Green Digi Fash Tech Manager

Report

Pilot Educational Initiative and Pairing Activity



Successfully translating educational content and methodology into practical innovation cases

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Executive Summary

This final D4.4 deliverable report synthesises the **Pilot Educational Initiative and Pairing and Mentoring activities** implemented within WP4 of the Green DigiFashTech Manager project. It documents the progression from curriculum development and learner co-creation, through the formative piloting and refinement of the five Green Digital Fashion Manager educational modules, to their final publication on DigiFashHub and their practical application through the cross-country Pairing and Mentoring Programme.

The educational component of WP4 was designed to equip fashion and textile professionals, SMEs, designers, entrepreneurs, educators, students and other target-group representatives with the hybrid green and digital competences required by the transformation of the European textile and fashion sector. The curriculum comprises five complementary modules: **(1) Foundations of Sustainable Fashion; (2) Digital Technologies in Fashion; (3) Green Business and Management; (4) Ethical and Circular Digital Manufacturing in Fashion; and (5) Change Management and Stakeholder Engagement**. Together, they address sustainability, digital innovation, circular and ethical manufacturing, business transformation and the organisational and stakeholder capabilities required to manage the twin green and digital transition.

A major formative pilot of the educational programme was embedded within the **Seam the Change: Athens Fashion Hackathon, held from 11–13 November 2025**. The Hackathon created a large-scale, real-world learning and innovation environment involving approximately **135 participants** from the wider fashion, textile, education, technology and entrepreneurial ecosystem. The event was deliberately conceived as an experiential environment in which the emerging DigiFashTech learning themes could be tested through collaborative problem-solving and interaction with learners and professionals.

During the Hackathon, the five Module Leaders delivered dedicated pilot educational sessions of approximately **45 minutes per module** in different learning spaces within the venue. The sessions were not treated simply as lectures but as **formative co-creation and validation activities**. Learners interacted directly with the Module Leaders, discussed the relevance and clarity of the proposed content, identified knowledge and competence needs and provided feedback on practical applications and areas requiring further development.

The face-to-face pilot was complemented by a **digital focus-group and QR-code consultation**, allowing participants across the wider Hackathon audience to

contribute feedback concerning the emerging Green Digital Fashion Manager profile and curriculum. The consultation explored the sustainability and digital competences required by the sector, emerging technologies, professional roles, leadership and stakeholder capabilities, barriers to implementation and areas that should be strengthened within the curriculum. The feedback particularly reinforced the importance of combining digital literacy, AI and emerging technologies with circular economy knowledge, lifecycle thinking, ethical sourcing, traceability, stakeholder engagement, systems thinking and practical industry applications.

The Hackathon therefore established an iterative educational development cycle:

draft curriculum → live module piloting → learner interaction and co-creation → digital feedback collection → Module Leader reflection → curriculum refinement → final e-module development and publication

Following the formative pilot, each Module Leader processed the feedback and observations generated during the event and incorporated relevant findings into the further development of their module. The five final modules were subsequently developed as digital learning resources and published through DigiFashHub, transforming the initial face-to-face pilot into a scalable e-learning programme that can continue to be accessed and exploited by learners in the partner countries and beyond.

The second major component documented in D4.4 is the **Pairing and Mentoring Programme**, which was designed to move participants from knowledge acquisition towards practical experimentation and innovation. Building upon the educational and co-creation activities, partners formed complementary pairs and guided them through challenge definition, mentoring, prototype or concept development, reflection and presentation. The methodology supported participants in addressing real fashion-sector challenges through digital tools, circular design, sustainable materials, upcycling, traceability, cultural heritage, responsible AI, immersive technologies and local manufacturing.

In total, D4.4 documents **ten pairing cases**: two from AMFI in the Netherlands, two from the Macedonian Fashion Association in North Macedonia, two from PANSiK in Greece and four from SOFFA in Greece. These cases demonstrate the transferability of the methodology across different educational, professional and innovation contexts and produced a diverse portfolio of physical, digital and hybrid outputs, including immersive fashion experiences, digitally fabricated costume concepts, AI-assisted fashion communication, holographic digital fashion, biomaterial

experimentation, circular redesign, knit-to-shape production, upcycling and heritage-based product development.

Taken together, the Pilot Educational Programme and Pairing and Mentoring Programme demonstrate the complete **Green DigiFashTech learning-to-innovation pathway** developed through WP4. The educational pilot validated and strengthened the project's competence framework with learners; the final e-modules converted this learning into an accessible digital resource; and the pairing methodology enabled participants to translate knowledge into collaborative experimentation, prototypes and innovation pathways.

D4.4 therefore demonstrates a progression from **learning, to co-creation, to application and continued exploitation**. The results provide DigiFashHub not only with five final educational modules, but also with practical cases, methodologies and evidence that can support future learners, VET providers, SMEs, professionals, mentors and innovation ecosystems across Europe. In this way, the Hub functions as a continuing environment through which the project's educational resources, collaborative methodology and accumulated learning can remain accessible and replicable beyond the initial pilot period.

Partner	Country	Pairs Documented	Main Innovation Focus
Amsterdam Fashion Institute (AMFI)	Netherlands	2	Research through Design, immersive editorial systems, 3D costume design, digital fabrication and sustainability testing
Macedonian Fashion Association (MFA)	North Macedonia	2	AI-assisted fashion communication, 3D digital garments and holographic presentation
PANSiK Fashion School (PANSiK)	Greece	2	Biomaterials from food waste, heritage-inspired circular design and mentoring of emerging fashion designers
SOFFA Social Fashion Factory (SOFFA)	Greece	4	Circular redesign, 3D knit-to-shape production, hybrid upcycling, cultural heritage and local manufacturing ecosystems

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1. Objectives of this Report

The objective of D4.4 is to document and evaluate the implementation of the **Green DigiFashTech Pilot Educational Initiative and the Pairing and Mentoring Programme**, demonstrating how the project progressed from curriculum development and learner co-creation to final e-learning resources and practical experimentation. The deliverable connects the educational pathways developed by the consortium with the Pairing and Mentoring Methodology established in D4.3 and with the implementation evidence gathered through the Athens Hackathon, learner feedback, digital consultation and national partner reports.

More specifically, D4.4 aims to:

- **document the Pilot Educational Programme**, including the five Green Digital Fashion Manager modules, their thematic areas, responsible Module Leaders and their contribution to the green and digital competence profile developed by the project;
- **document the formative piloting of the five modules during the November 2025 Athens Fashion Hackathon**, where Module Leaders delivered approximately 45-minute pilot sessions within a wider learning and innovation environment involving approximately 135 participants;
- **explain the learner-centred co-creation and validation process**, including interaction between Module Leaders and learners during the pilot sessions, the digital focus group and QR-code feedback mechanism, and the main findings generated through these activities;
- **demonstrate how learner feedback informed curriculum refinement**, showing the progression from draft modules through piloting, feedback and Module Leader reflection to the final e-modules published on DigiFashHub;
- **document the methodology used for the Green DigiFashTech Pairing and Mentoring Programme** and explain how it builds upon the educational and co-creation activities by moving participants from knowledge acquisition towards practical experimentation;
- **explain the pairing and mentoring process followed by partners**, from participant selection and pair formation through challenge definition, mentoring, prototype or concept development, reflection and presentation;

- **synthesise cross-country implementation and learning** from AMFI, MFA, PANSiK and SOFFA, demonstrating how the methodology was adapted to different educational, professional and innovation ecosystems;
- **present each pairing case separately**, using a harmonised structure based on the Pairing Report Guidelines and documenting the challenge, participants, mentoring journey, activities, results and future potential;
- **identify the educational, technical, creative and innovation results generated through the overall pilot**, including learning outcomes, prototypes, concepts, new collaborations and practical applications of green and digital fashion competences;
- **assess the contribution of the activities to the objectives and KPIs of WP4**, particularly learner engagement, curriculum relevance, practical application of learning and continued exploitation of the educational resources;
- **extract transferable lessons and recommendations** for future delivery of the educational programme, future pairing and mentoring cycles and continued development of the Citizens Digital Science Hub; and
- **support exploitation and replication beyond the initial pilot period**, by documenting a complete pathway from curriculum development → learner piloting and co-creation → module refinement → final e-learning → pairing and mentoring → practical innovation and continued Hub-based learning.

2. Pairing Methodological Framework

The methodological framework of D4.4 combines **two interconnected approaches: the Pilot Educational Programme and learner co-creation methodology, followed by the Pairing and Mentoring Methodology**. Together, these approaches were designed to move participants progressively from knowledge acquisition and curriculum validation towards practical application, collaborative experimentation and innovation.

The methodology therefore does not treat educational delivery and pairing as independent activities. Instead, it follows a **learning-to-innovation pathway** in which educational content is first exposed to learners and practitioners, tested and refined through feedback and co-creation, transformed into final digital learning resources, and subsequently connected with practical challenges through pairing and mentoring.

The overall methodological sequence can be summarised as:

Curriculum development → formative educational pilot → learner co-creation and feedback → curriculum refinement → final e-modules → participant pairing → mentoring and experimentation → prototype/concept development → reflection and dissemination → continued exploitation through the Citizens Digital Science Hub

This integrated framework reflects the wider Green DigiFashTech Manager approach, which recognises that the green and digital transition requires not only new knowledge but also opportunities for professionals and learners to test, apply and translate that knowledge into concrete practices.

2.1. Pilot Educational Programme and Learner Co-Creation Methodology

The first methodological component concerned the **formative piloting and validation of the Green Digital Fashion Manager curriculum with learners and representatives of the project's target groups**.

Five complementary educational modules were developed by consortium partners, covering sustainable fashion foundations, digital technologies, green business and management, ethical and circular digital manufacturing, and change management and stakeholder engagement. Rather than finalising these modules exclusively through internal consortium development, the project incorporated a learner-centred validation stage.

A major formative pilot took place during the **Seam the Change: Athens Fashion Hackathon, 11–13 November 2025**. The event was designed as a real-world environment in which emerging Green DigiFashTech learning themes could be tested through interaction, collaborative problem-solving and experiential learning. The Hackathon brought together fashion professionals, technologists, educators, SMEs, mentors and other ecosystem actors and enabled the project to observe how participants engaged with digital and sustainability-related knowledge in practice.

Each Module Leader delivered an approximately **45-minute pilot educational session** dedicated to their module. These sessions combined presentation with interaction, discussion and learner feedback. Participants were encouraged to comment on the relevance, clarity and practical applicability of the content and to identify areas requiring further explanation, practical examples or additional knowledge.

This live interaction was complemented by a **digital focus-group and QR-code consultation**, allowing feedback to be collected from participants across the wider Hackathon environment. The consultation explored the competencies required by the emerging Green Digital Fashion Manager profile, including sustainability and circularity knowledge, digital technologies, professional skills, leadership, stakeholder engagement and barriers to implementation.

The methodology therefore used **multiple sources of formative evidence**:

- direct learner feedback during module delivery;
- questions and discussion between learners and Module Leaders;
- co-creation within the module sessions;
- responses to the digital focus-group and QR-code questionnaire;
- observation of how participants applied sustainability and digital concepts during the Hackathon challenges; and
- reflection by Module Leaders following the event.

The purpose of this process was not to produce a summative evaluation of an already completed curriculum, but to enable **formative evaluation and iterative improvement while the modules were still being developed**.

Following the Hackathon, Module Leaders reviewed the evidence generated through the pilot and incorporated relevant findings into the further development of their modules. The final educational resources were subsequently converted into e-learning modules and published through DigiFashHub for continued use by learners in partner countries and beyond.

The educational piloting methodology can therefore be expressed as:

Draft → Test → Listen → Co-create → Reflect → Refine → Digitalise → Exploit

This approach positioned learners not simply as beneficiaries of training but as contributors to the quality and relevance of the final educational programme.

2.2. Pairing and Mentoring Methodology

The second methodological component moved participants from **learning towards practical application and experimentation**.

Following the educational and co-creation activities, the Green DigiFashTech Pairing and Mentoring Methodology provided a structured framework through which participants could address real challenges related to sustainability, circularity and digital transformation.

Partners identified and recruited participants from their respective ecosystems, including SMEs, designers, students, researchers, educators, technologists and creative organisations. Participants were then brought together in complementary pairs based on their needs, capabilities, interests, professional backgrounds and potential for collaboration.

The methodology followed a common sequence across the participating countries:

participant selection → pair formation → challenge definition → mentoring journey → prototype or concept development → presentation and dissemination

This common structure provided methodological consistency while allowing each partner to adapt implementation to its national ecosystem and participant profiles. The final implementation documented **ten pairing cases: two by AMFI, two by MFA, two by PANSiK and four by SOFFA**.

Each pair began by identifying a practical challenge or opportunity connected with one or more Green DigiFashTech themes. These included digital fashion and immersive media, AI, 3D design and fabrication, sustainable materials, biomaterials, circular production, upcycling, traceability, cultural heritage and local manufacturing.

Mentoring was used to support participants in moving from an initial idea towards a more concrete development pathway. Depending on the nature of the pairing, this involved briefing, technical experimentation, material testing, creative development,

troubleshooting, business reflection, prototype planning and preparation for presentation.

The methodology deliberately remained **structured but flexible**. The objective was not to require all pairs to produce identical outcomes, but to establish a common process through which different kinds of participants could transform knowledge into practical experimentation. Consequently, the resulting outputs included physical prototypes, digital and immersive outputs, material experiments, circular products, AI-supported communication concepts and future development pathways.

2.3. Integration of Education, Co-Creation and Practical Experimentation

A defining characteristic of the D4.4 methodology is the connection between its two components.

The **Pilot Educational Programme creates knowledge and reflection**.
The **co-creation process tests its relevance with learners**.
The **final e-modules preserve and scale the resulting knowledge**.
The **Pairing and Mentoring Programme creates a space for application**.
The **Citizens Digital Science Hub enables continued access, exploitation and replication**.

The relationship is therefore cyclical rather than linear. Practical experimentation can reveal new competence needs; these can subsequently inform educational resources and future training cycles. Likewise, the educational modules can provide concepts, methods and tools that future Hub users apply through new pairing and mentoring activities.

This integrated methodology is particularly relevant to vocational education because green and digital competencies cannot be developed only through theoretical instruction. Learners need opportunities to understand concepts, question them, relate them to their professional realities, experiment with them and reflect on the outcomes.

The methodology consequently combines **formal learning, experiential learning, peer learning, learner co-creation, mentoring and challenge-based innovation** within one implementation framework.

2.4. Evidence and Evaluation Approach

D4.4 uses evidence from several complementary sources to document and evaluate implementation.

For the **Pilot Educational Programme**, evidence includes the Hackathon implementation, the five module pilot sessions, learner interaction and feedback, the digital focus-group and QR-code consultation, Module Leader reflection and the resulting final e-modules published through DigiFashHub.

For the **Pairing and Mentoring Programme**, evidence includes national partner reports, pairing documentation, mentoring journeys, participant reflections, prototypes and concepts, photographic and visual documentation, presentations and dissemination activities.

The evaluation therefore combines **quantitative and qualitative evidence**. Quantitative evidence concerns participation, programme reach and documented outputs, while qualitative evidence captures learner needs, relevance of curriculum content, practical experiences, mentoring processes, challenges encountered, lessons learned and opportunities for further development.

Cross-country synthesis is then used to identify recurring themes and transferable learning across AMFI, MFA, PANSiK and SOFFA.

Importantly, the approximately **135 participants in the Athens Hackathon represent the overall reach of the event and the wider potential population exposed to the learning and co-creation environment**. This figure should not be interpreted as evidence that all 135 participants completed each of the five educational modules. Module-specific participation and subsequent e-learning completion should be reported separately where corresponding evidence is available.

2.5. Expected and Achieved Outputs

The integrated methodology was expected to generate outputs at both **educational and practical innovation levels**.

For the Pilot Educational Programme, the principal outputs were:

- validation and refinement of the five Green Digital Fashion Manager educational modules;

- documented learner and stakeholder feedback on emerging competence requirements;
- stronger integration of practical industry needs and real-world examples into the curriculum;
- five final e-learning modules published through DigiFashHub; and
- a scalable educational resource available for continued use and exploitation beyond the initial face-to-face pilot.

For the Pairing and Mentoring Programme, the expected outputs included a documented case study for each pair, a development pathway, evidence of mentoring and reflection, a prototype or concept where appropriate, and recommendations for future development. These outputs are consolidated at consortium level in D4.4 and provide practical cases that can subsequently be adapted for the Citizens Digital Science Hub. The existing deliverable already identifies these as core expected outputs of the pairing methodology.

Together, these outputs demonstrate the progression intended by WP4:

knowledge → validation → refinement → application → experimentation → demonstration → replication

The resulting methodology and evidence base provide the foundation for the following sections of D4.4, which first document the **Pilot Educational Programme and its co-creation process**, and subsequently present the implementation and results of the **Pairing and Mentoring Programme across the participating countries**.

3. Pilot Educational Programme: From Curriculum Co-Creation to Final E-Learning Modules

3.1. Purpose and Position of the Pilot Educational Programme

The Pilot Educational Programme constituted the educational piloting component of WP4 and provided the bridge between curriculum development, learner validation and the subsequent pairing and mentoring activities. The programme was designed to test the relevance, comprehensibility and practical applicability of the Green Digital Fashion Manager curriculum with representatives of its intended target groups, including fashion and textile professionals, SMEs, designers, entrepreneurs, educators, students and other actors interested in the green and digital transformation of the sector.

According to the project design, the Pilot Educational Programme aimed to recruit and engage beneficiaries from the project's target groups and provide structured training on the integration of sustainability and digital technologies in the textile and fashion industry. The original programme envisaged access to e-modules and supporting educational resources through DigiFashHub, followed by assessment and certification. The corresponding WP4 KPIs concerned participation in the training programme, completion of the training modules and learner performance in assessments.

Rather than treating piloting as an activity taking place only after educational content had been finalised, the consortium adopted an **iterative and participatory piloting methodology**. Preliminary versions of the five educational modules were exposed to learners during the “Seam the Change: Athens Fashion Hackathon”, held from **11–13 November 2025**. The event brought the educational content into a real multi-stakeholder environment combining fashion professionals, entrepreneurs, designers, educators, technology experts, mentors and sustainability practitioners. The Hackathon itself was conceived as a living laboratory in which digital modules were “tested, critiqued and improved through use”, rather than as static teaching materials. GreenDigiFashTechManager-D3.4

This created a two-stage pilot model:

Stage 1 – Formative pilot and learner co-creation: face-to-face delivery and testing of the emerging modules during the Athens Hackathon, accompanied by discussion, learner feedback and digital consultation.

Stage 2 – Final digital pilot and exploitation: integration of the collected evidence by the Module Leaders, finalisation of the five modules, publication through DigiFashHub and continued use of the e-learning programme by learners in partner countries and beyond.

This approach strengthened the quality of the final curriculum because the educational programme was not developed exclusively for learners; important elements were developed and validated with learners.

3.2. Green Digital Fashion Manager Curriculum Piloted

The Pilot Educational Programme was organised around **five complementary modules**, together constituting the interdisciplinary competence profile of the Green Digital Fashion Manager. The curriculum deliberately connects environmental sustainability, digital transformation, business innovation, circular manufacturing and organisational change, reflecting the reality that the twin transition of fashion cannot be addressed through isolated technical competences.

The five modules piloted were:

Module	Module Leader/ Educator	Lead Partner	Main Education Focus
1. Foundations of Sustainable Fashion	Anastasia Pantou	PANSiK, Greece	Foundations of sustainability and circularity in fashion; environmental and social challenges; responsible materials and practices; sustainable fashion principles and emerging sector requirements

Module	Module Leader/ Educator	Lead Partner	Main Education Focus
2. Digital Technologies in Fashion	Sveta Bogova Jovanovska	MFA, North Macedonia	Digital transformation of fashion; 3D and digital design; AI and emerging technologies; digitally enabled fashion development and production
3. Green Business and Management	Dr. Livia Stroschoen Pinent	AMFI, Netherlands	Sustainable and circular business models; strategy and management; value creation; integrating environmental objectives into fashion business decisions
4. Ethical and Circular Digital Manufacturing in Fashion	Dr Fiori A. Zafeiropoulou	SOFFA, Greece	Ethical and circular manufacturing; responsible supply chains; circular production systems; digital traceability; technology-enabled sustainable manufacturing and new production models
5. Change Management and Stakeholder Engagement	Aloisia Åkerman Sandberg	We love you communication (WLY), Sweden	Managing organisational transformation; leadership; stakeholder identification and engagement; communication; collaboration and implementation of green and digital change

Together, the five modules move the learner from understanding **why transformation is necessary**, through understanding **which technologies, business models and manufacturing practices can enable it**, towards understanding **how transformation can actually be implemented through organisations and stakeholder ecosystems**.

This interdisciplinary architecture was further validated by the project's digital focus-group work. Participants identified a need for professionals combining digital literacy, AI and digital-platform skills with circular economy knowledge, lifecycle thinking, ethical sourcing, ESG understanding, transparency, stakeholder engagement and systems thinking. They also emphasised soft skills including critical thinking, collaboration, adaptability and change leadership. WP2-A2.2-Diagnostic Analysis Focus Group

3.3. Formative Pilot during the Athens Fashion Hackathon

The first live pilot of the curriculum took place within the **Seam the Change: Athens Fashion Hackathon**, 11–13 November 2025.

The event was particularly appropriate for curriculum piloting because it brought together approximately **135 participants** from the wider fashion ecosystem and combined formal learning with experimentation, mentoring, co-creation and challenge-based innovation.

Importantly, the educational pilot was not organised as a conventional sequence of lectures. **Parallel learning spaces were established within the Hackathon venue**, allowing the five Module Leaders to present and discuss their respective modules with learners while the wider Hackathon activities were taking place.

Each Module Leader delivered an approximately **45-minute pilot educational session** introducing the emerging content, concepts, tools and practical relevance of the respective module.

The programme therefore consisted of five module-specific pilot slots:

Pilot Slot 1 – Foundations of Sustainable Fashion
PANSiK – Educator: Anastasia Pantou
Duration: approximately 45 minutes
The session introduced learners to the environmental and social foundations of sustainable fashion and established the conceptual basis for the programme. Discussion with participants helped identify which sustainability concepts required further explanation and which examples were most useful for connecting theoretical principles to fashion-sector practice.

Pilot Slot 2 – Digital Technologies in Fashion
MFA – Educator: Sveta Bogova Jovanovska
Duration: approximately 45 minutes
The session explored the rapidly changing digital fashion landscape and the relevance of emerging digital technologies to design, development and production. Learner interaction was particularly important in identifying different levels of digital readiness and the need to explain technologies through practical industry applications rather than as isolated technological tools.

Pilot Slot 3 – Green Business and Management
AMFI – Educator: Dr. Livia Stroschoen Pinent
Duration: approximately 45 minutes
The session addressed the translation of sustainability into business strategy and management practice. Learners discussed how circularity and environmental objectives interact with commercial viability, organisational decision-making and new business models.

Pilot Slot 4 – Ethical and Circular Digital Manufacturing in Fashion
SOFFA – Educator: Dr Fiori A. Zafeiropoulou
Duration: approximately 45 minutes
The session connected ethics, circularity and digitalisation with the realities of textile and garment manufacturing. Topics were discussed through the perspective of supply chains, materials, production processes, circular manufacturing, traceability and technology-enabled transformation. Feedback helped strengthen the practical orientation of the module and its connection with the realities faced by SMEs and fashion professionals.

Pilot Slot 5 – Change Management and Stakeholder Engagement
WLY Sweden – Educator: Aloisia Åkerman Sandberg
Duration: approximately 45 minutes
The final thematic pilot examined the human and organisational dimensions of transformation. Participants considered how companies can manage green and digital change, communicate new practices, engage internal and external stakeholders and overcome organisational resistance.

The five sessions therefore provided approximately **225 minutes (3 hours and 45 minutes) of module-specific live educational piloting**, embedded within the broader three-day learning and innovation environment.

3.4. Learner-Centred Co-Creation Methodology

A central characteristic of the pilot was that participants were not treated simply as recipients of already completed educational content. They acted as **co-creators and validators of the emerging curriculum**.

During each 45-minute module session, Module Leaders combined presentation with interaction, questions and discussion. Participants were invited to react to the content from their own professional or educational experience and identify areas that were particularly useful, unclear, insufficiently practical or missing.

This produced a continuous feedback loop:

Draft module → live delivery → learner reaction → discussion/co-creation → feedback capture → Module Leader reflection → curriculum revision → final e-module

This methodology complemented the broader pedagogical approach of the Hackathon. The event used experiential learning, peer-to-peer exchange, Train-the-Trainer transferability and blended learning, while encouraging participants to understand sustainability and digitalisation systemically rather than as separate fields.

The Hackathon also enabled learners to apply many of the curriculum themes immediately through practical challenges. Teams worked on circular materials, waste-to-value approaches, AI-enabled services, 3D fashion, logistics, traceability, regenerative practices and circular business models. The Hackathon report consequently identifies circular material selection, 3D/digital sampling, low-impact logistics, Digital Product Passport readiness, sustainable business models, upcycling service design and pilot planning as particularly relevant topics for subsequent educational use.

This strengthened the curriculum validation because Module Leaders could compare what learners **said they needed** with what they **actually encountered when trying to solve real fashion-sector challenges**.

3.5. Digital Focus Group and QR-Code Feedback Collection

The face-to-face co-creation sessions were complemented by a **digital focus-group mechanism**.

A QR code was made available during the Hackathon, enabling participants to access a digital questionnaire from their mobile devices. Members of the project team also circulated through the venue and actively invited participants to contribute. This enabled feedback to be gathered beyond the participants attending any individual module session and expanded the evidence base across the wider Hackathon audience.

The digital consultation explored questions around the emerging Green Digital Fashion Manager professional profile and curriculum, including:

- major trends driving sustainability and digital transformation in fashion;

- business functions and professional roles being transformed;
- new skills and attitudes required from professionals;
- essential sustainability knowledge;
- application of sustainability across the fashion value chain;
- digital technologies increasingly important to the sector;
- areas of the value chain where digitalisation is having the greatest impact;
- emerging hybrid sustainability/digital job profiles;
- leadership capabilities required to manage the twin transition;
- stakeholder and cross-departmental collaboration;
- barriers to implementing sustainability through digital tools;
- knowledge areas that should be included in the curriculum;
- sustainability and digital competencies currently missing among professionals;
- recruitment expectations for hybrid sustainability/digital roles;
- additional curriculum content needed to prepare professionals; and
- the decisions and trade-offs that such professionals will need to manage.

The focus-group responses strongly validated the interdisciplinary structure of the five-module curriculum. Participants identified **3D design, AI, blockchain, AR/VR and Digital Product Passports** as important technologies; highlighted data literacy and sustainable-practice skills as important gaps; and emphasised systems thinking, EU policy and regulation, lifecycle and circular economy knowledge, ESG, ethical sourcing, traceability, stakeholder analysis, leadership and cross-functional collaboration. WP2-A2.2-Diagnostic Analysis Focus Group

Particularly important was the call for **real-world case studies and hands-on projects**, rather than an exclusively theoretical curriculum. Respondents also emphasised the importance of stakeholder analysis and understanding how different groups are affected by digital-sustainability solutions. WP2-A2.2-Diagnostic Analysis Focus Group

These findings reinforced the Hackathon's experiential learning methodology and supported the decision to retain practical examples, applied exercises and real industry challenges in the final modules.

3.6. Main Findings from the Co-Creation and Implications for Module Development

When the live discussions, digital feedback and Hackathon observations were considered together, several recurrent needs emerged.

- First, learners required a **stronger connection between theory and practice**. Sustainability principles and digital technologies became more meaningful when linked to concrete business decisions, production processes and real cases.
- Second, participants demonstrated different levels of digital maturity. Consequently, digital technologies needed to be explained not only in terms of functionality but through their application and value for specific fashion-sector problems.
- Third, the pilot confirmed the importance of treating the green and digital transitions as interconnected. The role emerging from the consultation is not simply a sustainability manager or digital specialist, but a hybrid professional able to understand the relationship between materials, technology, business, people and environmental impacts.
- Fourth, learners highlighted the importance of policy, traceability and emerging regulatory requirements, particularly Digital Product Passports and sustainability-related information requirements.
- Fifth, the Hackathon demonstrated that technical knowledge alone is insufficient. Leadership, communication, stakeholder engagement, critical thinking, collaboration and change-management capabilities are necessary for translating technical possibilities into organisational transformation.
- Finally, participants repeatedly valued **cases, applied exercises and experiential learning**. The Hackathon itself demonstrated this principle: learners could connect concepts from the modules to actual prototypes, services and business ideas.

The Module Leaders therefore processed the qualitative and quantitative feedback following the event and incorporated relevant findings into the subsequent development and refinement of their respective modules.

3.7. From Pilot Feedback to the Final E-Learning Programme

Following the Hackathon, each Module Leader reviewed the evidence generated through four complementary sources:

1. feedback and questions received during the 45-minute pilot session;
2. discussion and co-creation with learners;
3. responses collected through the QR-code digital consultation and focus-group activities; and
4. observations generated through the application of sustainability and digital concepts within the Hackathon challenges.

This constituted the **post-pilot refinement stage**.

Module Leaders revised their educational content, clarified concepts where necessary, strengthened examples and practical applications and aligned the material with the competencies and professional needs identified through the pilot.

The resulting five modules were subsequently transformed into the final digital learning programme and published in the e-learning environment of DigiFashHub:

Comprehensive Curriculum

Green Digital Fashion Manager

Green Digital Fashion Manager (Nederlands)

Green Digital Fashion Manager (svenska)

Green Digital Fashion Manager (Ελληνικά)

Green Digital Fashion Manager (Македонски)

Individual Modules

English

Foundations of Sustainable Fashion

Digital Technologies in Fashion

Green Business and Management

Ethical and Circular Digital Manufacturing in Fashion

Change Management and Stakeholder Engagement

Svenska (Swedish)

Grunderna i hållbart mode

Digital teknik inom mode

Grönt företagande och ledning

Etisk och cirkulär digital tillverkning inom mode

Förändringsledning och intressentengagemang

Nederlands (Dutch)

Grondslagen van duurzame mode

Digitale technologieën in de mode

Groen bedrijfsbeleid en management

Ethische en Circulaire Digitale Productie in de Mode

Change Management en Stakeholderbetrokkenheid

Ελληνικά (Greek)

Θεμέλια της Βιώσιμης Μόδας

Ψηφιακές Τεχνολογίες στη Μόδα

Πράσινη Επιχειρηματικότητα και Διοίκηση

Ηθική και Κυκλική Ψηφιακή Παραγωγή στη Μόδα

Διαχείριση Αλλαγών και Εμπλοκή Ενδιαφερομένων

Македонски (Macedonian)

Основи на одржливата мода

Дигитални технологии во модата

Зелен бизнис и менаџмент

Етичко и кружно дигитално производство во модата

Управување со промени и вклучување на засегнатите страни

The final publication on the Hub transformed the November pilot from a one-off event into a **scalable educational resource**. Learners in partner countries and beyond can subsequently access the content asynchronously, while partners can continue exploiting the programme through training, VET provision, professional development, dissemination activities and future learning cohorts.

This creates an important continuity within WP4:

Curriculum development → live learner pilot → co-creation and feedback → module refinement → final e-learning programme → pairing and mentoring → continued exploitation through DigiFashHub

The educational pilot and pairing activity should therefore be understood as interconnected rather than separate project actions. The educational programme builds knowledge and exposes learners to new possibilities; pairing and mentoring subsequently provide a mechanism for translating that learning into experimentation, prototypes, collaborations and concrete innovation pathways.

3.8. Contribution to WP4 Objectives and KPIs

The pilot provides evidence against the WP4 educational objectives at several levels.

At reach level, the Hackathon created access to a considerably larger ecosystem than would have been possible through five isolated classroom pilots, with approximately 135 participants exposed to the overall learning and co-creation environment.

At **quality level**, the five modules underwent formative validation with actual learners and professionals before final digital publication.

At **relevance level,** feedback confirmed demand for the hybrid competences around which the curriculum was designed: sustainability, circularity, digital technologies, business transformation, ethical manufacturing, leadership and stakeholder engagement.

At **pedagogical level**, the activity demonstrated the value of combining e-learning with live discussion, experiential learning, peer exchange, challenge-based learning and co-creation.

At **exploitation level**, the final modules are no longer restricted to the original Athens cohort. Their integration into DigiFashHub provides the infrastructure for continued participation, module completion, assessment and future certification and allows the educational programme to be used by learners across the participating countries and beyond.

The Athens Hackathon should therefore be recognised in D4.4 not only as a Train-the-Trainer or dissemination event but as the **formative implementation of T4.8/Pilot Educational Programme**, generating direct learner evidence that informed the final educational products.

3.9. Module Pilot Evaluation Questionnaire to the methodology in D4.4.

Based on lessons from the formative pilot, the following instrument is recommended for subsequent learner cohorts and future replication:

1. How relevant was this module to your current or expected professional role? **1–5**
2. How clear and understandable was the content? **1–5**
3. How appropriate was the level of technical depth? **Too basic / Appropriate / Too advanced**
4. Which topic or concept was most useful to you?
5. Which topic was unclear or requires further explanation?
6. Which important topic, tool or example was missing?
7. Did the module provide enough real-world fashion/textile examples? **1–5**
8. How confident were you about this topic **before** the module? **1–5**
9. How confident are you **after** the module? **1–5**
10. Can you identify one action, tool or practice from the module that you could apply in your work or studies? **Yes/No + describe**
11. Did the module adequately connect **digital transformation with sustainability**, rather than treating them separately? **1–5**
12. Were the activities/cases sufficiently interactive and practice-oriented? **1–5**
13. Was the module accessible and easy to follow in terms of language, structure and digital presentation? **1–5**
14. What should be **added, removed or changed** before the next version?
15. Would you recommend this module to another fashion/textile professional or learner? **0–10**

4. Report on the Pairing Activity

4.1. The Pairing Process

The pairing process followed six main stages. The structure was common across the project, while implementation remained flexible so that each national partner could adapt the process to its ecosystem, participant profiles and available opportunities.

Stage	Description	Evidence in the Pilot
1. Participant selection	Partners recruited participants connected to the DigiFashTech educational programme, local ecosystems, SMEs, VET institutions, designers, students, technologists or creative organisations.	AMFI worked with Master-level digital fashion researchers and industry partners; MFA connected education, fashion events and technology; PANSiK mentored students; SOFFA selected eight SMEs and creative organisations from the circular fashion ecosystem.
2. Pair formation	Partners created complementary pairs based on interests, experience, skills, motivation, challenge selected and availability.	The final implementation documented 10 pairings: AMFI 2, MFA 2, PANSiK 2 and SOFFA 4.
3. Challenge definition	Each pair defined a practical problem linked to digital transformation, sustainability, circular design, materials, heritage, traceability, AI, 3D design or local production.	Challenges included immersive fashion media, opera costume 3D printing, AI event visual identity, holographic fashion, biomaterials, heritage garments, circular stock redesign, bio-knit production, hybrid upcycling and heritage accessories.
4. Mentoring journey	Pairs participated in mentor meetings, independent work, peer discussions and prototype development. At least three mentoring moments were documented where possible.	Reports show iterative sessions around briefing, material testing, digital experimentation, market reflection, technical troubleshooting, prototype planning and final presentation.

Stage	Description	Evidence in the Pilot
5. Prototype or concept development	Each pair produced a practical output or prototype pathway.	Outputs included digital editorial systems, 3D costume pieces, AI visuals, holographic digital fashion, bio-textile samples, upcycled garments and accessories, knit prototypes and heritage product pathways.
6. Presentation and dissemination	Pairs presented the challenge, journey, prototype, lessons and future plans.	SOFFA explicitly documented public showcasing on 30 June 2026; other partners prepared results for visual documentation, publication, professional contexts and future Hub use.

4.2. Cross-Country Implementation Overview

The four national reports demonstrate that the methodology can operate in different learning and industry contexts. AMFI used a research-through-design approach with advanced digital fashion researchers and cultural industry partners. MFA focused on education-industry and fashion-technology collaboration in North Macedonia. PANSiK applied the methodology through student-mentor development of sustainability projects. SOFFA implemented the broadest ecosystem model by pairing SMEs and creative organisations around circular production, materials, upcycling and cultural heritage.

Pair	Participants	Project Title	Main Output
AMFI-NL-01	Marcela Castelli & Saskia Marty + Glitch Magazine	Synthetic Beauty: Fashion as Affective Interface in Immersive Editorial Systems	The final prototype, Synthetic Beauty, is an immersive fashion editorial in which AI-generated textures, 3D-modelled bodies and designed accessories are reshaped through the user's bodily presence.
AMFI-NL-02	Siena van der Laarse x Dutch	3D Technologies in Opera Costume	The final concept combined a CLO3D corset with a physically 3D-printed collar in biodegradable PHA filament.

Pair	Participants	Project Title	Main Output
	National Opera & Ballet	Design: Digital Design and 3D Printing	
MFA-MK-01	SEMOS Education Center x Fashion Weekend Skopje	AI-Generated Cover for Fashion Weekend Skopje	The final selected AI-assisted key visual for Fashion Weekend Skopje Season 32 was designed by Edita Zekjirovikj.
MFA-MK-02	Angela Donevska x Neonflex.mk	Deep Within - Hologram Collection	The final outcome was the exploration and development of the Deep Within Hologram Collection.
PANSIK-GR-01	Evita Fotiou x Christos Paraskevopoulos	Sustainability and Innovation in Fashion	The outcome was a series of experimental bio-based textile samples produced from food waste and natural binding ingredients.
PANSIK-GR-02	Zoe Charalampous x Ziaka Eleni	PIZES	The outcome was a contemporary garment inspired by traditional Greek handcrafted textiles and developed through circular fashion principles.
SOFFA-GR-01	PARTHENIS x SOFFA	The Bloomer / Petal Dance: Circular Redesign of Unsold Garments	The outcome was Petal Dance, a handcrafted prototype from The Bloomer collection, made by reworking two unsold PARTHENIS shirts into a new garment.
SOFFA-GR-02	Athens Knit Lab x noema	The Zero Waste Bio-Knit: Bio-Based Yarn and 3D Knit-to-Shape Manufacturing	The outcome was The Zero Waste Bio-Knit, a sleeveless knit prototype made from bio-based yarn and developed through Athens Knit Lab's technical knitting process.
SOFFA-GR-03	3QUARTERS x Thela	Two Waste Streams, One Bag: Hybrid Upcycling of Life-Raft	The outcome was a set of three one-of-a-kind tote prototypes combining decommissioned life-raft material from

Pair	Participants	Project Title	Main Output
		Material and Reclaimed Plastic	3QUARTERS with Thela's handwoven reclaimed-plastic textile.
SOFFA-GR-04	Amalthea Athens x Branding Heritage	Weaving Heritage into Contemporary Design: Circular Design through Cultural Continuity	The outcome was a contemporary accessory prototype pathway linking Amalthea Athens with Branding Heritage and Greek weaving knowledge.

4.3. Cross-Country Synthesis of Process and Results

4.3.1. Synthesis of the Pairing Process

Across countries, the process confirmed that the strongest pairings were built around precise complementarity. The methodology worked best when one participant or organisation brought a real challenge, material, platform, archive, business need or creative question, while the other brought the technical, digital, pedagogical, manufacturing or mentoring capacity needed to test it. This was visible in the SOFFA cases, but also in the AMFI, MFA and PANSiK cases, where each pairing linked complementary forms of knowledge.

The process also showed that the pairs did not always move in a straight line. Several cases needed to adjust their original assumptions after experimentation: the AMFI opera costume case complicated the assumption that 3D printing is automatically sustainable; the Synthetic Beauty case moved away from VR toward real-time spatial interaction; the MFA AI visual identity case moved from quantity of AI generations toward professional selection and refinement; noema's bio-knit case shifted from material vision toward testing, business modelling and customer validation.

4.3.2. Synthesis of Results

The ten cases produced a diverse portfolio of results. Some outputs were physical prototypes, including reworked garments, tote bags, a knit prototype, a heritage accessory pathway and bio-based textile samples. Others were digital or hybrid outcomes, including an immersive editorial, a digital-physical opera costume concept,

AI-generated fashion-event visual communication and a holographic digital fashion collection. Together, they demonstrate how Green DigiFashTech learning can generate different kinds of impact: technical, creative, educational, business, cultural and environmental.

4.3.3. Main Cross-Cutting Themes

Theme	Evidence across Country	Implication for the Citizens Digital Science Hub
Digital tools as enablers, not replacements	Emerging technologies (Gen AI, holography) and creative software tools (CLO3D, Blender, TouchDesigner), alongside digital documentation, were most successful when paired with human judgement, craft, research, and professional context.	The Hub should present digital tools through practical use cases, including their limits, rather than as generic technology lists.
Circularity needs material and business validation	Bio-based yarns, food-waste textiles, reclaimed plastics and upcycled stock all required testing, costing, material data, customer feedback and scaling scenarios.	The Hub should include templates for material data, prototype testing, costing, traceability and validation planning.
Heritage is part of sustainability	PANSiK and SOFFA cases showed that cultural memory, Greek embroidery, weaving heritage and artisan knowledge can strengthen emotional durability and responsible design.	The Hub can host craft stories, artisan profiles, provenance narratives and learning resources linking cultural heritage with circular design.
Mentoring helps participants handle uncertainty	Several projects faced failed prints, material limits, creative ambiguity or changing assumptions. Mentoring kept the work focused and reflective.	The Hub should integrate mentoring checklists, reflection questions and development-plan templates.
Small prototypes make complex ideas visible	One garment, one knit sample, three tote bags, one AI visual, one holographic collection and experimental materials were enough to demonstrate feasibility and invite feedback.	The Hub can promote “small test first” pilot logic and encourage users to document minimum viable prototypes.

5. Pair Case Studies - AMFI, Netherlands

5.1. AMFI-NL-01: Marcela Castelli & Saskia Marty + Glitch Magazine

Synthetic Beauty: Fashion as Affective Interface in Immersive Editorial Systems

DigiFashTech Themes
AI-assisted creative workflows; immersive editorial systems; real-time interaction; digital fashion media; responsible digital transformationI-assisted creative workflows; immersive editorial systems; real-time interaction; digital fashion media; responsible digital transformation

Mentoring Period
April to June 2026

The Participants

Marcela Castelli and Saskia Marty are Master-level digital fashion researchers from Amsterdam University of Applied Sciences. Their combined expertise covers immersive media, digital fashion, interaction design, TouchDesigner, 3D hybrid workflows, motion design and AI-assisted generation. Glitch Magazine contributed the industry context: an experimental digital fashion publication working with speculative aesthetics, XR, digital identity, generative media and non-linear fashion storytelling.




Why were these participants paired?

The participants were paired because their research interests converged around the same question: how fashion communication changes when it moves beyond fixed images and scroll-based editorial formats into embodied, immersive experience. Marcela contributed interaction design, immersive media and digital fashion expertise, while Saskia contributed motion design, 3D and AI-assisted visual generation. Glitch Magazine gave the work a live publishing context and a professional platform against which the speculative editorial format could be tested.

The Challenge

The challenge was to develop a meaningful immersive editorial system at a moment when fashion media has adopted new digital tools but often continues to use linear, image-led publishing formats. The pair explored how bodily presence, gesture and emotion could become part of the editorial interface, and how AI-assisted image production could remain intentional rather than generic. The work addressed digital transformation in fashion communication and proposed a slower, more engaged model of media consumption.

The Mentoring Journey

The mentoring journey followed a Research through Design methodology. Early work tested the idea that VR might be the correct immersive medium, but this was later rejected because it enclosed the user and separated the body from the surrounding space. The team moved toward TouchDesigner and real-time gesture interaction. A major design decision was the creation of the Emotion Card System: twelve emotional states mapped to visual rules controlling mesh behaviour, particle emission, colour and movement. Iterative sprint cycles were used to test whether the result still read as fashion, whether the interaction felt natural, and whether emotional differences could be seen and felt.

Prototype or Final Outcome

The final prototype, Synthetic Beauty, is an immersive fashion editorial in which AI-generated textures, 3D-modelled bodies and designed accessories are reshaped through the user's bodily presence. MediaPipe gesture tracking and TouchDesigner drive real-time transformations, supported by tools such as DAZ Studio, Nomad Sculpt, Substance Painter, Blender, After Effects, Flora AI, Midjourney, Seedance 2.0 and Kling AI. The innovation lies in treating fashion as an interface and in proposing an editorial grammar for emotionally responsive digital fashion media. The next

development step is to make the user's agency more legible through sound, framing and interaction feedback.

Mentor Reflection

This pairing shows the value of giving a research question room to breathe inside a real industry setting. Glitch Magazine set the direction but didn't dictate the outcome, and that freedom let Marcela and Saskia develop the Emotion Card System, a set of visual rules built after their first AI-assisted experiments produced too much variation to feel meaningful. The clearest lesson from the project is about staying willing to change course: the pair dropped VR in favour of TouchDesigner once it became clear VR was working against the idea they were actually trying to test.



5.2. AMFI-NL-02: Siena van der Laarse x Dutch National Opera & Ballet

3D Technologies in Opera Costume Design: Digital Design and 3D Printing

DigiFashTech Themes
CLO3D; Blender; 3D printing; digital garment simulation; biodegradable materials; costume innovation; sustainability testing

Mentoring Period
April to June 2026

The Participants

Siena van der Laarse is a digital fashion designer working with garment simulation, 3D modelling and experimental costume concepts. Dutch National Opera & Ballet contributed the professional costume-department context, including craft knowledge, historical costume references and the practical requirements of performance costumes.



Why were these participants paired?

The pairing matched a digital fashion researcher with a traditional but highly skilled costume production environment. Siena brought digital design and 3D experimentation, while the Opera provided a complex real-world context in which digital simulation and additive manufacturing could be tested against the needs of performers, costume makers and archival references. Both sides hoped to understand where 3D technologies could support costume development without replacing craft expertise.

The Challenge

The challenge was to investigate what CLO3D, Blender and 3D printing can add to opera costume production, especially in relation to historical body manipulation and wearable performance requirements. The project also critically tested sustainability assumptions around 3D printing. Although digital prototyping can reduce sampling, long print times, failed prints and hardware limitations create material and energy costs that must be honestly evaluated.

The Mentoring Journey

Mentoring first translated the Opera's open brief into a practical research question. The design focus was narrowed to two linked components: a digitally constructed corset inspired by nineteenth-century garments and a 3D-printed collar representing outward expansion. Mid-project sessions focused on troubleshooting structural printing failures, especially dragon-scale and fish-scale experiments that either fused too rigidly or failed to connect. Later sessions addressed fittings, neckline adjustments for vocal freedom, and documentation of the sustainability findings.

Prototype or Final Outcome

The final concept combined a CLO3D corset with a physically 3D-printed collar in biodegradable PHA filament. The collar was rebuilt in Blender as repeating structural units and printed on a Prusa XL printer, followed by hand finishing and closure adjustments. The project estimated the final collar's carbon footprint at approximately 1.8 kg CO2-equivalent, while also highlighting the hidden waste created by failed trials and long print times. Its future potential lies in lightweight moving costume structures, improved CLO3D-Blender workflows and broader testing with costume makers and performers.

Mentor Reflection

This case showed the importance of keeping the research question as a lighthouse. The findings complicated the original assumption that 3D printing would be automatically sustainable, but this made the case more valuable. Future mentoring cycles should include explicit checkpoints for moments when early findings challenge partner expectations.





6. Pair Case Studies - Macedonian Fashion Association, North Macedonia

6.1. MFA-MK-01: SEMOS Education Center x Fashion Weekend Skopje

AI-Generated Cover for Fashion Weekend Skopje

DigiFashTech Themes
AI for fashion visual communication; digital design; education-industry collaboration; responsible creative workflows

Mentoring Period
10 February-15 March 2026

The Participants

Fashion Weekend Skopje, organised by the Macedonian Fashion Association, contributed fashion-event expertise, visual communication needs, creative direction and an authentic professional brief. SEMOS Education Center contributed expertise in IT education, graphic and digital design, artificial intelligence, creative software, professional certification and technology-enhanced learning.



Why were these participants paired?

The organisations were paired because they represented complementary perspectives: a creative-industry and fashion-event platform on one side, and a digital education provider with access to emerging designers and students on the other. The collaboration allowed students and alumni to respond to a real Fashion Weekend Skopje communication challenge rather than a theoretical classroom exercise. FWSK gained insight into AI-assisted creativity, while SEMOS participants gained experience with professional fashion-industry requirements.



The Challenge

The challenge was to explore how AI and digital design tools can support innovative, distinctive and professionally relevant fashion-event visual communication. The task was not simply to generate an image, but to understand how AI can operate as a creative support tool under human art direction. It also raised questions about authorship, originality, creative judgement and the responsible use of AI in fashion communication.

The Mentoring Journey

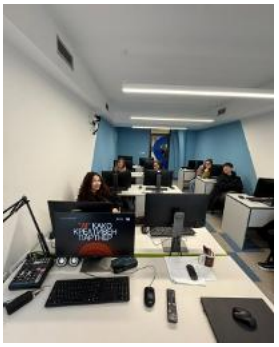
The mentoring process moved through briefing, research, concept development, AI experimentation, selection and professional adaptation. Participants refined prompts, visual references and creative criteria after early concepts proved interesting but insufficiently connected to the identity of Fashion Weekend Skopje. The process shifted from generating many visuals to selecting and refining fewer, stronger directions, showing that AI outputs require critical human evaluation.

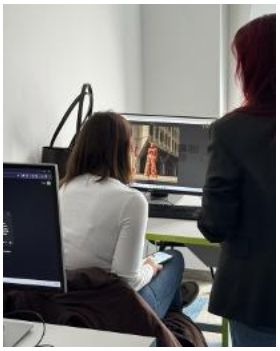
Prototype or Final Outcome

The final selected AI-assisted key visual for Fashion Weekend Skopje Season 32 was designed by Edita Zekjirovikj. More than 33 proposals were developed by 17 students and alumni. The activity demonstrated how AI-assisted ideation can reduce reliance on physical mock-ups at early stages and can strengthen digital skills for resource-conscious creative industries. The methodology can be extended to campaigns, branding, editorial content, digital presentations, motion, 3D integration and immersive environments.

Mentor Reflection

The strongest lesson was that AI is useful when embedded in a structured design process with clear creative criteria. The collaboration showed how education, technology and fashion communication can create meaningful learning outcomes while keeping human judgement at the centre.



6.2. MFA-MK-02: Angela Donevska x Neonflex.mk

Deep Within - Hologram Collection

DigiFashTech Themes
3D fashion design; digital garment visualisation; holographic presentation; immersive fashion communication; cross-sector collaboration

Mentoring Period
01 February-03 March 2026

The Participants

Angela Donevska is a Textile Engineer and 3D Fashion Designer working across fashion, digital design and emerging technologies. Neonflex.mk contributed technology and creative-technology expertise, especially in digital visual solutions, holographic presentation and immersive visualisation formats.





Why were these participants paired?

The pairing connected fashion design expertise with technological production knowledge. Angela brought 3D garment development and a desire to explore new modes of fashion presentation, while Neonflex.mk contributed the technical capacity to investigate holographic and immersive display possibilities. The match was relevant because fashion and technology often develop separately, while DigiFashTech seeks to connect them through practical collaboration.

The Challenge

The central challenge was to expand fashion design and presentation beyond the limits of physical production by integrating 3D digital design and holographic visualisation. The pair examined how garments can be created, modified and

communicated digitally before physical production, reducing some resource needs during experimentation and presentation while opening new creative formats.

The Mentoring Journey

The mentoring journey began with defining the concept and objectives of the collaboration. Later discussions explored how 3D-designed garments could be translated into holographic or immersive experiences without letting technology overshadow the fashion concept. During refinement, the pair balanced visual storytelling with technical feasibility and adapted the concept according to format, audience experience and practical constraints.





Prototype or Final Outcome

The final outcome was the exploration and development of the Deep Within Hologram Collection. The project demonstrated how 3D-designed fashion can become an alternative visual experience through holographic technology. The workflow used 3D fashion design, digital garment visualisation, digital image and video production, holographic visualisation and immersive presentation technologies. Future potential includes virtual exhibitions, digital fashion shows, metaverse or XR formats, digital marketing, virtual sampling and collaborations between designers, artists and technology companies.





Mentor Reflection

The collaboration demonstrated the value of early alignment between creative and technical objectives. Future cycles should provide access to technical equipment and expertise wherever possible and support flexible planning, because digital fashion and holographic presentation require continuous dialogue between concept and feasibility.

7. Pair Case Studies - PANSiK, Greece

7.1. PANSIK-GR-01: Evita Fotiou x Christos Paraskevopoulos

Sustainability and Innovation in Fashion

DigiFashTech Themes
Biomaterials; food waste; sustainable textile innovation; circular economy; digital documentation; research-based design

Mentoring Period
April to June 2026

The Participants

Evita Fotiou is an emerging fashion designer interested in sustainable textile innovation, circular economy and environmentally responsible design. Christos Paraskevopoulos is an experienced PANSiK mentor and educator specialising in fashion innovation, digital transformation, entrepreneurship, sustainable product development and innovation mentoring.



Why were these participants paired?

The pair was formed to connect Evita's experimental research interest in food-waste-based textiles with Christos' experience in structuring sustainable innovation projects. Evita brought creative curiosity and the ambition to transform organic waste into bio-based fabrics; the mentor contributed design thinking, feasibility assessment, research planning and guidance on how to communicate the environmental value of the prototype.



The Challenge

The challenge was to investigate whether food waste can become a valuable resource for future textile applications. The project responded both to the fashion industry's dependence on resource-intensive materials and to the underuse of organic waste streams. It also demonstrated how educational environments can operate as living laboratories for sustainable material innovation.

The Mentoring Journey

The mentoring journey was organised around three structured sessions. The first defined the project direction, identified suitable organic resources and established a methodology for experimentation. The second analysed sample behaviour, including flexibility, texture, drying, durability and visual appearance. The final session evaluated the prototype, refined the sustainability narrative and considered future applications and research routes.

Prototype or Final Outcome

The outcome was a series of experimental bio-based textile samples produced from food waste and natural binding ingredients. The project investigated material composition, flexibility, strength, texture, drying behaviour and potential fashion applicability. Digital tools supported research documentation, photography, visual communication and presentation of findings. Future potential includes durability improvements, mechanical testing, scalability studies, industrial collaboration and integration into wearable products.

Mentor Reflection

The case showed that sustainable material innovation requires both creativity and systematic methodology. The most valuable learning came from iterative experimentation and from documenting unsuccessful trials as part of the knowledge process. Future cycles should include more access to testing laboratories, industry validation and material performance assessment.



7.2. PANSIK-GR-02: Zoe Charalampous x Ziaka Eleni

PIZES

DigiFashTech Themes
Cultural heritage; Greek embroidery; upcycling; circular fashion; emotional durability; digital communication

Mentoring Period
April to June 2026

The Participants

Zoe Charalampous is an emerging fashion designer interested in sustainable fashion, cultural heritage, contemporary garment design, traditional craftsmanship and Greek embroidery. Ziaka Eleni is a fashion educator and mentor with expertise in sustainable design, garment construction, creative mentoring and design methodology.

Why were these participants paired?

The pairing supported a project that combines cultural heritage with sustainable innovation. Zoe brought a strong creative vision inspired by traditional Greek textiles and family memories, while the mentor helped transform this vision into a structured design process with clear sustainability objectives, material decisions and contemporary relevance.

The Challenge

The challenge was to reconnect traditional Greek textile heritage with contemporary fashion design while responding to the loss of craftsmanship and the dominance of fast fashion. The project treated vintage embroidered textiles not as nostalgic artefacts but as valuable materials that can be reused, preserved and integrated into new garments. It also highlighted emotional durability as a sustainability strategy.

The Mentoring Journey

The mentoring process moved from research on Greek textile traditions and embroidered decorative cloths to design development and garment construction. The mentor supported material selection, design balance, construction choices and the protection of delicate vintage textiles. The final session focused on communicating

the cultural and sustainability value of the garment and documenting the process through digital presentations and visual research.

Prototype or Final Outcome

The outcome was a contemporary garment inspired by traditional Greek handcrafted textiles and developed through circular fashion principles. Vintage embroidered fabrics were selected, preserved and integrated into a modern silhouette. Digital tools supported mood boards, research organisation, design documentation and dissemination. Future potential includes heritage-based collections, collaborations with artisans and museums, QR-code storytelling and cultural exhibitions.

Mentor Reflection

This pairing demonstrated that sustainability includes cultural preservation, emotional durability and responsible consumption. The participant grew in confidence by balancing storytelling with practical construction. Future cycles should encourage collaboration between designers, craftspeople, museums and digital storytelling specialists.

8. Pair Case Studies - SOFFA, Greece

8.1. SOFFA-GR-01: PARTHENIS x SOFFA

The Bloomer / Petal Dance: Circular Redesign of Unsold Garments

DigiFashTech Themes
Upcycling; circular design; local manufacturing; repair and product life extension; DPP-ready storytelling

Mentoring Period
April to June 2026, final public showcasing on 30 June 2026

The Participants

PARTHENIS contributed a strong Greek brand identity, high-quality unsold garments, local production knowledge and the design heritage of Greek minimalism. SOFFA contributed circular redesign, upcycling, social manufacturing, ethical production, prototyping, education and ecosystem facilitation.





Why were these participants paired?

The pair was selected because it brought together an established brand with inactive but valuable stock and a circular micro-factory capable of redesigning, reconstructing and communicating the value of existing materials. The collaboration tested whether surplus stock could become a meaningful capsule pathway rather than a one-off repair or donation activity.

The Challenge

The challenge was to transform unsold garments into new value while preserving the identity, quality and emotional language of PARTHENIS. Unsold stock contains fabric, labour, design history and brand value, but when it remains inactive it becomes both a resource loss and a missed opportunity for circular transition. The work also connected to future traceability and Digital Product Passport-ready storytelling.



The Mentoring Journey

The mentoring process included stock assessment, concept and narrative development, technical redesign, production planning and public presentation. The partners reviewed the shirts, defined the transformation story, explored disassembly, draping and reconstruction, and prepared the prototype for a public showcasing environment where visitors could understand the material transformation.

Prototype or Final Outcome

The outcome was Petal Dance, a handcrafted prototype from The Bloomer collection, made by reworking two unsold PARTHENIS shirts into a new garment. The wider result is a repeatable circular capsule logic for inactive stock, including potential limited editions, made-to-order reworked garments, storytelling labels, product data documentation and future customer-response testing.



Mentor Reflection

The strength of this pair was the combination of clear brand heritage and strong circular making capacity. The lesson is that upcycling for established brands requires technical skill and respect for identity: the new piece must feel like a continuation of the brand rather than an external intervention.




The BLOOMER
Parthenis


ΕΣΕΕ
INEMY
ΚΑΕΛΕ

8.2. SOFFA-GR-02: Athens Knit Lab x noema

The Zero Waste Bio-Knit: Bio-Based Yarn and 3D Knit-to-Shape Manufacturing

DigiFashTech Themes
Sustainable materials; 3D knitting; digital manufacturing; circular design; testing and traceability

Mentoring Period
April to June 2026, final public showcasing on 30 June 2026

The Participants

Athens Knit Lab contributed technical knit engineering, 3D shaped textiles, material experimentation and local prototyping capacity. noema contributed a bio-based yarn concept derived from agricultural waste and an innovation-led vision for compostable clothing and regenerative material systems.





Why were these participants paired?

The pair was formed because noema needed technical manufacturing expertise to test whether a bio-based material concept could become a wearable textile prototype, while Athens Knit Lab had the advanced knit-to-shape capacity to test yarn behaviour, knit structures and garment formats. The pairing connected material innovation with digital manufacturing.

The Challenge

The challenge was to move from material concept to manufacturable garment prototype. The material needed validation in relation to fibre manufacturing, yarn

thickness, knitting behaviour, wash and ironing response, wearability, compostability and life-cycle evidence. The business also required thinking around pricing, brand collaboration risks, customer profiles and IP.

The Mentoring Journey

The mentoring journey started with business diagnosis and development planning, followed by discussions on market access, collaborations, pricing, fibre manufacturing and yarn partners. Later sessions explored customer personas, risks, IP and revenue routes. Technical experimentation then tested knitting options, yarn thickness and machine contexts, followed by discussions on wash tests, shrinkage, stitch selection and material validation.

Prototype or Final Outcome

The outcome was The Zero Waste Bio-Knit, a sleeveless knit prototype made from bio-based yarn and developed through Athens Knit Lab's technical knitting process. The prototype demonstrates how material innovation, 3D knitting and local manufacturing can reduce waste. Future steps include performance testing, wash and wearability testing, compostability verification, LCA documentation, partner selection and customer validation.

Mentor Reflection

The case showed that bio-based fashion innovation requires inspiring storytelling and rigorous evidence. Durability, texture, finish, breathability, shrinkage and verified impact are essential before market adoption. Future cycles should allocate more time and budget for laboratory validation and material data.


The Visionary Choice


The Visionary Choice

8.3. SOFFA-GR-03: 3QUARTERS x Thela

Two Waste Streams, One Bag: Hybrid Upcycling of Life-Raft Material and Reclaimed Plastic

DigiFashTech Themes
Upcycling; repairable accessories; reclaimed materials; local craft; circular business models

Mentoring Period
April to June 2026, final public showcasing on 30 June 2026

The Participants

3QUARTERS contributed experience in transforming difficult urban material streams, including balcony awnings, banners and decommissioned life-raft material, into durable accessories. Thela contributed handwoven reclaimed-plastic textile, artisan production, community-based craft and a decentralised approach to circular material transformation.





Why were these participants paired?

The pair was selected because both organisations work with post-use materials, but through different production systems and aesthetics. 3QUARTERS brought durable technical salvage materials, while Thela brought craft texture, colour and social value through handwoven reclaimed plastic. The pairing tested whether two waste streams could create a stronger circular story together.

The Challenge

The challenge was to combine stiff, irregular technical salvage material with handwoven reclaimed-plastic textiles in a coherent, durable and attractive product. The pair needed to test material compatibility, construction methods, finishing, proportions and production feasibility. The digital connection lies in future product data: material origin, repairability, provenance, maker story and end-of-life instructions.

The Mentoring Journey

The mentoring process mapped the properties of both waste streams, translated the experiment into a tote-bag concept, tested cutting and stitching methods, and prepared the prototypes for market and public feedback. Practical decisions focused on seams, handles, durability, proportions and the relationship between technical material and craft textile.

Prototype or Final Outcome

The outcome was a set of three one-of-a-kind tote prototypes combining decommissioned life-raft material from 3QUARTERS with Thela's handwoven reclaimed-plastic textile. Future potential includes limited-edition co-branded accessories, corporate or institutional collaborations, repair pathways, storytelling labels and material provenance documentation.

Mentor Reflection

The strength of the pair was visible complementarity. Both partners already understood waste as a resource, but together they created a hybrid material narrative. Future cycles should document material specifications, construction tests, repair instructions, costing, production capacity and possible B2B waste-source partnerships from the beginning.




Wolt


GREECE.
The Voice of Greek

8.4. SOFFA-GR-04: Amalthea Athens x Branding Heritage

Weaving Heritage into Contemporary Design: Circular Design through Cultural Continuity

DigiFashTech Themes
Cultural sustainability; artisan knowledge; local production; digital storytelling; circular product narratives

Mentoring Period
April to June 2026, final public showcasing on 30 June 2026

The Participants

Amalthea Athens contributed bespoke and limited-edition handbag design, ethical production, material storytelling and contemporary craft. Branding Heritage contributed cultural heritage infrastructure, artisan mapping, textile traditions, education, exhibitions and creative collaboration networks.





Why were these participants paired?

The pair was created to link contemporary accessory design with Greek heritage knowledge. Amalthea Athens had the design capacity to create a wearable market-facing bag, while Branding Heritage had access to artisan knowledge and cultural interpretation. The collaboration treated heritage as a living resource for circular design, local production and material storytelling.

The Challenge

The challenge was to translate traditional Greek weaving knowledge, including Cretan weaving references, into a contemporary accessory prototype while respecting

authenticity, feasibility and market relevance. The sustainability dimension is cultural, social and material: heritage-based making supports local skills, small-scale production, durable products and emotional longevity. Digital potential includes artisan profiles, craft-process documentation and provenance storytelling.

The Mentoring Journey

Mentoring began with heritage and design mapping, then moved to prototype direction and collaboration planning. Discussions considered how an intermediary such as Branding Heritage can facilitate meaningful relationships between designers and artisans, preserve craft meaning and keep production practical. The prototype pathway was prepared for public showcasing as an example of heritage-led circular innovation.

Prototype or Final Outcome

The outcome was a contemporary accessory prototype pathway linking Amalthea Athens with Branding Heritage and Greek weaving knowledge. It resulted in a bag prototype and design story connecting cultural memory, local craftsmanship and limited-edition responsible design. Future potential includes designer-artisan collaborations, heritage-based capsule products, digital craft documentation and Hub educational content.

Mentor Reflection

The strength of this pair was its treatment of heritage as active infrastructure for future design. Future cycles should support cultural-IP protocols, artisan crediting, pricing models, provenance documentation and digital storytelling, so that heritage collaborations are respectful, economically viable and transferable.



9. Cross-Case Learning and Recommendations

The cross-country implementation confirms that the Green DigiFashTech Pairing and Mentoring Methodology is transferable across different partner contexts, provided it remains structured but flexible. The cases also show that digital transformation and sustainability are most effective when connected to real business, educational, material and cultural challenges.

Learning Point	Evidence from the Pairing Cases	Recommendations for Future Cycles
Match precise needs with precise capabilities	The strongest cases paired a clear need with a specific capability: stock with upcycling capacity, bio-yarn with knit engineering, students with AI mentoring, opera costume questions with digital fabrication, heritage knowledge with contemporary design.	Use a diagnostic form before matching, recording materials, skills, business needs, technical requirements, availability and expected learning outcomes.
Build small but visible prototypes	Most pairs created compact demonstrators that made the idea understandable without requiring full-scale production.	Encourage one minimum viable prototype or demonstrator per pair before scaling discussions begin.
Treat digital tools critically	AI and 3D technologies were valuable, but only when guided by human judgement, professional briefs, technical constraints and sustainability assessment.	Include responsible technology prompts in every mentoring plan, especially for AI, 3D printing and immersive media.
Document material and product data early	Several cases require information on material origin, fibre content, repairability, production method, test results and end-of-life route.	Introduce a simple DPP-ready product data sheet for every prototype, even at early stage.

Learning Point	Evidence from the Pairing Cases	Recommendations for Future Cycles
Combine technical mentoring with business mentoring	Bio-based materials, upcycling capsules and heritage products all need validation of costing, pricing, customer demand, IP and scaling pathways.	Mentoring teams should include technical experts, business mentors and market or dissemination support.
Protect craft and cultural value	The heritage cases showed that sustainability includes artisan knowledge, emotional durability and cultural continuity.	Future cycles should include guidelines for artisan credit, cultural interpretation, provenance documentation and respectful collaboration.
Plan dissemination from the beginning	The SOFFA public showcasing stage turned prototypes into a learning environment for market, policy and ecosystem stakeholders.	Each pair should define early how its prototype will be presented, to whom, and what feedback is needed.

10. Conclusions and Follow-Up through the Citizens Digital Science Hub

D4.4 demonstrates how the Green DigiFashTech Manager project translated its educational framework into a **complete learning-to-innovation pathway**, combining the Pilot Educational Programme with the subsequent Pairing and Mentoring Programme. Rather than treating education, piloting and innovation as separate activities, WP4 connected them through an iterative process in which learners first engaged with and helped validate the emerging curriculum, Module Leaders refined the educational content in response to this evidence, and participants subsequently had opportunities to apply green and digital knowledge through practical collaboration, mentoring and experimentation.

The formative educational pilot implemented during the **Seam the Change: Athens Fashion Hackathon in November 2025** was an important step in this process. The Hackathon provided a real-world learning and innovation environment involving approximately 135 participants from the wider fashion, textile, education, technology and entrepreneurial ecosystem. The five Green Digital Fashion Manager modules were introduced through dedicated pilot sessions, while interaction with learners, discussions with Module Leaders and digital feedback mechanisms enabled participants to contribute directly to the validation and further development of the curriculum. The Hackathon methodology itself was designed to allow emerging learning themes to be tested through collaborative problem-solving and experiential learning.

The pilot confirmed the relevance of an **interdisciplinary competence profile** that combines sustainability and circularity with digital technologies, responsible manufacturing, business and management capabilities, leadership and stakeholder engagement. It also reinforced the importance of practical examples, real industry challenges, experiential learning and the integration of the green and digital transitions rather than their treatment as separate areas of professional development.

Following the pilot, the Module Leaders processed the feedback and learning generated through the live sessions, learner interaction, digital consultation and Hackathon experience and used this evidence to further refine their respective modules. The resulting five final e-modules were subsequently published through DigiFashHub, converting the formative face-to-face pilot into a scalable digital

learning resource that can continue to reach professionals, SMEs, learners, educators and other target groups across partner countries and beyond.

The **Pairing and Mentoring Programme** extended this learning pathway from knowledge acquisition towards practical application. Across AMFI, MFA, PANSiK and SOFFA, ten pairing cases translated the project's educational themes into concrete experimentation around digital fashion, responsible AI, immersive technologies, sustainable materials, circular design, upcycling, traceability, cultural heritage and local manufacturing. The pilot did not therefore produce one uniform type of result; instead, it generated a portfolio of learning pathways, collaborations, concepts and physical, digital and hybrid prototypes reflecting the diversity of the European fashion ecosystem.

The cross-country implementation also demonstrates that pairing is most effective when it is **not treated as a simple networking exercise but as a structured learning and innovation pathway**. The strongest cases combined a clearly defined challenge, complementary expertise, iterative mentoring, experimentation, a tangible prototype or concept, reflection and dissemination. The diversity of the ten cases is therefore a strength: it demonstrates that the methodology can be adapted to research-driven digital fashion, VET learning, SME experimentation, material innovation, circular manufacturing, cultural heritage and different national ecosystems.

The **Citizens Digital Science Hub** provides the mechanism through which these results can continue beyond the initial pilot period. The five final e-modules form the educational foundation of the Hub, while the pairing cases can become practical learning cases documenting the challenge, participants, process, tools, prototype, sustainability and digital relevance, lessons learned and future potential. Cross-case learning can additionally be translated into practical resources for future users, including diagnostic matching forms, development plans, product-data sheets, responsible AI prompts, material-testing checklists, DPP-readiness tools and mentoring reflection questions.

D4.4 therefore establishes a transferable model based on a continuous cycle of:

Curriculum development → learner piloting and co-creation → feedback and refinement → final e-learning → pairing and mentoring → experimentation and prototype development → reflection and dissemination → continued learning and replication through the Hub

The final conclusion of D4.4 is that the Green DigiFashTech approach is strongest when **learners and industry actors are not positioned simply as recipients of**

educational content, but as active participants in its validation, application and continued evolution. The Pilot Educational Programme created the knowledge base and learner feedback loop; the final e-modules transformed that learning into an accessible and scalable educational resource; and the Pairing and Mentoring Programme created the pathway through which knowledge could be translated into collaborative innovation.

D4.4 consequently provides both **evidence of implementation and a model for continued exploitation and replication**. Through the Citizens Digital Science Hub, the educational modules, methodologies, practical cases and tools developed by the project can continue supporting new learners, SMEs, professionals, educators and innovation ecosystems beyond the original pilot cohorts and beyond the project period.





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