaluation was conducted twice throughout the Explore phase of the DFA process, and consisted of a "Domain Evaluation" and a "Scenario Evaluation", respectively, during the Domain Map and Scenario activities.

The "Domain Evaluation" was based on an evaluation meeting between artists and consortium partners. At the meeting, the artist, following the presentation guidelines, presented the developed domains. The objective of this meeting was to select the most interesting and relevant domain to further explore in the industry.

The "Evaluation of the scenario matrix", whose methodology has been developed in coherence with the DFA method, was carried out through a specific workshop. During the workshop, guided by the facilitator, the artist presented the developed scenarios to the consortium partners. The presentation of the scenarios included the overall narrative as well as the narrative describing the related trends that have influenced and built each scenario. Each

scenario was detailed including all identified stakeholders (their power, struggles and opportunities). The artists have chosen one scenario they would like to further develop.

4.2.1 Future Exploration Workshops:

- Future Exploration workshops, with selected manufacturing companies, DIHs and artists

#POLIMI. Artists organised alternative futures workshops individually based on the interests and objectives of their projects. First artist, Sanja Sikoparija, held two workshops - the first in-person workshop was carried out on November 25th, 2023 in Belgrade, Serbia with Bodin Todorović (PhD archaeology), Marko Pešić (MSc, disaster risk reduction expert), Aleksandra Golubović (MSc in food history), and Andrej Gvozdovac (photographer). The second workshop was carried out online with three technology experts - Frederik Simard, the founder of RE-AK technologies start-up, Laura Giani and Margherita La Gamba from Ab.Acus company, to explore the potential of neurotechnologies and wearables in the future of food chain and personal well-being. Second artists collective, Non-human Nonsense, organised the workshop on November 22th, 2023 with Sara Fitterer (artist/designer focused on AI & Nonhuman), Astrid Elander (Writer about literature, art, poetry and philosophy) and another Artist & Game designer & Nonhuman Nonsense. Third artist, Peter Andersen conducted the workshop with a group consisting of an environmental engineer, a science fiction writer, an architect as well as Peter himself, who facilitated and participated in the workshop. They explored the topics around mycelium and fungae as a possible reconfiguration of materials, foods and senseability in the future.

#UB_Art. Thematic Track: Alternative futures, with Cesar Díaz. 22th nov. 15:30/17:30h. In this workshop the artists discussed with the specialists possible collaborations with companies and how they could formulate their projects to achieve an approach in a real scenario

#GLUON custom-tailored the workshop on alternative futures to cater to the needs and objectives of each individual project. Originally, Gluon had intended to host an in-person one day long workshop at its Brussels premises due to be on November 22nd. However, the constraints of the DFA method process left little time for proper organization. Throughout the first 6 weeks of the residency, the artists primarily focused on their trend research and the development of different domains. During the technological training in Barcelona on 6-7 November 2023, they presented their domain map. Building upon the domain selection, each artist was then tasked with identifying relevant profiles and expertise (f.e. DIH representatives, researchers, companies, …), but the delivery of this information was only completed by the 13th of November. Following the identification of experts within the network of Gluon, invitations were extended for their participation in the futures workshop. Regrettably, due to the experts' limited availability for in-person meetings, the event could not be organized as initially planned. Consequently, we opted for scheduling online 1-to-1 meetings. During these meetings the artists presented their domain, a selection of “What-If” questions and the scenario matrix to the experts.

Fig. 4 Screenshots taken from the Alternative Futures Workshop meeting between artist Chloé Rutzerveld and Prof. Jan Steensels on 22 November 2023.

The following meetings were held:

- Artist Chloé Rutzerveld held an online conversation with Prof. Jan Steensels (Verstrepen Lab, KU Leuven)
- Artist Eleonora Ortolani held in person meetings with 1) Hamid Ghoddusi (Reader and Researcher in food science and microbiology at London Metropolitan University) 2) Matthew Fuller (Professor of Cultural Studies, Goldsmiths University London) 3) Davide Piscitelli (Researcher, Forensic Architecture)
- Artist Lisa Mandemaker held online conversations with 1) Dr. ir. Cristina Zaga (Ass. prof. human centred design at University of Twente, NL) 2) Dani Clode (augmentation designer, Plasticity Lab, Cambridge University, UK)

5. Phase 3: Artwork production

After the construction phase, all artists are to continue during the 13-weeks period with the development of tangible results that exemplify the scenario they have created. During the 13 weeks, they will receive mentoring from artistic mentors (Polimi, UB Art and GLUON) once a month.

5.1. Art mentorship

Over the course of 13 weeks, artists will have the freedom to delve deeper into their creative processes, crafting tangible outcomes that exemplify the unique scenarios they have imagined during the previous phases. This broad timeframe allows for a deeper understanding of the chosen themes, encouraging the development of more nuanced and thought-provoking artistic pieces.

Throughout the residency, the artists will benefit from mentoring sessions. These monthly mentoring sessions will offer constructive feedback and guidance from the Art, Tech and Nutrition mentors (Polimi, UB Art and Gluon). Each session is developed individually by the artist and the artistic mentoring team will offer this mentoring as a group.

Mentoring activities include:

- Individual mentoring sessions with each artist to understand their artistic vision and project goals, discussions about their research, experiments and project development, as well as the artistic relevance and social impact of their work;
- Provide feedback on conceptualization aspects of the artists' work;
- Facilitate collaboration between artists and experts in the MUSAE network;
- Encourage artists to explore ethical and sustainability considerations in their artistic practice.

The Build period builds upon methods used in previous S+T+ARTS residencies projects such as Better Factory. It follows an iterative structure divided into 4 steps: 1. Ideate 2. Prepare 3. Build 4. Learn. It is an iteration cycle because these steps will be conducted three times during the complete Build period, each involving different foreseen outcomes per iteration cycle.

Iteration cycle 1: Project requirements

Start: Week 8 - 15/12/2023
End: Week 12 - 29/12/2023

Phase 1: Ideate – Development of ideas based on scenario
Phase 2: Prepare – Define the tools / expertise required
Phase 3: Build – Building the artwork: conducting experiment(s)
Phase 4: Learn – Presentation of experiment(s)

Requested deliverable: Sketches, pictures and/or video of the experiments conducted

Iteration cycle 2 : Proof of Concept

Start: Week 13- 29/12/2023
End: Week 19- 20/02/2024

Phase 1: Ideate – Adaptation & selection of ideas selected in cycle 1
Phase 2: Prepare – Define the tools for building the Artwork
Phase 3: Build – Building the artwork: mock-up
Phase 4: Learn - Presentation of mock-up
Requested deliverable: Video and pictures of the demo

Iteration cycle 3 : Artwork realised

Start: Week 20 - 29 /02/2024
End: Week 25 - 08/04/2024

Phase 1: Ideate – Refinement of ideas presented in cycle 2
Phase 2: Prepare –Define the tools and expertise required for production
Phase 3: Build – Production of the artwork
Phase 4: Learn – Presentation of the artwork

Requested deliverable: Video and pictures of the realised artwork ready for presentation

5.1.1 Meeting schedule

During the entire period, individual monthly online meetings were established between the artist and the artistic mentor to check on individual progress. The various steps in the iteration cycle will also serve as a guide for mentors to discuss progress and identify challenges.

A schedule has been developed for individual progress meetings during the first round of Art -Tech experiments. The exact dates for these meetings were defined in the Individual Mentoring Plan at the beginning of the residency.

Participants	Frequency	Format	Topic
Art mentor + Artist Polimi, UB_Art, Gluon	Monthly	1 h / online	Continuous support meetings between the artist and Art mentor + Tech mentor when relevant
All (Art mentors + Tech mentors + Artist) Polimi, UB-Art, UB-Tech, Gluon, Ab.Acus, UCD, PAL Robotics, UOM, ETF,	At the end of each cycle (3 times in total)	1h / online	Presentation of the required deliverables by the artist at the end of each cycle + feedback by the mentors

All the monthly sessions with the mentors will share the same format:

- *Presentation of the artist of the latest developments in the artwork production. In order to be able to assess the progress made by the artist, the artist will be asked to provide sketches, as well as pictures and/or videos of the realised prototypes during the meeting.*
- *Group discussion.*
- *Agreement on the required adapations, refinements and next steps .*

5.1.2. Exhibition setup

Venue Selection: UB Art will choose a suitable venue that can accommodate the number and size of artworks, as well as any interactive or multimedia installations that may be part of the

exhibition. Consider the accessibility of the location and its potential to attract a diverse audience.

The exhibition will take place in the main lobby of the historic building of the University of Barcelona, located at Gran Via de les Corts Catalanes, 585, 08007 Barcelona.

Curatorial Process: UB Art will be in charge of the curatorial process, working closely between mentors and artists. This process involves selecting the artworks that best represent the artists' visions and align with the exhibition's theme. As part of this work, the placement and arrangement of the artworks within the exhibition space would be suggested.

Publicity and Promotion: As part of the communication strategy of the MUSAE project, various channels such as social networks, press releases and other press media will be invited to communicate the upcoming showcase.

Opening Event: UB team will organize an opening event for the exhibition. The artists will attend the opening event, as well as to the previous set up of the exhibition. The opening event can include artist talks, guided tours, and networking opportunities to foster meaningful interactions between the artists and the audience.

- The exhibition dates are from April 8 to April 19, 2024.
- The official opening will be on April 9, as the setup will take place on April 8.
- We must dismantle on the same day, April 19, before 4:00 PM.
- The presence of the artists is expected between the 8th and 10th of April.

Documentation: The art mentors and tech mentors will ensure that the process and final artworks will be well-documented through texts, graphics, photographs, videos or any other format related to the nature of work. This documentation will be useful for archiving purposes and promoting the artists' work beyond the exhibition (presentations, publications, website...).

The exhibition should celebrate the growth, creativity, and achievements of the artists during the residency. It is a platform to share your artistic visions with the world and foster meaningful connections between artists, scientists, technologists, and the broader art community.

1. Annex

1. MUSAE Training Programme Kick off Residency Milan.
2. Thematic and technology immersion Dublin (Page 1-2).
3. Technology Training Programme - Barcelona, Spain (Page 1,2,3).
4. Individual Mentoring Plan.
5. Residency Programme Calendar.

ANNEX D4.1

1. MUSAE Training Programme Kick off Residency Milan.

S+T+ARTS
SCIENCE + TECHNOLOGY + ARTS

MUSAE Kick-off Programme

September 25th-29th, 2023
Via Durando, 10 – 20158 – Milano (MI)

Monday | 25.09	Tuesday | 26.09		Wednesday | 27.09	Thursday | 28.09	Friday | 29.09
			Morning (10:00 – 13:00)		***Visit at MADE (09:00 – 10:00)***
	Warm-up Introduction to DFA co-design		Warm-up	Warm-up	Warm-up
	Team 1 Guided-Learning : Trend research	*Team 2* Self-Learning: Trend research	Co-design: Domain building	Journey into the Future Alternative Futures workshop experience	Scenario creation – sharing best practices
	Co-design: Trend research Sharing moment		Debrief	Debrief	Building process narrative

Afternoon (14:00 – 17:00)							
Welcome + MUSAE introduction	Team building activity		Energizer		Team building activity		Energizer
Emotions Exploration: Emotional Journey	*Team 1* Guided-Learning : STEEP+V	*Team 2* Self-Learning: STEEP+V	*Team 1* Guided-Learning: What-if & Alternative Futures	*Team 2* Self-learning: What-if & Alternative Futures	*Team 1* Guided-Learning : Scenario Building activity	*Team 2* Self-learning: Scenario Building activity	Building process narrative Final debrief
Emotions Exploration: Conversational Object	Co-design: STEEP+V Sharing moment		Co-design: What-if & Alternative Futures Sharing moment		Co-design: Scenario Building Sharing moment		Individual Mentoring Plan
Aperitivo time			***Visit at MEET (17:30 – 18:30)***				***Aperitivo time***

2.Thematic and technology immersion Dublin (pg. 1-8).

MUSAE

Artist residency – University College Dublin

October 04 – October 06, 2023

Dear Artists,

On behalf of the MUSAE team, it is our pleasure to welcome you to Dublin as part of your residency. We hope that over the next 3-days, you will gain a deep understanding of the research that is taking place under the umbrella of 'Food as medicine' here in UCD. We have a number of activities planned to immerse you in the world of science and research – from soil to health and we are delighted to host you here. We hope that you enjoy your time here and that the support received will help you to fulfil your scenarios.

Best wishes to everyone.

Prof. Lorraine Brennan

Funded by the

MUSAE

Artist residency – University College Dublin

Agenda

Wednesday 04th, October	
10:00 – 11:00	**Welcome + Meet the MUSAE UCD team** – Boardroom, Charles Institute (no. 15, C5 – UCD Map) Brief welcome Overview of thematic tracks (Lorraine Brennan) Tour of the Conway Institute (Aoife O'Gorman)
11:00 – 12:30	**Understanding what we eat: track your diet** – Kevin Barry Gallery, UCD Charles Institute (no. 15, C5 – UCD Map) **Parallel brief mentoring sessions:** Baum & Leahy (15 mins); Lisa Mandemaker (15 mins); Peter Kaergaard (15 mins); Nonhuman Nonsense (15 mins); Eleonora Ortolani (15 mins);
12:30 – 14:00	**Lunch** – Kevin Barry Gallery, UCD Charles Institute
14:00 – 15:30	**Sensory Experience** – Institute of Food & Health Overview of sensory science Take part in a sensory test Review of sensory test
15:30 – 16:00	**Time to reflect** – Conway Institute, Boardroom (no. 19, B5)
Thursday 05th, October	
10:00 – 11:00	**Meet the MUSAE UCD team** – Seminar room 2, Conway Institute (no. 19, B5) **Brief Mentoring Sessions** – Maciej Chmara (15 mins); Sanja Brkanovic (15 mins)
11:00 – 12:30	**Research from soil to health – poster presentations – Artists to select the two best posters** – UCD Conway Institute, Foyer (no. 19, B5) Artists will judge the poster session – scoring sheet will be provided
12:30 – 14:00	**Lunch & networking** – UCD Conway Institute, Foyer

14:00 – 16:00	**Growing food – Tour of the crops in Rosemount –** UCD Rosemount
Friday 06th, October	
10:00 – 11:00	**Meet the MUSAE UCD team –** Conway Institute, Boardroom – diet feedback (no. 19, B5) **Parallel brief mentoring sessions:** Fred De Wilde (15 mins); Chloe Rutzerveld (15 mins); Cathrine Kramer (15 mins)
11:00 – 12:00	**Artists to present to the scientists (5 min presentations) – Opening our minds – a view through an artist's eyes –** Seminar room, Charles Institute (no. 15, C5) Artists will present themselves and their work in short 5-minute presentations to give scientists a view into their world
12:00 – 13:30	**Meet the experts speed dating –** Kevin Barry Gallery, UCD Charles Institute Artists will meet a number of experts from a range of fields from 'soil to health'
13:30 – 14:30	**Lunch & networking – –** Kevin Barry Gallery, UCD Charles Institute
14:30 – 15:00	**Wrap up & close**

MUSAE

Artist residency – University College Dublin

Poster Session

Elaine Hillesheim – 'Personalised nutrition delivered using a metabotype approach improves dietary quality and metabolic health parameters: A randomized controlled trial'

Gabrielle Young – 'Growing mushrooms without peat'

Isobel de Stanlaigh – 'Joining the dots in Irish food policy: A systems approach to policymaking for health and sustainability'

Katie Davies – 'Nutritional adequacy in more sustainable diets: testing a personalised approach'

Laura Gunning – 'Appetite-modulating properties of whey powder and isolated whey proteins via ghrelin receptors'

Emma Kane – 'Iodine intakes in school age girls aged 5-18 years in Ireland'

Rebecca Finlay – 'An untargeted approach to identify a panel of food intake biomarkers for green beans'

Claire Connolly and **Xiaofei Yin** – 'The impact of dietary regime and lactation stage on metabolite composition of bovine buttermilk and wholemilk powder'

Puja Rauniyar – 'Compositional, sensory and texture comparison of plant-based and dairy cheeses'

Mortaza Khodaejaminjan – 'A different beerspective: imaging barley under waterlogging stress'

Marcella Mazzocato – 'Production of food grade immobilization system of amyloglucoside using chitosan and sodium dodecyl sulfate'

Sakshi Lamba and **Amalia Scannell** – 'Biofilm-forming and multidrug-resitant bacillus species isolated from artisan bakery environment'

Sara Cardoso Esteves – 'MICRO-LYSIS project: breaking through the cell wall'

Ajay Iyer – 'Using microalgae to valorise gorse? Better be-leaf it!'

MUSAE

Artist residency – University College Dublin

UCD Experts

Lorraine Brennan is a professor in the UCD School of Agriculture & Food Science and leads a nutritional metabolomics group that are at the forefront of the application of metabolomics in nutrition research and the development of personalised nutrition. Prof. Brennan's interests revolve around metabolism and altered metabolic pathways in health and disease.

Aoife Gowen is a professor in the UCD School of Biosystems & Food Engineering. Her research area is multidisciplinary, involving applications of hyperspectral imaging and chemometrics to biological systems, including foods, microbes and biomaterials.

James Lyng is a professor in the UCD School of Agriculture & Food Science and his research focuses on the use of emerging thermal and non-thermal technologies in the processing of foods. In particular, he focuses on the assessment of these technologies for preservation while also evaluating their impact on product quality/nutritional value and more recently has started to focus on the use of some of these technologies for extraction of bioactive compounds from foods.

Dr. Nessa Noronha has been the director of Food for Health Ireland since 2019. Previously, she was Research Programme Manager with Food for Health Ireland and in 2017 she became the UCD Agri-Food Research Partner, where she advised and supported academic leaders in the development of medium- to long-term plans across the Agri-Food research theme. Her activities included developing the research themes for One Health, Precision Agriculture, Bioeconomy, and Food and Health.

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Ronald Halim is an assistant professor in the UCD School of Biosystems & Food Engineering. He has multidisciplinary research interests in the use of microalgae for bioremediation of agri-food waste products and sustainable co-generation of food, fuel and biochemicals. His group at UCD is currently building its capacity to carry out state-of-the-art research in microalgae bioremediation and biorefinery systems.

Clare Corish is a professor in the UCD School of Public Health, Physiotherapy and Sports Science and has a background in human nutrition and dietetics. She has a long-standing commitment to nutrition research activities, particularly in disease-related malnutrition/malnutrition in the older person, nutrition in early childhood and nutrition and lifestyle among shift workers. She has also research expertise in models of dietetics practice placement education.

Niamh Harbourne is an assistant professor at the UCD School of Agriculture & Food Science. Her research aims to understand the impact of processing and storage on biologically active chemicals in foods, with a view to producing sustainable food products with improved health benefits while maintaining or improving overall product quality.

Breige McNulty is an assistant professor at the UCD School of Agriculture & Food Science. Her main research interests are in the area of food consumption and using such data to gain an understanding of the impact of foods, nutrients, food ingredients and chemicals on health with a view to underpinning food safety and policy.

Saoirse Tracy is an assistant professor at the UCD School of Agriculture & Food Science. She is a soil and plant scientist and her research centres around understanding plant root and soil interactions. Her research interests include using X-ray Computed Tomography (CT) to understand the response of roots to the soil physical environment and she uses her skills and experience of X-ray CT, soil science, hydrology, plant biology and image analysis to answer further questions about the rhizosphere and plant function

Amalia Scannell is an assistant professor at the UCD School of Agriculture & Food Science. Her main interest is to ascertain the effects that changes in food products as brought about through novel processing, novel ingredients and new product development ideas have on both the microbial safety of food - using traditional microbiological and next generation sequencing techniques, and on consumer acceptance, consumer-led product development and sensory profiling.

Clare Reynolds is an assistant professor at the UCD School of Public Health, Physiotherapy and Sports Science. Her research focuses includes metabolic inflammation and the role of parental diet prior to conception and during pregnancy on the long-term health outcomes of offspring during adulthood. Using her expertise in adipose tissue biology and immuno-metabolism, the aim of her current research are to bridge the gaps in knowledge between developmental programming, epigenetics and metabolic inflammation.

Colm O'Donnell is a professor at the UCD School of Biosystems & Food Engineering. His research group works on a range of process analytical technology (spectroscopy and spectral imaging) and bioprocessing projects. He is the UCD Principal Investigator in the Dairy Processing Technology Centre (www.dptc.ie) and the EU funded DiTECT project, and Co-ordinator of the EU funded FreshProof project.

Helen Sheridan is an associate professor in the UCD School of Agriculture &Food Science. Helen's research interests include the role of multispecies grasslands in multiple ecosystem service delivery in agricultural systems. The design, implementation and monitoring of agri-environment measures and the identification, classification and management of habitats in the rural landscape.

1. Technology Training Programme - Barcelona, Spain (Page 1,2,3)

MUSAE Technology Training

6-7th November 2023

(remote: https://meet.google.com/vbn-kywk-pnz)

PAL Robotics, Barcelona, Spain

Agenda

6th November 2023

Title	Leading Partner	Tentative Time Slot
Welcome and Introduction to Programme	**PAL**	**9:30 - 9:45**
Robotics • Setting a common ground – key definitions and jargon (5 minutes) • Three use cases today (10 minutes) • Future perspectives (10 minutes)	**PAL**	**9:45 - 10:10**
Robotics: Physical Interaction • Setting a common ground – key definitions and jargon (5 minutes) • Three use cases today (10 minutes) • Future perspectives (10 minutes)	**ETF**	**10:10 - 10:35**
Robotics: Social Interaction • Setting a common ground – key definitions and jargon (5 minutes) • Three use cases today (10 minutes) • Future perspectives (10 minutes)	**UoM**	**10:35 - 11:00**
Panel discussion between artists and partners expert in robotics (Q&A, curiosities and findings from trends by artists, threats and opportunities on found techs)	**ALL**	**11:00 - 11:30**
Coffee Break		**11:30 – 11.50**
Wearables • Setting a common ground – key definitions and jargon (5 minutes) • Three use cases today (10 minutes) • Future perspectives (10 minutes)	**ABACUS**	**11:50 -12:15**

MUSAE

Panel discussion between artists and partners (Q&A, curiosities and findings from trends by artists, threats and opportunities on found techs)	**ABACUS + All**	**12:15 – 12:30**
Individual mentorship about Domain building		**12:30 – 13:00**
Sharing mentorship about the process and domains		**13:00 – 13:30**
Lunch		**13:30 - 14:30**
 **Transcend Binary: Merging Story, AI, and Food Culture by NFB Creator** Animation technologist and creator at the National Film Board of Canada, Alex Boya proposes an interdisciplinary discourse within the European project Musae's framework, intertwining narrative intelligence and cultural insights to innovatively tackle dietary patterns and food chain reengineering.	**Alex Boya**	**14:30 - 15:00**
Artificial Intelligence • Setting a common ground – key definitions and jargon (5 minutes) • Three use cases today (10 minutes) Future perspectives (10 minutes)	**UB**	**15:00 – 15:25**
Panel discussion between artists and partners (Q&A, curiosities and findings from trends by artists, threats and opportunities on found techs)	**UB + All**	**15:25 – 15:45**
Coffee Break		**15:45 - 16:00**
Robots Demonstration	**PAL**	**16:00 - 17:00**
Visit to UB	**ALL**	**17.00 -**

7th November 2023

Title	Leading Partner	Tentative Time Slot
Sustainability Framework	**PAL**	**09:00 - 09:30**
Industrial Design Process	**PAL**	**9:30 - 10:00**

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Talk – Ethics and generative AI	**Jordi Vitria**	**10:00 – 10:30**
ELSI (Ethical, Legal and Social Implications)	**ABACUS**	**10:30 - 10:40**
Data Management	**UB**	**10:40 - 10:50**
Rethinking usability through People and Planet centered perspective	**POLIMI**	**10:50 - 11:20**
Panel discussion between artists and partners (Q&A, reflection on the impact of techs on ethics and sustainability)	**ALL**	**11:20 – 11:30**
Coffee Break		**11:50 - 12:00**
Future vision of technologies (Artists Interviewing Tech Providers)	**ABACUS, UB, UoM, PAL, ETF**	**12:00 - 13:00**
Lunch		**13:00 - 14:00**
Domain Assessment (match technology to individual projects)	**ALL**	**14:00 - 16:00**
Refining ideas, wrap up, next steps	**ABACUS**	**16:00 - 16:30**

4.Individual Mentoring Plan (pg 1-14).

DELIVERABLE 1 Individual Mentoring Plan

Project Name	
Project Acronym	
Thematic Track	
Technology	
Version	
Author(s)	
Classification	CONFIDENTIAL

This project has received funding in the first open call of MUSAE Project finance 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.

Instruction

The Deliverable 1 Individual Mentoring Plan must be submitted by dd/mm/yyyy via email to your appointed MUSAE art and tech mentors, CCing: Maria Rita

Canina, marita.canina@polimi.it, MADE Competence Center email (progettieuropei@made-cc.eu).

Revision History

Version	Date	Created / modified by	Comments
0.1	24/08/2023	MADE	Template: first version
0.2	08/09/2023	GLUON	Template: final version

Abstract [publishable]

Please describe an overall summary of the document to be used as publishable abstract

Table of content

1. Introduction

The SubGrantAgreement will include, as an annex, the Individual Mentoring Plan for each art-tech residency project. This document establishes, among others, the KPIs and Deliverables that will be considered when evaluating the residency performance at the milestones review, as well as the budget.

The Individual Mentoring Plan is also a base for the co-ordination between the artist and the support provided by the MUSAE consortium. This document states the names, contact information and the roles of art & design mentors, technology mentor expert and nutrition expert mentor.

2. Executive summary

The summary shall describe the main objectives of the Art-Tech experiment and overview of the mentoring established for the residency. The Executive Summary should be maximum one page in total (separately include tables of KPIs). It will provide an abstract text that can be used for public communication purposes and 1 project image should be added to the annex.

3. Table of KPIs

Key Performance Indicators represent the measurable objectives of the project. An objective is a defined, specific, and achievable goal for the Art-Tech experiments and the resulting impact they aim to achieve. KPIs are not formal deliverables, but benchmarks against which to measure success achieved and impact realised as a result of the MUSAE project. The KPIs are aligned with the DFA process and will help to monitor the implementation and impact of the DFA method.

Activity name: Trend research				
KPI	**Obj**	**Explanation**	**Means of verification**	**Target month**
Exploring & identify the sources		To begin the trend research, the artist needs to identify sources where to look for them. The DFA process provides a “library” of various sources (academic, reports, social media, patent repositories, etc) to inspire and facilitate the search for trends and signals.		October 2-13
Collecting trends & signals				October 2-13
AI support				

Activity name: STEEP+V Analysis				
KPI	**Obj**	**Explanation**	**Means of verification**	**Target month**
STEEP+V Analysis		Identify and map the impact of each identified macro-trend within STEEP+V on the topic (combination of STEEP+V and Impact mapping). The objective is to understand what kind of impact (positive or negative) identified macro-trends have on the theme of exploration.		October 16-27
Interviews with experts		Reach out to experts in one of the fields of STEEP+V areas to gain more qualitative information in their field of expertise in order to enrich the research and understand the impacts of macro-trends on the topic.		October 16-27
AI support		Using prompts, AI tool can suggest new additional macro-trends within each area of STEEP+V		October 16-27

Activity name: Domain building				
KPI	**Obj**	**Explanation**	**Means of verification**	**Target month**
Create a domain map		Using a framework for domain creation, trends and signals are mapped according to categories, as well as interconnections between them are identified, which helps to create and make sense of the specific domains.		October 30 – November 3
Number AI support		Using prompts, AI can find and suggest new interconnections between trends and signals, which can be used to inspire and build upon to further create and map domains.		October 30 – November 3
Identifying and mapping stakeholders		Map together all stakeholders that might be relevant to the domain.		October 30 – November 3
Creating and describing domains		The identified domains are described in detail by giving reason and meaning for their creation. Domains should be described by elaborating on (i) what trends/signals/drivers led to their creation; (ii) the relevance to the macro-theme.	Domain map	October 30 – November 3

Activity name: Alternative Futures				
KPI	**Obj**	**Explanation**	**Means of verification**	**Target month**
Creating what-if questions		Create a variety of “what-if” questions that will be used in order to provoke critical thinking and imagination to explore alternative futures.	Futures Workshop	November 6 – November 10

Imaginative immersion of the future		Immerse into imaginative exploration of the future of a particular domain and explore and embody their experiences within it.	Futures Workshop	November 13 – November 17
Exploring alternative futures		By choosing specific "What if ..?" questions the participants create alternative futures and explore them by imagining their context, as well as what impact it can have on their domain.	Futures Workshop	November 13 – November 17
Visualizing alternative Futures		Using image-generated AI tools and prompts, the participants generate visualizations in relation to the alternative futures that are being discussed by the participants in order to create a common vision of the futures discussed.	Futures Workshop	November 13 – November 17

Activity name: Scenario building				
KPI	**Obj**	**Explanation**	**Means of verification**	**Target month**
Identifying critical questions and uncertainties		Based on the reflections on the alternative futures activity, as well as all previous research, a critical question(s) in relation to the domain should be formed. The criticality of the questions should allow the identification and development of a number of uncertainties for the domain. To conduct this step and find uncertainties, three options are available for implementation: Impact/ uncertainty matrix, Free Choice, AI Support		November 20 – December 1

Creating scenarios	4			November 20 – December 1
Scenario selection		Presentation four developed scenarios. The presentation of the scenarios includes the general narrative, as well as narration describing the related trends that have influenced and builds up each scenario, as well as each scenario is described according to the STEEP+V areas, including all stakeholders identified for each scenario (their power, struggles, opportunities). One scenario will be selected to be developed further	Workshop - Scenario assessment	November 20 – December 1

Activity name: Final scenario development				
KPI	**Obj**	**Explanation**	**Means of verification**	**Target month**
Scenario worldbuilding		Creation of a narrative of the scenario	Scenario presentation	December 4 - December 15
Visualisation(s) of the scenario through various mediums (audio and visual format)		In order to make a coherent story based on the developed components, scenario can be visualized through various mediums which can be mixed, such as visuals formats (images, sketches, animation website, …) and audio formats (sounds, podcast, …)	Scenario presentation	December 4 - December 15

4. Contact

4.1. Mentor team

The mentors allocated to the Art-Tech experiment and their contact information.

Support provided from MUSAE consortium				
Description	**Name of Mentor (full name)**	**e-mail address**	**phone number**	**MUSAE Organization**
Artist				x
Art & Design Mentor				
Technical Mentor				
Nutrition Mentor				

4.2. Meeting schedule of the mentor team

Team sessions will take place at fixed moments in order to meet the deadlines and KPIs to be reached.

Meeting schedule of the mentor team		
Date or cycle of meetings	Location	Topic
25.09 – 29.09.2023	Physical at Polimi Milan	Training DFA method
04.10 – 06.10.2023	Physical at UCD Dublin	Topic immersion
06.11 – 07.11.2023	Physical at Pal Robotics Barcelona	Technology training
Bi-weekly	Online	1:1 meeting between the artist and art&design mentor: update on progress
Once a month	Online	Plenary meeting

5. Activity Plan

The MUSAE project is an experiment following the DFA method. Through this method and its activities different worlds come together to share ideas, knowledge and skills in the pursuit of art-driven innovation. There are some fixed moments to ensure the KPIs and deadlines are reached.

5.1. Description of activities

Activity number	1
Activity name	Trend research
Duration of the activity	Week 1 – Week 3
Objectives of the activity	
Objectives of the activity are as follows: • Explore and collect trends from different areas relevant to the topic	

Activity number	3
Activity name	STEEP + V Analysis
Duration of the activity	Week 4 – Week 5
Objectives of the activity	
Objectives of the activity are as follows: • Identify general macro-trends and trends in general beyond the specific topic of exploration • Map and understand the impact of broad macro-trends on the theme of exploration	

Activity number	4
Activity name	Domain building
Duration of the activity	Week 6
Objectives of the activity	
Objectives of the activity are as follows: • Converge identified trends and signals into several interconnected domains for exploration • Based on the discussion between artist and company, select one domain for further exploration • Map stakeholders who might be related to the domain in different ways – if they can either impact or be impacted	

Activity number	5
Activity name	Alternative Futures
Duration of the activity	Week 7 - 8
Objectives of the activity	
Objectives of the activity are as follows: • The objective is to create and explore a multitude of alternative futures in order to identify uncertainties in the domain and build scenarios. The visioning phase consists of five activities – (i) What-if questions; (ii) Journey into the Future; (iii) Alternative Futures; (iv) Scenario Matrix and (v) Scenario Building.	

Activity number	6
Activity name	Scenario building
Duration of the activity	Week 9 - 10
Objectives of the activity	
Objectives of the activity are as follows: • To use different narrative techniques to build a compelling representation of the future.	

Activity number	6
Activity name	Final scenario development
Objectives of the activity	Week 11 - 12
Objectives of the activity	
Objectives of the activity are as follows: • To use different narrative techniques to build a compelling representation of the future.	

6. Expected deliverables

Deliverable	Type	Public*
D1 Individual Mentoring Plan	Report	No
D2 Interim report (report + scenario description and representation)	Report	No
D3 Final demonstration (report)	Report	No

6.1. Intermediary report

D2 Domain Map	Presentation	No
D3.1 Presentation of scenario	Presentation	No
D3.2 Demonstration document of scenario	Report	No
D3.3 Co-design of DFA method	Report	No
D4 Presentation of prototype	Presentation / plan	No
D5.1Life demonstration of prototype	Presentation	Yes
D5.2 Demonstration document of prototype	Report	No
D6 Experiment Learnings	Questionnaire	No

The evaluation procedure is as follows:

1. The artist is responsible of creating the deliverable and submits it to the core team members;
2. The Mentoring Committee of the MUSAE consortium reviews and assesses the deliverables and sends them to the Selection Committee to validate assessment and approve payments;
3. The Selection Committee composed of XXX which are the core from the management point of view approves the deliverable;
4. MADE sprl processes payment per stage

5.Residency Programme Calendar.

MUSAE First Art-Tech Residency Programme

Week 1 (Kick-off in Milan - September 25–29)	**Week 7 (November 6-10)**
Training: Design Futures Art-driven method **Activities**: Immersive phase Co-design DFA Individual mentoring plan	**Training**: Technologies in Barcelona (Nov 6-7) **Activities**: What if questions Alternative Futures **Meeting**: Domain assessment
Week 2 (October 2-6)	**Week 8 (November 13-17)**
Activity: Trend research **Training**: Food as Medicine in Dublin (Oct 4-6)	**Activity**: Alternative Futures *Mentoring session* **Co-design session:** Futures workshop
Week 3 (October 9-13)	**Week 9 (November 20-24)**
Activity: Trend research	**Activity**: Scenario building
Week 4 (October 16-20)	**Week 10 (November 27 – December 1)**
Activity : Trend Research **Activity** : STEEP+V analysis *Mentoring session*	**Activity**: Scenario building **Meeting**: Scenario assessment *Mentoring session*
Week 5 (October 23-27)	**Week 11 (December 4-8)**
Activity: STEEP+V analysis	**Activity**: Final scenario development
Week 6 (October 30 – November 3)	**Week 12 (December 11-15)**
Activity : Domain building *Mentoring session*	**Activity**: Final scenario development *Mentoring session*
December 15th: Final scenario delivery	
January – April 2024: Artwork development **April 2024**: Exhibition in Barcelona	

The daily timing of the trainings will be from 10 am to 5 pm, except for Monday, 25th September when it will begin at 2 pm.

The bi-weekly meetings with mentors will be organized online according to the Individual Mentoring Plan.

Assessment meetings will be organized online.

Information about training locations

1. **Kick-off week in Milan, Italy**

Host: MADE and Politecnico di Milano (POLIMI)

Location: Via Durando 10, 72, 20158 Milano MI, Italy

2. **Training in Food as Medicine in Dublin, Ireland**

Host: University College Dublin (UCD)

Location: University College Dublin, Belfield, Dublin 4, Ireland

3. **Training in Technologies in Barcelona, Spain**

Host: PAL Robotics

Location: C. de Pujades, 77, 7-7, 08005 Barcelona, Spain