



D3.3 Innovation Services: Final Report

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Executive Summary

This deliverable D3.3 “Innovation Services: Final Report” describes and synthesises the results of the second phase of the activities of WP3 “Innovation Services”: “a report of the results of the activities and engagement realised with the 6 core Labs collaborating with the 12 transfer Labs, with an updated version of the Innovation Services Toolkit.” (DoA)

To maintain consistency with the previous deliverables 3.1 and 3.2, the same chapter structure is used, which also reflects the structure of the WP Tasks. The first chapter, reporting on T3.1 “Models and Tools”, gives an overview of the work done on the Shemakes model, even though the focus of activities in this period was on the other more activity-oriented tasks. Task 3.1 instead focused on embedding and testing the overarching model and tools developed so far in which the activities of the other tasks were situated. This fed into thinking about the model with the aim of operationalising the values in the different labs and activities and guiding the Shemakes labs to become enabling environments, understanding what that means in the different contexts.

Chapters 2 (for Task 3.2 “Community Engagement”), 3 (for Task 3.3 “Lab Projects”), and 4 (for Task 3.4 “Business Engagement”) focus on the description of the specific activities implemented by the Transfer Labs. Activities developed in the previous phase of the project were replicated and adapted by the Transfer Labs and new activity formats were also developed. The learnings gained from this process are shared in these chapters, and the new activities have also been documented in the Open Toolkit.

Each of these three chapters starts with a general description of the previous phase and the activities (or frame) developed as a baseline. A more detailed description of the activities carried out is followed by general learning outcomes and a reflection on the Shemakes values (and gender vision) and the role of the Ambassador. In the case of Task 3.3, the Lab-to-Lab research initiated in phase one continued with the Transfer Labs in phase two, extending both the scope and the depth of the investigation. Part of this collaborative research was followed by a networked event, also described in Chapter 3.

The conclusions section highlights the quantitative and qualitative richness of the results attained, the systemic link between the different components of the Shemakes approach, and the degree to which the activities reported in this document demonstrate the leading role of women in bringing about a regenerative transition of the textile and clothing industry. These elements will be incorporated into the definitive version of the Shemakes model and tools to be developed in the coming months, in conclusion of the project..



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1. MODELS AND TOOLS

1.1. Recap D3.1 + D3.2 + Summary D3.3

During the initial project phase (M1-3), the first concept of the innovation model and tools were developed to guide the actions in Phase 1, used and tested in the following months (M4-9). The model functioned as an overarching framework for the activities carried out by the Transfer Labs in the activities of Phase 2 in the third phase of the project (M13-M18).

This first concept of the shemakes.eu model was presented in deliverable 3.1:

- **TCBL and Fabricademy** as points of departure and initial building blocks of existing structures, models, and methods.
- **First concept of the Shemakes adapted model structure.** This adapted model is split in three levels and lays the foundation for a values-driven network of labs operating towards similar goals in the context of the shemakes.eu project. It aims to support the labs while executing their activities, at the same time providing a base from which recurrent iterations of feedback and adaptation will feed into the model's evolution during the last phase of the project and the final version of the Shemakes Lab model.

As described in the DoA, the priority of this work package during the Innovation Actions Phase 2, was mainly to coordinate the Transfer Labs and their activities connected to the different levels of engagement: tasks 3.2 community engagement; 3.3 lab-to-lab project and 3.4 business engagement. Therefore, this chapter mainly focuses on the updates from the last working period and describes the next steps that will be taken to prepare the fourth phase of the project, *Reputation Building and Diffusion & Consolidation of Results*, starting September 2022 until the end of the project.

Synthesis of activities carried out

From January until June 2022, several coordination activities, including meetings, co-creation sessions, and round tables, took place within the shemakes.eu consortium and WP3 to align and further develop the actions to be taken amongst the labs as well as to constantly coordinate the coherence of the actions among WP2, WP3 and WP4.



The activities of Task 3.1 in this period mainly focused on the expanded use and test of the Shemakes model as a framework to shape and monitor the activities of the Transfer Labs. The model is made operational in activities, meetings, and several workshops with the Transfer Labs, where principles and values are used to shape and design the activities.

1.2. The Transfer Labs

All 12 Transfer Labs that joined the project participated in general workshops, filled in the activities template, and learnt about Shemakes during this phase. Eleven Transfer Labs were involved in the activities of WP3, and in the reporting templates that were designed according to the task and the type of activity they were involved in. The Labs were split into tasks as follows:

WP3	TRANSFER LAB
T3.2 COMMUNITY ENGAGEMENT	DECODE
	ROGLAB
	VIVALAB
T3.3 LAB-TO-LAB ENGAGEMENT	CENTER FOR CIRCULAR DESIGN (CCD)
	THE ICELANDIC TEXTILE CENTER
	GREENFABRIC
	FARMLAB
T3.4 BUSINESS ENGAGEMENT	ZIPHOUSE
	LOTTOZERO
	TEXTILE PROTOTYPING LAB
	LE TEXTILE LAB

Figure 1 - Overview of the Transfer Labs' participation in WP3 activities.

Follows a brief description of each of the Transfer Labs involved in WP3 activities.

Decode FabLab - Athens, Greece

Decode Fab Lab is a digital fabrication laboratory in Athens Greece. Together with its external collaborators it brings knowledge and practice around computational design, digital fabrication, electronics, and programming, always in line with the latest technologies whilst respecting the environment and the society.



Activity: Community Engagement & Lab-To-Lab

RogLab (Centre Rog) – Ljubljana, Slovenia

ROGLAB, being part of Centre Rog, is a multidisciplinary public hub that supports creators and decision makers in the materialisation of new ideas with the help of knowledge and top technological infrastructure.

By revitalising the former Rog factory and turning it into the Rog Centre, the city of Ljubljana will obtain a new international creative and social hub with close links to the local environment. Committed to the circular use of space and with a strong cross-sectoral and international focus, while also pursuing sustainable development, the Rog Centre will not only cater to those who directly use it but will also have a positive impact on the life of the community.

With its modern infrastructure, expertise and international connections, the Rog Centre will provide creators, organisations, businesses, and the general public with a supportive environment for innovative projects for sustainable, socially responsible development in the areas of fabrication, urban handicraft, applied arts, design and architecture.

Activity: Community Engagement

VIVA Lab – Porto, Portugal

VIVA Lab seeks to inspire people to ‘Learn and Innovate through Making’, so that together they change our world for the better. They are a co-creation hub with a method that merges machines and highly qualified people, helping communities to develop new concepts and to take their ideas to the next levels of innovation.

Activity: Community Engagement

Centre for Circular Design (CCD) – University of Arts London (UAL) – London, United Kingdom

The Centre for Circular Design at University of the Arts London is a leading voice in academic design research and knowledge exchange. The team focuses on using practice-based research approaches to steer and support circular economies and communities around the globe.

The centre work around wool started back in 2019 when researching the Latxa wool in Spain. Since 2020 there has been research on wool in Bilbao as well as in the UK. This naturally led CCD to joining the Wool Lab-to-Lab project as part of Shemakes. For the



Shemakes project, as part of the work package of Lab-to-Lab, CCD worked on bringing design researchers, academics, and industry experts together to share knowledge and inspire others around wool research in the UK and how to make it circular and gender equitable.

Activities: Community Engagement & Lab-To-Lab

GreenFabric – Brussels, Belgium

Green Fabric is a place in Brussels dedicated to creation which proposes a textile fab lab, workshops and a coworking space for creators. Green Fabric puts creation at the centre of the social and ecological transition. They pay specific attention to wool and have a lot of knitting machines and wool transformation tools.

Activity: Lab-to-Lab

The Icelandic Textile Center – Blönduós, Iceland

The TextileLab is part of the Icelandic Textile Center (ITC), a non-profit institution located in Blönduós, northwest Iceland. It aims to develop and promote Icelandic and international textiles and research with collaboration and innovation in the field of textiles, textile art, and design. The TextileLab is the first of its kind in Iceland and offers access to state-of-the-art textile equipment and digital technology for makers, students, and artists. Wool is one of the main local and national raw materials. The Ístex wool washery in Blönduós washes 99% of all wool in Iceland. Therefore, innovation and knowledge exchange in connection to wool was a perfect match between ITC and Shemakes.

Activity: Lab-to-Lab

FarmLab – Styria, Austria

The FarmLab.at is situated in a rural part of the province of Styria, in southeast Austria. Besides being a functioning farm, it is also a fabrication laboratory open to the community, equipped with digital and traditional machines and a place for workshops.

Embracing the rural logic but tightly connected with an international network, the FarmLab is dedicated to exploring new opportunities for business and communities located in the countryside at the crossover between new technologies, contemporary art & crafts, and circular economy. Some of our areas of research are digital fabrication for farming, contemporary ceramics with traditional techniques, edible mushroom farming, experimentations in wool processing, or cultivating tinctorial plants.



Activity: Lab-to-Lab

Lottozero – Prato, Italy

Lottozero is a centre for textile design, art and culture based in Prato, Italy. It operates both as a consultancy studio and as a creative hub, divided into a gallery/exhibition area, a shared studio space/coworking, and an open fab lab for textile production, experimentation, and research. The work done in the CREATIVE HUB is aimed primarily at people operating in textiles and fashion, it responds to a need for space, for connection with other creators and for access to information not available online. Feedback, tutorship, and the possibility to work and exhibit in this environment is provided. The development of emerging talents and brands is supported through scouting and residencies in the Lottozero headquarters and by facilitating the exchange and collaboration with the traditional companies of the Prato textile district.

Activity: Business Engagement

Ziphouse – Chişinău, Moldova

The Design and Technology Excellence Center "ZIPhouse" was created within the Technical University of Moldova in September 2015. Recently in 2020, the centre has opened an NGO, ZIPhouse Design Hub as an extension to the centre. ZIPhouse is a fashion innovation platform, providing unrivalled opportunities for enriched knowledge, access to production facilities, inspirational resources, and industry collaboration. ZIPhouse offers young designers, start-ups, professionals, and academic staff a unique opportunity to sharpen their technological skills and design abilities.

ZIPhouse's mission is to connect Moldovan fashion to the global fashion world. Our programmatic pillars are community building – offering to professionals and young designers from the fashion industry a platform for collaboration, coworking, knowledge exchange and giving back. Acceleration Program – accelerating fashion start-ups, emerging young designers, supporting ZIPhouse residents' growth, introducing mentorship for business model improvements, business support opportunities to explore sales channels, and to penetrate new markets. Fashion Academy – develop skills through quality advanced technical education Fashion Leadership Program – the development of better professional skills of key personnel from companies and academic staff.

Activity: Business Engagement



Textile Prototyping Lab (TPL) – Berlin, Germany

TPL was established in 2021 in Berlin, Germany. A collaboration between the Weißensee academy of arts and the Fraunhofer Institute for Reliability and Microintegration. TPL is the first open lab for the development of high-tech textiles and E-Textiles in Germany, with excellent prototyping capabilities and interdisciplinary know-how.

Activity: Business Engagement

Le TextileLab – Lyon, France

Le Textile Lab is a collaborative workspace dedicated to textile creation, established in Lyon since October 2018. Le Textile Lab is a space designed as a tool to inspire, research, and prototype together solutions to rethink the textile industry and try to make it more open and circular, more respectful of our environment, more viable and sustainable for young designers, especially for women.

Activity: Business Engagement

1.3. Unfolding the Labs Model

The Shemakes model will be further developed and finalised in the last phase of the project, running between August and December together with the Innovation services that help bridge the gender gap in the textile sector.

Several elements and learnings will be seen to emerge in this phase that will help shape and clarify the Labs model in relation to the activities carried out by Labs and Transfer Labs in Shemakes, during the two phases of activities.

The model as presented during the review meeting of February, is formed by three layers stacked together. For each of these layers we have collected insights of how these apply to the different contexts, the essence of the Lab, and the local context of the Transfer Labs.

- **Modus operandi:** *how* we act as an enabling environment. A values-driven approach, based on the Shemakes values, that works as criteria for the design & development of activities
- **Lab metrics baseline and essence:** *who* we are as Shemakes Labs, both individually and collectively
- **The activities, co-created knowledge, and the relevant open access documentation:** *what* we do as Shemakes Labs



This deliverable focuses mainly on the activities report (the third layer), but already acknowledges some new insights on the modus operandi and lab metrics, as follows.

How: Modus Operandi, from Labs to Values to Operations

In November 2021, WP3 organised a workshop together with WP5 around the Shemakes values with the core Labs during the project meeting in Barcelona. The Shemakes Labs, both the Core and Transfer Labs, often have a natural and intuitive way of putting the Shemakes values into practice. In order to transfer this (and therefore the Shemakes model) to the Transfer Labs, these values had to be made explicit by connecting them to concrete examples of operationalised values.

Starting from the five Shemakes values, partners looked at different ways in which the values were operationalised in the six core labs and in the different tasks of WP2 and WP3. In different groups the values were discussed, and the current practices and activities were analysed. This resulted in the tables below and have been used as a basis for aligning the Transfer Labs activities with the Shemakes objectives and values. The follow-up session was held during one of the knowledge transfer sessions between partners and Transfer Labs in February 2022. After the general introduction (WP5), WP3 led a discussion on how to put the values into practice in the different Transfer Labs and how to operationalise the shemakes values when developing the different activities. These sessions helped the Labs and partners towards the unpacking and extrapolating of “how” we act and empower others as enabling environments.



SHEMAKES VALUES	WP2		
	CURIOSITY	DISCOVER	INNOVATION
EQUAL	<ul style="list-style-type: none"> Mixed activities (boys and girls) The same activities is done by boys and girls Adaptations of the activities (kits) Boys sewing and talking to their grandma Scissors for left and right handed kids Bigger picture - show them what they can achieve 	<ul style="list-style-type: none"> Same conditions, same content for everybody Social media messages "we're equal" We mention it embedded in the activity (a philosophy) 	<ul style="list-style-type: none"> We choose women to start with Teacher / student - organic change of roles (approach) When doing visits, ask for their gender vision / action / equal / observe
COLLABORATIVE	<ul style="list-style-type: none"> Group/teamwork Helping other Peer to peer 	<ul style="list-style-type: none"> Working as teams and not as individuals Supporting each other Sharing moments at the end of the activity 	<ul style="list-style-type: none"> We benefit from open source values and sharing Be closer to social entrepreneurs world
WELCOMING DIFFERENCE	<ul style="list-style-type: none"> Boys and girls are welcome Not only tech - enrolling welcome 	<ul style="list-style-type: none"> You can express your disagreement and opinion without being judges Team is different than public is different naturally 	<ul style="list-style-type: none"> How to break out of our bubbles? Go to visit different places Innovation is for all - include more social associations textile individuals in difficulties Different career routes (criteria)
EMPOWERING	<ul style="list-style-type: none"> Role models Recognition of their work Take responsibility 	<ul style="list-style-type: none"> Energy and supporting self-esteem Role models I do it, we do it, you do it 	<ul style="list-style-type: none"> Anticipation on what obstacles can arise - giving them tools to overcome these Bringing like minded together It highlighted deep thoughts about women practices Human, personal >starting from their experiences/motivation
INSPIRING	<ul style="list-style-type: none"> Role models of women in T&C sector Showing the big picture of the things they can achieve Project examples 	<ul style="list-style-type: none"> Overcome fears and stereotypes Instructors were women (diversity, inspiration models) Showing what is possible, sense of empowerment 	<ul style="list-style-type: none"> Gathering knowledge/learnings from their experiences They are sketching the landscape of the future

Figure 2. Barcelona workshop outcomes "How values are put into practise in the activities executed by the Core Labs" concerning WP2.



SHEMAKES VALUES	WP3		
	COMMUNITY ENGAGEMENT	LAB PROJECTS	BUSINESS ENGAGEMENT
EQUAL	<ul style="list-style-type: none"> Men should be part of the actions and change Equality is the main subject - involve men Behavioural and attitude change Monthly alignment of IG posts inequality of gender Women with different roles, experiences are equally portrayed as amazing 	<ul style="list-style-type: none"> The way / the APPROACH (not content) Both men and women can easily do this Women in tech, men in crafts Through the model we teach each other and then we have equal skills and knowledge Hiring more women in technical positions Common, horizontal equal decision making Job opportunities, artistic residencies for women, technical skills 	<ul style="list-style-type: none"> Promote female entrepreneurs with different backgrounds No barrier to activity participation, easy access (money, region) Sensitisation to equality via introduction of the project
COLLABORATIVE	<ul style="list-style-type: none"> We speak about it and we think of ways to engage Sharing experiences Bringing people together so they can join forces (change of culture, example Roos, Ythka etc) 	<ul style="list-style-type: none"> Peer reviewed and tested Shared research space for documentation Learning from each other, train trainers Open source Create infrastructure (space) for network mapping Local connections & connect to context Awareness on animal care Distributed world wide workshop = the model collaboration 	<ul style="list-style-type: none"> Create business connections Encouraging collaboration through concrete activities Hold activities with partners interested in open collaboration Include the ecosystem, all supporting services
WELCOMING DIFFERENCE	<ul style="list-style-type: none"> Diversity in (female) speakers during activities / events (critical questions, aware of pitfalls) 	<ul style="list-style-type: none"> Include from tiny to greater stakeholders Embrace both crafty & technological The beauty is that local challenges on wool are different, but valuable for all network Teach men how to knit 	<ul style="list-style-type: none"> More actively seek people from different background / culture Specific target startups from non-traditional origins Discussing outcomes in plenary sessions, listen and build
EMPOWERING	<ul style="list-style-type: none"> Putting people that are not often heard on the stage, create grow community Who represents the least advantaged Concrete actions/job implications after workshop Make volunteers part of the team Quadruple helix, should be more engaging The power of the support role 	<ul style="list-style-type: none"> New role models New vision about success = believe in the grassroots and distributed Break the gender stereotype Knowledge is power, network empowerment. local connections Create a space for expression Mentoring encouragement & psychological support Job opportunities and artistic residents 	<ul style="list-style-type: none"> Public speaking training Guarantee that they feel confident in their pitch Addressing their needs (personalise) Give back positive feedback to grow their talents/assertivity Time management or planning training
INSPIRING	<ul style="list-style-type: none"> Reach people who may not think Shemakes is for them Bringing inspiring women on stage Making topics explicit (sensing) Inspiring each other in "Gender visioning" They talk about their personal experiences, thus creating a safe zone 	<ul style="list-style-type: none"> Role models Tangible examples Job opportunities Highlight stories Women that downscale & show that it doesn't need to be always industrial/large scale 	<ul style="list-style-type: none"> Visits to inspiring environments (accelerating, incubation companies) Organise an event to showcase outcomes Encourage tip and experience sharing Selecting leading entrepreneurs + advisors/gurus

Figure 3. Barcelona workshop outcomes “How values are put into practise in the activities executed by the Core Labs” concerning WP3.



Who: Baseline metrics for an enabling environment

The values-driven approach and operationalization thereof by Labs, described in the previous paragraph, is one of the elements of a Lab as an enabling environment.

Further layers are necessary to understand the nature of enabling environments and are translated into the following simple metrics. These metrics aim to form an image of what a specific Shemakes lab is, how each lab differs and complements one another, allowing for more space for welcoming differences, empowering, inspiration and collaboration.

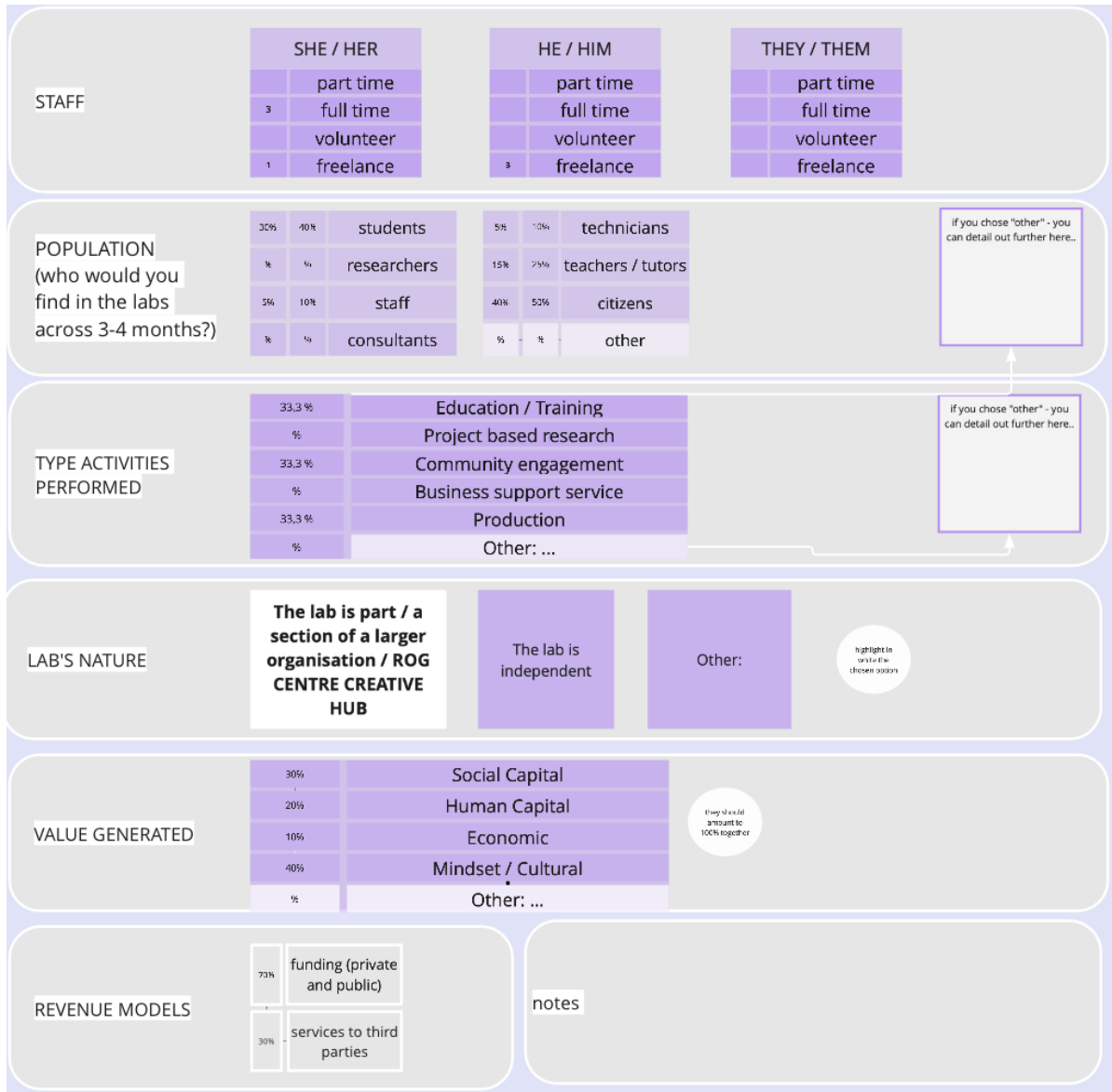


Figure 4. Shemakes Lab model, elements from the TCBL Lab model.



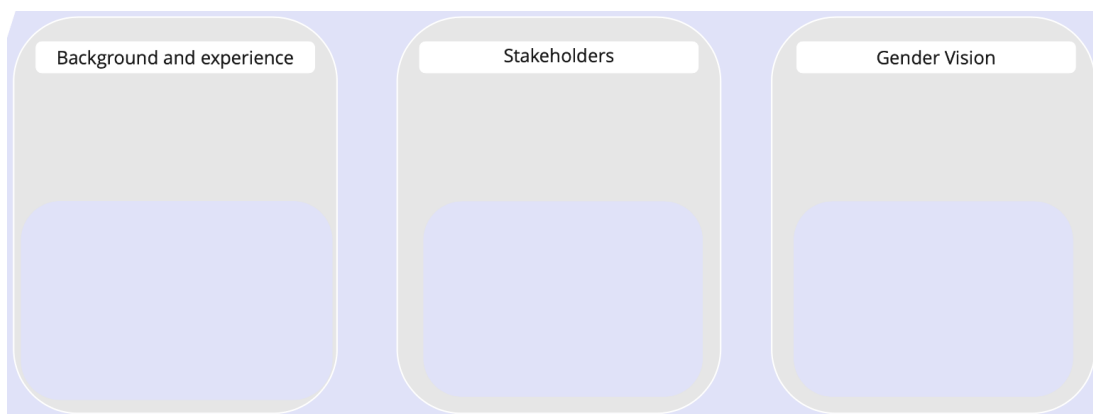


Figure 5. Shemakes Lab model, additional layers.

These metrics offer first insights and a first impression of the labs individually and might show what the combination of labs looks like as a network.

This assisted the Transfer Labs in understanding the variety and nuances of Labs, different questions concerning the Shemakes definition (so far) of an enabling environment, the model and values were added in the format used for the activities' description (set up by WP1) and the final reporting of the activities (WP2 and WP3).

***What:* Documentation of activities**

This report mainly focuses on the understanding, documentation, and analysis of the activities by Transfer Labs. For each activity, Transfer labs were asked to go through the following process:

- Present the **activity description (goals, timing, participants)**.
- Summarise the **main outcomes and key learnings**.
- Reflect upon the **lab's capability and ambassador experience** to execute/continue with this activity.
- Describe how the activity would serve the core purpose of the Shemakes project on bridging gender gaps through the lens of the shemakes **Gender Vision**.

Since the Transfer Labs and the activities are very different, (but align when it comes to values), the above process was loose enough to allow them to describe their work in the way that suited them and gave WP3 the opportunity to analyse and extract relevant outcomes for the final model.

The forthcoming Deliverable D3.4 "Innovation services: Final Toolkit" will develop the contribution of Transfer Labs to the Lab Model and our understanding of how the Shemakes values have been put into practice, nurtured, and developed. This will lead to

the final version of the Shemakes Lab Model as an enabling environment based on the Innovation Services proposed at the end of the project.

1.4. The Open Toolkit update

As defined in D3.2, the Open Toolkit took shape on a digital co-created environment, serving both as a documentation platform and as the first toolkit for Transfer Labs, being called the **Shemakes Open Toolkit**¹.

The Open Toolkit is the living repository of content and tools generated by Labs in Shemakes activities, accessible to all participating and interested Labs.

Currently the toolkit is structured with the following topics (as per Figure 5 below):

- **Home**: general description of the project, its main goal, and how the learning paths and innovation services are conceptualised.
- 0. **Onboarding**²: this section aims to give the first instructions and overview of the project's structure, the Transfer Labs and the ambassadors joining the project's second phase of actions. Users also find here a glossary with the main terms used in Shemakes.
- 1. **Learning Paths**³: Labs and users can find information and documentation about the learning paths. This section of the toolkit will be explained in detail in D2.3.
- 2. **Innovation Services**⁴: Here, detailed information is provided about how the innovation services are shaped in the Shemakes project. Following the tasks' structure, the section is split in terms of levels of engagement, with community, other labs and businesses. Next, we will go into more detail on how labs can use and contribute to the knowledge and services developed.
- 3. **Documenting**⁵: This section aims to give the basis of the documentation process, key for this type of collaborative toolkit, where we empower each lab to also become a co-author and enrich the content for the network. Users can find here a step-by-step process on how to create their profiles, pages and tutorials to improve their hard and soft skills on GitLab and Markdown, the platform and programming language respectively.

¹ <http://fabricademy.fabcloud.io/shemakes/handbook/>

² <http://fabricademy.fabcloud.io/shemakes/handbook/0.-onboarding/1-shemakes/>

³ <http://fabricademy.fabcloud.io/shemakes/handbook/1.-learning-paths/>

⁴ <http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/>

⁵ <http://fabricademy.fabcloud.io/shemakes/handbook/3.-documenting/4-howtodocument/>



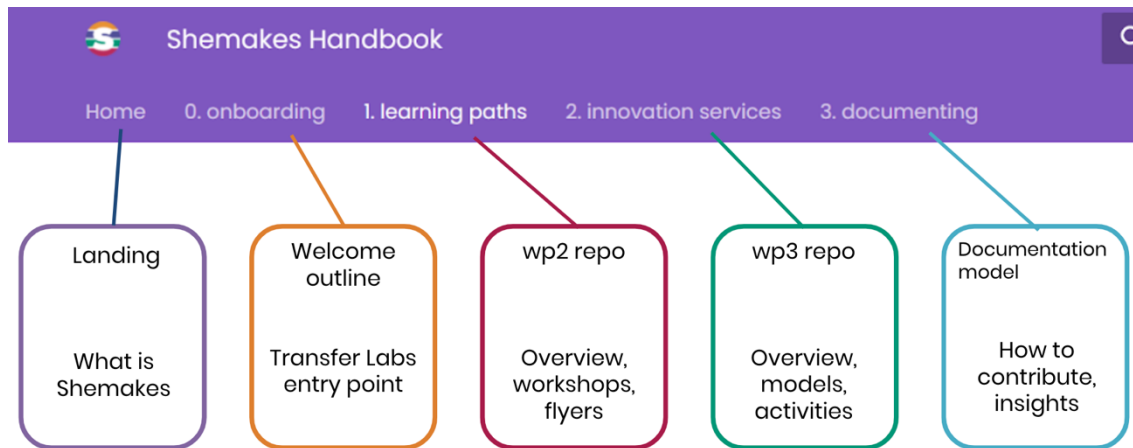


Figure 6. Structure of the Shemakes Open Toolkit.

In January 2022, the Shemakes Open Toolkit concept and structure were presented to both the Transfer Labs and the Ambassadors. The key messages were:

The importance of documentation

- Core tool of the open-source community.
- Need and opportunities offered to enable replicability.
- Sharing and building a body of knowledge.
- Doing distributed research together (applied to wool in Shemakes project as defined in Phase 1).

Overview of the process

- Selection and use of the most appropriate tools aligned with the values and documentation habits of labs.
- Co-development of the documentation templates: activity canvas, activity documentation template, research templates.
- Drafting the architecture of the contents.
- Mission each lab to document its own activities.
- Update the content online.

Accessibility

- Diversify the contents (media, video, image, text).
- Make it easy to read and understand for future participants.
- Give insights and tips in execution according to the type of activities and participants.

Contribution

- The structure and language used and described in the previous phase allow everybody to contribute to the growing and expansion of the toolkit.

Next steps and updated WP3 timeline

Table 1. Timeline for the Innovation Services next phases.

Project Phase as per DoA	Tasks	Date (Timing)
Reputation Building and Diffusion	Report writing and consolidation of all Phase 2 activities in the open toolkit	July - August
	New Ambassadors: engagement and selection	August
	Round of feedback and second iteration of the Shemakes Models and Tools	Aug - Sept
Consolidation of Results	Recap the Shemakes journey of multifaceted innovation, and increased value of skills to consolidate the tools and innovation model, and the post-project approach and impact	Oct - Dec



2. COMMUNITY ENGAGEMENT

2.1. Recap D3.1 + 3.2 & Summary D3.3

As stated in D3.1 and D3.2 **community builds change** by locally addressing a global problem: the gender gap.

If we were to give ourselves the challenge of describing very briefly what community engagement and the related activities of this task entail in Shemakes, we could say that it is one of the core activities of Labs, approached through the lens of the *Quadruple Helix* framework, where women in the textile and clothing and STEM industries bring forward and discuss the issues of equal opportunities, inclusiveness and bridging the gender gap. The theme, approach, people involved, and language all revolve around the values of Shemakes and the gender gap.

In the first (M1-M4) and second (M4-M9) phases the initial 6 Core Labs analysed their best methods related to inclusivity, diversity, and women's empowerment, and then tested and refined the resulting activities. During this phase of the shemakes.eu project, **4 new labs joined** the Community Engagement task and took over the initial formats, by either adapting them to their context or by developing new approaches to community interaction and engagement:

- **RogLab** - Ljubljana, Slovenia.
- **Centre for Circular Design (CCD)** - University of Arts London (UAL), UK.
- **Decode Fab Lab** - Athens, Greece.
- **VIVA Lab** - Porto, Portugal.

During this phase the Transfer Labs started their journey in creating an enabling environment and a safe space for discussion for the women who will take part in the Community Engagement activities. Allowing them to better discover and understand their local context - as perceived through the eyes of women working in the Textile and Clothing (T&C) sector.

In the summary below we list the activities, timeline and impact of the activities carried out by REDU, ROGLAB, VIVALAB, DECODE and CCD in the community building process.



Table 2. Summary of the Community Engagement Lab Activities (January – June 2022).

Lab	Period	Title and short description	Key figures	Duration
VivaLab	05/03/2022	World Café - Bridging the Gender Gap	15 participants	3 hours
RogLab	31/03 - 25/04/2022	Community Vision Co-creation Exercise - Mentimeter in person	26 participants: 21 women, 2 non-binary and 3 men	45 minutes
CCD	31/03/2022	GENDER FUTURES - A speculative design workshop which aims to raise awareness on gender biases and empower self-expression and personal vision.	7 women	3 hours
RogLab	02-04/04/2022	Identifying the general perception/opinion regarding gender gap - ONLINE QUESTIONNAIRE	41 participants: 28 women, 3 non-binary and 10 men	13/04-25/04
RogLab	04/04/2022	Validation workshop: Gender Equality and Diversity plan for Center Rog - Creative Hub	20 participants: 17 women, 1 non-binary and 2 men	3 hours
CCD	06/04/2022	GENDER VISIONS - event, including interactive, participatory workshop elements, inspiring talks, and informal discussions.	12 women	3 hours
VIVALab	07-08/04/2022	Textile Festival - 2-day event that aimed to empower and create links with the local textile community	24 participants: 22 women and 2 men	16 hours
REDU	28/05/2022	Gender Gap @ Past tense? -filmed discussion on the pluses and minuses faced by 5 young women in the textile industry throughout their careers	5 women + the online reach after the video was posted on social media	1 hour



Lab	Period	Title and short description	Key figures	Duration
DECODE	15/06/2022	Future Women Innovators – participants map out the challenges that current women and future women face in each sector regarding education, technology, and innovation, followed by a discussion of findings and networking.	18 participants: 15 women and 3 men	2 hours 30 minutes

2.2. Community Engagement activities developed by the Transfer Labs

Phase 2 of activities started in January. Depending on the needs of their local context and nature of their environment, each Transfer Lab decided on the activities they would undertake as part of the Community Engagement task. Their options were either to replicate or adapt an activity from Phase 1 or to develop a new one, under the guidance of core labs REDU (and WAAG).

Community engagement aims to be a long-term involvement of the local stakeholders' community. As stated in D3.1, the main concepts for this purpose are as follows:

- Identification of stakeholders interested in the topic of Gender Gap reduction.
- Understanding their position on the Gender Gap and the importance of empowering women, especially in the Textile and Clothing and STEM industries.
- Engaging the stakeholders/community by:
 - **Talks/events/panels** presenting the vision of change and to show them the benefits and opportunities that can arise
 - **Design thinking** workshops to co-create and co-define alongside the community the most relevant first steps to action
- 4 stages of building the Shemakes community through which to engage and work with stakeholders: **consulting, involving, collaborating, empowering.**

The following sections describe in detail each action undertaken by each Transfer Lab and divides them into two main categories:

- **EXISTING ACTIVITIES** – these are activities replicated or adapted from Phase 1 of the project, which fit well into the local context of the Transfer Labs, without much adaptation.

- **NEW ACTIVITIES** – these are emerging activities, which the new Transfer Labs found better suited for their lab realities and local communities.

Documenting & Reporting on *existing* activities

Table 3. Existing activities in the Open Toolkit carried out by Transfer Labs.

Lab	Title and short description	Link to the Open Toolkit
RogLab	Community Vision Co-creation Exercise - Mentimeter in person	http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/CO-CREATION-ACTIVITIES/
RogLab	Identifying the general perception/opinion regarding gender gap - ONLINE QUESTIONNAIRE	http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/QUESTIONNAIRES/
RogLab	Validation workshop: Gender Equality and Diversity plan for Center Rog - Creative Hub	http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/QUESTIONNAIRES/
CCD	GENDER VISIONS - A 3 hour event, including interactive, participatory workshop elements, inspiring talks, and informal discussions.	http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/TALKS-%26-EVENTS/
REDU	GENDER GAP @ PAST TENSE? - a filmed interview with 5 young women who have a career in/or adjacent to the Textile and Clothing Industry, the aim being to highlight the barriers and inequities each of them has faced so far, but also the beautiful experiences that gave them the courage to continue.	http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/TALKS-%26-EVENTS/

RogLab: Community Vision Co-Creation Exercise

RogLab started by executing and re-adapting the “Star exercise” of Phase 1. With a diverse set of people, covering not only different sectors but also different age groups, the Lab explored the exercise, an icebreaker previously implemented by WAAG and REDU as part of their Community activities. It was used as a simple yet effective conversation-starter tool, based on 5 questions and 5 possible answers, covering self-identification, gender as a



social vs a biological construction, most important topic in gender discussion, how women are judged, how women are supported.⁶

RogLab chose to have a different implementation of this tool than previously done in Shemakes, adapting it to an online tool on Mentimeter⁷. This choice was made because, as a learning from REDU's experience, it became clear that conversations between participants can be extensive. The conversations, elaboration, reflections, and motivation of the participants' positioning happened in the same way as in the initial version of the exercise.

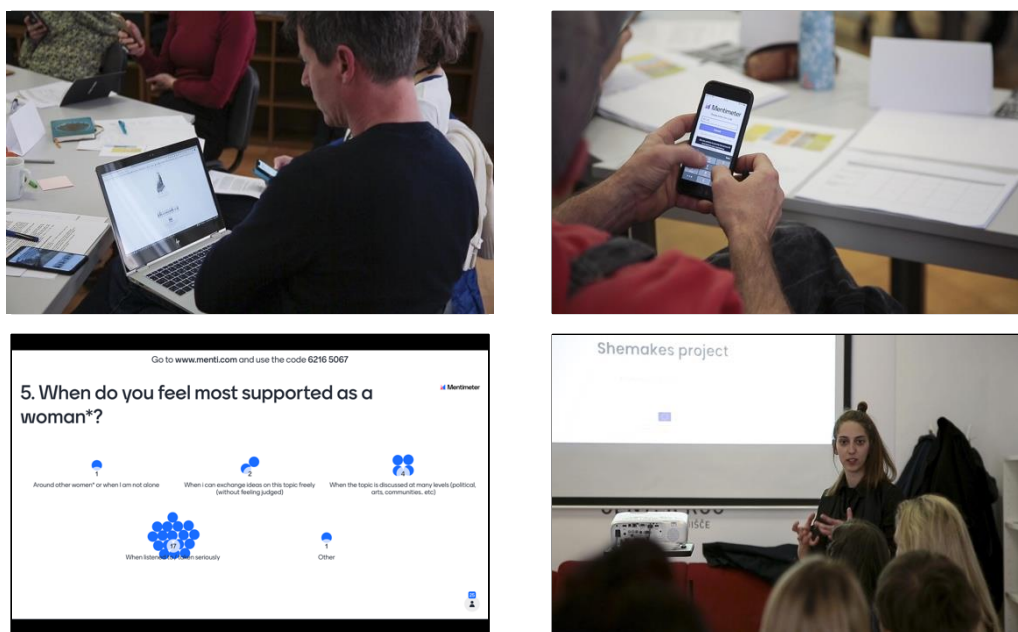


Figure 7. Mentimeter exercise on Community visions, addressing the question of Gender.

Later in this phase, this exercise was again performed during the Discovery workshop of Innovative Cellulosic Materials with a group of students, where only one generation/age group with diverse backgrounds and interests was present.

Table 4. RogLab's Community Vision co-creation exercise.

Goals & Format	The main goal was to start a conversation and discussion (self-reflection or debate) with two different focus groups: 1. Stakeholders representing NGOs, Institutions, Faculty, and private business; 2. Students and/or young people.
Date & Location	1st during the focus group we held on April 4, 2022. 2nd on 23 April 2022 during the WP2 Cellulosic materials production workshop with students in STEM and Textile/Fashion studies

⁶ [Link to Star game, with content/questions used by Rog Centre.](#)

⁷ <https://www.mentimeter.com>

Participants & Reach	In total 26 people participated in this exercise. Out of 26 participants, 21 were women, 2 were non-binary and 3 were men.
Outcomes & Key learnings	<p>In total we had 26 participants joining in the Star exercise developed by Waag and adapted to Mentimeter. What we learnt is that these topics are quite difficult and somewhat sensitive subjects. From feelings of not being a topic that should and would be discussed, to feelings of tension and awkwardness. What we did want to achieve, and we believe that we did, was to open the topic to be later discussed in a group or by each individual.</p> <p>With the questions of how much they think gender is a social construct vs. biological influence – it showed by the high incidence of “strongly agree” with the statement that gender is more linked to a social aspect than inherent to individuals.</p> <p>The majority of participants stated, when asked “when they feel most supported as a woman”, was “when listened to/taken seriously”. This shows that our community is lacking an understanding and respect towards female opinions, voices, concerns, and ideas. As a creative and innovative environment, our role must be, to make sure all ideas are heard and taken seriously.</p>

RogLab: Identifying the general perception/opinion regarding gender gap (online)

Having multiple events on the same topic, it seemed reasonable to get a broader anonymous opinion on general perceptions regarding the gender gap. While creating the Gender Equality and Diversity Plan, the RogLab team realised that sometimes gender related topics might be sensitive to some people that either they do not know or do not wish to publicly speak about. Addressing other factors such as language grammar and specifications and/or limits about expression, the **Transfer Lab decided to use the REDU's template questionnaire** as a starting point, **adapting it to the context of the Slovenian language and culture**. Extra questions were added that are specific to the environment of Center Rog and future use of the space by users for which we want to create a safe, inclusive, and equally opportunistic environment.





Figure 8. The RogLab gender perception questionnaire.

Table 5. The RogLab gender perception questionnaire.

Goals & Format	<p>Consulting the local community through the online questionnaire on “Identifying the general perception/opinion regarding gender gap in STEM/Textile and Garment industry”-</p> <p>The questionnaire was designed using guidelines and questions by REDU, with additional questions from the Gender Equality and Diversity Plan Working Group Development who also finalised the survey, launched it online, monitored the data and interpreted the results. As mentioned above the main goal was to additionally assess the local situation as an indicator of where to act upon.</p>
Date & Location	<p>The questionnaire was created on the Jotform platform and launched online on 13 April 2022 via Center Rog Newsletter and Social Media platforms, and then closed on April 25, 2022.</p>
Participants & Reach	<p>From a sample size of 41 subjects from Ljubljana, Slovenia who gave anonymous online answers, 28 were women representing 68% of all the respondents, 3 were non-binary (7%) and 10 were male (24%).</p>
Outcomes & Key Learnings	<p>How RogLab found out that the questionnaire answers revealed both the perception of the public they work with and how the lab can co-develop a gender-neutral organisational culture</p> <p>37 of the 41 respondents gave a personal definition of gender inequality, with some giving complex answers covering several dimensions of the concept, while others opted for a single component or characteristic. 24 participants (59%) believed they had experienced gender inequality, and 10 participants were not sure (24%). The most common problems participants experienced were 29% Behaviour that denigrates, ridicules or humiliates a person; 20% Fewer</p>

chances of promotion; 10% both Lower salary and Sexual harassment. 44% of participants believe that having in place Rules on the action in case of harassment and violence is important for them for ensuring safety in the infrastructure in which they work, 17% say Legal person, 15% say Adequate lighting of yards and corridors.

In preparation of further steps of drafting the Gender Equality Plan, it is highly crucial to keep these findings in mind when approaching the discussion with stakeholders in our validation workshop.

What was also important for RogLab to gather information on people applying for residencies, their peers, and their parents, and whether there would be specific needs to address in this case.

Mostly, our key learning was that as an institution we can try to always be a step ahead and make sure to cultivate an equal working environment and take every complaint or concern seriously. Learning of many different experiences, ideas, and views on this topic from the anonymous questionnaire, served as key inputs to discussions that were happening during the validation workshop on GEDP for Center Rog.

RogLab: Validation Workshop – Gender Equality and Diversity Plan (GEDP) for the Center Rog – Creative Hub

Prior to this project, Center Rog has been developing a Gender Equality and Diversity Plan (GEDP), aligned with Shemakes values and pillars of community engagement. The lab understood that this was a great opportunity to brainstorm/co-create a workshop with 17 women from the 4 areas of the Quadruple Helix framework, with the goal of improving and validating the GEDP and create a template for others to replicate. Since its institution in 2021, the new public institute Center Rog has chosen to highlight gender equality as one of its priorities through partnering in international cooperation projects such as: Shemakes (Horizon 2020, 2022), Act&Art For Positive Social Change (Erasmus+/European Solidarity Corps, 2022 – 2023) and developing the project Shared Spaces – Shared Futures (European Cultural Foundation, 2021 – 2022).

This activity was inspired by a first phase activity by REDU, opening the discussion with stakeholders on the topic of reducing the gender gap. Knowing that culture, local environment, and local politics have a major role on the findings and results (even if some findings can be argued to be universal), we tackled the topic from our own context.

We decided to validate the Center Rog Gender Equality and Diversity Plan (GEDP), a document that

- Was based on previous project results that RogLab had conducted before.
- Was prepared by Teja Reba (head of City of Women – an NGO focusing on women in the cultural sectors) and researcher Dr. Tanja Petrović, in cooperation with many



stakeholders and the Center Rog staff (1 focus group, of 9 women professionals from the Creative sector; 5 individual interviews with Rog Centre technical team, engineers and technological mentors; 1 working session with Rog Centre top-level decision-makers.

- Adapted thanks to the general perception/opinion regarding gender gap in STEM/Textile and Garment industry, which is described in more detail in the section above.

The validation workshop included the Shemakes Ambassador, Chamber of Commerce and Industry professionals as well as Rog Centre top level decision makers and contributors (20 participants) and was dedicated to address the proposed measures and indicators, and define the outcomes and impacts of the strategic actions.

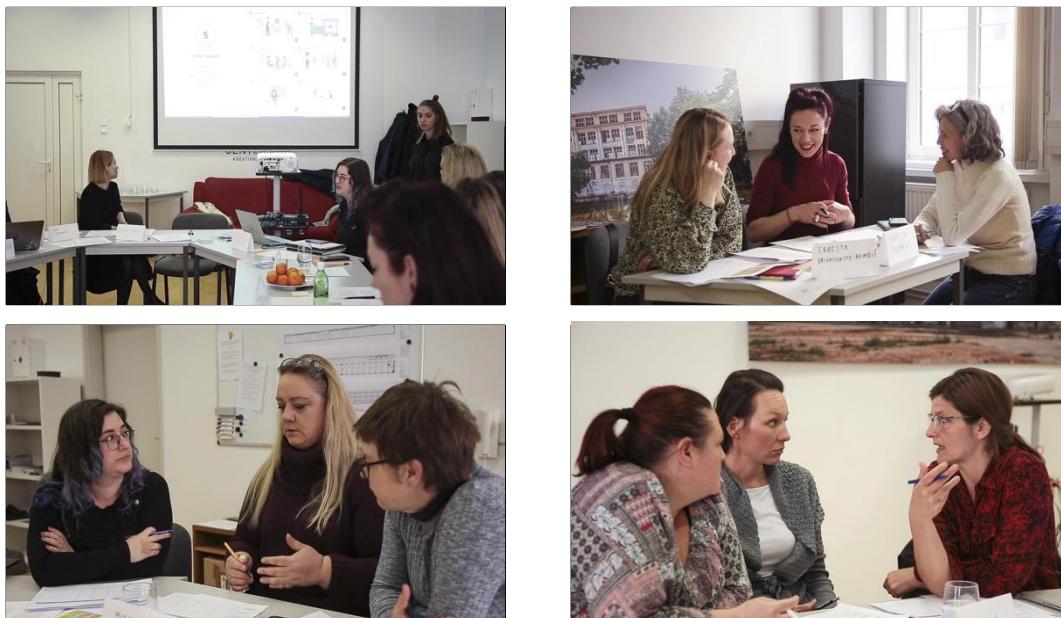


Figure 9. Working groups of experts during the test workshop of GEDP for Center Rog.

Table 6. The RogLab validation workshop.

Goals & Format	<p><i>Strategic areas of interest:</i></p> <ol style="list-style-type: none"> 1. Gender fair organisational culture & work-life balance 2. Gender balance and diversity among employees and users 3. Gender equality in career progression 4. Integrating the gender and diversity dimension in program and content 5. Preventing and combating harassment and gender-based violence <p><i>Format: In-person group workshop</i></p> <p>Validation workshop participants were asked to address the proposed measures as specified in the first draft of GEDP of Center Rog indicators and define the outcomes and impacts of the strategic actions. We created a presentation of Shemakes values, Center Rog values, and our core mission of</p>
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this workshop. Making 5 different working groups of randomly selected participants by groups of 4, each discussing and tackling separate topics of interest as stated above. After 1.5 hours of the work in sub-groups, all the results were presented, debated, and ranked.

<http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/GENDER-EQUALITY-PLANS/>

Although the GEDP will undergo further refinement, the expected results of its implementation are as follows:

- To establish mechanisms for increasing awareness of gender equality and diversity.
- To establish mechanisms to provide support and counsel on how to integrate the gender and diversity dimensions in project and product development.
- To establish structural mechanisms to combat gender-based violence and sexual harassment.
- To improve the organisational culture through the use of gender and diversity-sensitive language.
- To establish work-life balance policies to address the impact and needs of parent employees and users.
- To support female professionals' career progression through mentoring and networking activities and promoting their results and excellence.
- To support disadvantaged women, girls, and minority groups through mentoring and educational programs.
- To systematically collect gender and diversity-segregated data.
- To establish structural mechanisms to monitor the implementation of the GEDP.

Date & Location	The activity took place on 4 April 2022 at project offices of Center Rog, Ljubljana , Slovenia
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Participants & Reach	Shemakes Ambassador, CCI professionals, representatives of NGOs, RogLab users, as well as Rog Centre employees (20 participants [17 women, 2 men, 1 non-binary]).
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Outcomes & Key Learnings	<p>The development of The Center Rog's Gender Equality and Diversity Plan (GEDP) is based on custom-made research and a participatory model and validation of the proposed GEDP.</p> <p>Through the validation workshop, we were able to get more insight into the concrete needs of users/partners which we will later implement into the final document.</p> <p>Having a diverse group of people who presently or in the past have/have had or are interested in having a collaborative and professional base - as partners or potential users - the use of Center Rog was highly important to us to get feedback. Aiming at the constant interdisciplinary approach of governance and use of space, we as institutions believe that before creating space and opening</p>
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it to the public, the public needs to voice their concerns, ideas, and actions on how the space would be safe, inclusive and open to everyone.

Reflections on the Lab's capability

Working on the GEDP and creating community discussion and focusing on the first steps on how to better prepare and address issues of GEP, we were quite well prepared and already had a clear focus on what we want to ask, learn and who to turn to (selecting guests). The GEDP will be officially adopted by the Director-General after the final phase of its development, last validation with the Rog team will therefore be organised internally in July 2022 prior to the adoption of the document.

Knowing that GEDP is a constantly evolving document that would need to be revised on a yearly basis, it would greatly benefit us to keep some of the ideas/workshops and questionnaires we tested during the Shemakes project in running. Every year we could create an anonymous questionnaire for our users and our staff, every 3 years we could have a focus group with stakeholders - partners, users, lawmakers, universities - to continue this discussion and further develop GEDP. Furthermore, with this verification workshop we managed to get a pool of experts to turn to yearly and work together in making sure we try to offer equal opportunity to all users, visitors, partners, and staff.

Reflections on the Ambassador's contribution

Ambassador Jessica Stanley (REDU) was very supportive and open to the ideas of our proposed activities within the Community Engagement task. It took the form of a Validation workshop, where Jessica actively participated in the workshop. Having many experiences from working in different environments and Labs, she had enriched the topics which were discussed at the workshop. She also had a role of presenting the Shemakes project and its goals.

Gender Vision findings

Equal - creating the GEDP for Center Rog will help as a guideline for decision makers and users at Center Rog to better navigate and understand shared production space.

Empowering - by encouraging females to actively join the fablab environments, have talks with them on how to make the place better suited for their needs of safety, comfort, and broader inclusiveness.

Collaborative - by developing and encouraging a collaborative spirit between users, collaboration between organisations, institutions and, above all, collaboration between users and policy makers.

Center for Circular Design (CCD): Gender Visions Workshop

The Gender Visions Workshop was a 3 hour workshop, including interactive, participatory workshop elements, inspiring talks, and informal discussions. The workshop was built on the previous outline of the Shemakes Community Engagement Workshops led by WAAG and REDU as part of Phase 1 from Shemakes including the 'star exercise'.

Twelve women from the textile and innovation sector, from lecturers and associate deans to leading female entrepreneurs and textile artists and designers, discussing, inspiring, conceptualising, and visioning together during the Gender Visions Workshop.





Figure 10. Gender Visions Workshop led by the Centre for Circular Design.

Table 7. The CCD Gender Visions workshop.

Goals & Format	<p>This activity aimed to inspire and explore gender topics with a small group of participants from the quadruple helix framework, through a 3-hour workshop including inspirational talks, participatory workshop exercises, and the 'star game'.</p> <p>This workshop was aimed at bridging the gender gap in the textile industry through inspiration, shared experiences, and creating new visions, by giving people the opportunity to share experiences, barriers and ideas around the gender gap and enable female empowerment in the textiles industry and through using participatory and interactive methods. Several workshop elements were built on previous Shemakes activities from Phase 1, including the 'star exercise'.</p> <p>The workshop started with an introductory talk about Shemakes, followed by the Star exercise including questions about gender (in)equality concepts within the textile industry. Following on, three speakers from across the sector were invited to tell their inspirational stories and their personal/work gender experiences. The workshop concluded with one hour of small group tasks in order to map reflections, ideas, and experiences related to the topic. This focussed on observations, barriers, ideas, and visions. The aim of this task was to understand personal understandings of the gender gap that could help paint a clearer picture around shared gender issues within the textile industries in the UK as well as within a large educational creative institution.</p>
Date & Location	<p>The activity took place in the afternoon of 6 April 2022 in the communal workshop room of the Centre for Circular Design at Chelsea College of Arts, University of the Arts London.</p>

Participants & Reach	In total 12 participants took part in the workshop, all identified as women with different positions within the textile and innovation sector, varying from senior lecturers and associate dean's to leading female entrepreneurs and textile artists and designers. The majority of the group (around 80%) had a direct link with the University of the Arts London, either current staff, having studied, or still studying.
Outcomes & Key Learnings	<p><i>Outcomes:</i></p> <ul style="list-style-type: none"> • Overall, it was noted that people were very keen to share their stories and for the first time openly speak to others in the same field about this topic explicitly. • Participants were relieved and excited to have this new network to act upon issues of gender within the sector • Gender Gap being a large topic, struggling where to start • Giving other females ideas and inspiration on how to tackle certain gender issues in the workplace. • The opportunities that digital and remote working has given females <p><i>Key Learnings:</i></p> <ul style="list-style-type: none"> • Ability to share stories amongst peers and like-minded professionals • Stimulating interactivity through multi method exercises • Networking • Being inspired and motivated to continue the conversation <p><i>To improve</i></p> <ul style="list-style-type: none"> • More structure or guidance needed for final workshop elements • Workshop could have been longer • There was no immediate second iteration or follow-up activity which participants would have liked • Organise not within school holidays.
Reflections on the Lab's capability	The role of the Transfer Lab CCD was to lead the workshop, by designing, developing, and delivering the workshop content, schedule and workshop. Furthermore, CCD organised participant sign ups, room allocation and materials and the hiring of a photographer.
Reflections on the Ambassador's contribution	The role of Marilena Georgantzi was to help assist the workshop by overseeing the event, taking notes, as well as stimulating discussions and debates during the workshop sessions.
Gender Vision Findings	<p>Inspiring - This workshop was highly inspiring through the presentations that were held by three different speakers, where they shared their practice, but also their connection to gender related stories.</p> <p>Empowering - the "star game" and the final workshop session empowered the women to speak up and share their stories, give each other advice and ideas on how to move forward, and enable the idea of becoming leaders in the field.</p>



REDU: The “Gender gap @Past tense?” Interview

Inspired by WAAG’s phase 1 event, *Panel discussion – Woman in Fashion: paving the way for female entrepreneurs*, we have produced this activity in the form of a filmed interview to be uploaded to the REDU and Shemakes online channels. This event was part of the local *Romanian Creative Week*⁸ festival, whose visibility made it possible for us to get in touch with women designers working in Romania, Moldova, and the Netherlands, a good opportunity to get a glimpse of the career paths of women in the textile industry in cultures other than Romania.

Observing the impact of the community engagement events, both REDU’s and the other Labs involved in this task, we realised how powerful it is for women to empathise, empower, and relate to each other’s experiences. During the REDU event on 4th September 2021 *Reducing gender gap – Creating a community*, the team witnessed and moderated this kind of debate and envisaged doing it again, this time with the aim of further inspiring women not only in Textiles & Clothing, as the challenges and injustices that women go through seem to be the same in other fields.



Figure 11. Filming the “Gender gap @Past tense?” interview.

Table 8. REDU’s “Gender gap @Past tense?” interview.

Goals & Format	The objective was to discuss the gender gap topic through the perspectives and experiences of 5 successful women in the Textile industry in order to motivate other women to move forward in their careers and to report the inequities.
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⁸ [Romanian Creative Week web page](#)

Date & Location	The event took place on 28 May at FAR-cowork & coffee in Iași
Participants & Reach	5 women participated in the interview/talk. There will also be an online reach after the video will be posted in July.
Outcomes & Key Learnings	<p>While presenting the successful stories of 5 women in the textile and clothing industry to the general public, we discovered not only the beautiful side of being successful in a field but also the dark side, the one related to inequities and abuses that happen in garment factories, and what could be the ways to take action aiming for positive change.</p> <p>Nowadays, success is only characterised by achievements and is very marketable in a way. A lot of success stories omit the setbacks, the failures, the moments when you want to give up. In reality, behind the success are all these moments and it is by bringing them to the public's attention that we find it most empowering.</p> <p>The problems faced by women in the Textile and Clothing Industry are not directly proportional to a country's low standard of living – it happens in both developed and less developed countries.</p> <p>The importance of the presence of activists and NGOs who, through their involvement and campaigns, are the link between policy makers and civil society.</p>
Reflections on the Lab's capability & the Ambassador	Creating a safe space, encouraging honesty and openness bring new perspectives – no matter how well-planned a discussion is, and the topics planned to be reached, there is a possibility that the discussion will reach new dimensions, unexpected but which are highly relevant.
Gender Vision findings	<p>Empowering – Through the power of example and motivation shown by the participating women. By raising awareness and encouraging other women to highlight both the inequalities and the good examples/practices they faced throughout their careers.</p> <p>Inspiring – By showing and exemplifying that it is possible to overcome inequity in the garment sector and that they are an active voice standing up for women in the garment industry.</p>

Documenting & reporting on *new* activities

Table 9. New activities carried out by Transfer Labs

Lab	Title and short description	Link to new Open Toolkit entry
Viva Lab	World Café – Bridging the Gender Gap – fostering a deeper conversation on gender gap with community members	http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/CO-



Lab	Title and short description	Link to new Open Toolkit entry
	from different backgrounds and age groups; coming up with potential solutions and/or different points of view to be shared with the Shemakes and EU community.	CREATION-ACTIVITIES/
CCD	GENDER FUTURES - A speculative design workshop which aims to raise awareness on gender biases and empower self-expression and personal vision.	http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/CO-CREATION-ACTIVITIES/
VIVA Lab	Textile Festival - 2-day event that sought to empower and create links with the local textile community	http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/CO-CREATION-ACTIVITIES/
DECODE	Future Women Innovators - A 2-and-a-half-hour workshop that aims to map the potential gender challenges for future women	http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Community-Activities/CO-CREATION-ACTIVITIES/

VIVA Lab: World Cafe Event

VIVA Lab implemented a new activity at the Shemakes initiative to foster a deeper conversation on the gender gap with community members from different backgrounds and age groups coming up with potential solutions and/or different points of view to be shared with the Shemakes and EU community.

The methodology implemented was the World Café, a simple, effective, and flexible format for hosting large group dialogue, drawing on seven integrated design principles⁹:

- Clarify the context
- Create Hospitable space
- Explore questions that matter
- Encourage everyone's contribution
- Connect diverse perspectives
- Listen together for Patterns and Insights

⁹ [The World Cafe design principles](#)



- Share collective discoveries

Out of the 25 questions addressed by the participants, the following 3 have been selected for in-depth discussion and reflection:

- “What would a society with gender equality look like?”
- “Why do we have more men in management positions or as CEOs?”
- “Are we so used to inequality that we do not realise it exists?”



Figure 12. VIVA Lab World Café participants connecting perspectives with their own contribution.

Table 10. The VIVA Lab World Café.

Goals & Format	<p>Consulting community members through a World Café format, drawing on seven integrated Design principles</p> <p>Through the World Café our Goals were:</p> <ul style="list-style-type: none"> • 25 key questions pointed out by the participants surrounding the gender gap at the beginning of the activity. • Discuss key questions on gender gap. • Create action suggestions towards those questions. • Create a friendly discussion environment that invited community members with different backgrounds and age groups.
Date & Location	The world café took place on 5 March 2022 at VIVA Lab – Porto, Portugal.
Participants & Reach	15 participants ranging from 18–55 years old, all women.

<p>Outcomes & Key Learnings</p>	<p>Out of the 25 questions addressed by the participants, the following 3 were selected for in-depth discussion and reflection:</p> <p><i>"What would a society with gender equality look like?"</i></p> <p>A gender-neutral society is the one where there is no gender mainstreaming. We do not assume that someone is female because they are female. In this society, we can raise our children in a gender-neutral way without imposing a gender and where we all have the same duties when it comes to raising children and getting a certain job.</p> <p>Often "success" in a woman's life is deemed to be getting married and having children; whereas in a man's life it is having financial stability to support his family. Consequently, why is the definition of "success" imposed on women without taking into consideration the situations where women do not want to have children. Furthermore, in the Portuguese culture, there is a tendency to stereotype women as "inadequate" when they have not started a family after a certain age (30+).</p> <p>As a society we need to improve our communication and have respect for everyone's nature. A good start towards achieving this would be to observe, signal, and eliminate gender stereotypes from the youngest age through awareness rising on such issue in schools but also with the parents. In most cases the family provides education for equity; but how can we approach the elders who still seem to perpetuate inequality.</p> <p>A society in which brands follow an unwritten law in which marketing and design have to be neutral.</p> <p>A society without the topic of power, where women have difficulties "embracing" their masculine side and men have a fear of embracing their feminine side, and even the fear of women being more capable.</p> <p><i>"Why do we have more men in management positions or as CEOs?"</i></p> <p>"Women are the families' CEO", are preconceptions in Portuguese culture that tell us that women are always good with children. For a woman to take on a top position may lead her to feel that she will put her children in second place or end up losing the race to the top for childcare. It is easier for those who have a better financial situation to organise help to take care of their children.</p> <p>It is easier for women to take positions in educational settings. In school environments, class delegates with leadership roles, are girls/young women. Participants suggested two possible reasons: either girls are more responsible, or this kind of activity and responsibility-taking is not attractive to boys. Should we keep making definitions about women's work and men's work?</p> <p>Women are afraid to take these positions because they are under scrutiny and always have to prove themselves. It is often taught that women are not capable of holding those positions and so they do not have the courage to get ahead. Even though we can see an increase in the new generation women who are starting more actions to get to the top positions, we can still see that in the generational transitions of companies, preference is given to the son (male).</p> <p><i>"Are we so used to inequality that we do not realise it exists?"</i></p>
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	<p>In the Portuguese society, education and religion establish gender roles, family, and society culture; uniformity vs. diversity; you are not given many options outside their settings.</p> <p>Discussion about implicit bias and the definition of normality and habits. Does habit come from action, or do we become conformed to what we cannot change? It seems, from the participant perception, that some women choose a subservient position.</p> <p>From generation to generation, we change things and in the end it all comes down to enabling change starting at a personal level.</p> <p>Everyone sees inequality but it is in the interest of many men to maintain this inequality; misinformation, training, and competition; capitalism is masculine; power = a man; provider versus caregiver; it is more important to provide than to care; problem of values?; everything leads to money and a big income.</p> <p>The debate around these 3 main themes led to the 3 policy suggestions below:</p> <ul style="list-style-type: none"> ● Decrease inequality in products & marketing with the aim of creating gender equality bridges. Ex. razor blades for women are more expensive than for men. ● Many women in Portugal are still financially dependent on their husbands. If women are more aware of their rights, and how to be financially independent, it will allow them to have better salaries and consequently financial freedom. Increase financial literacy in schools in order to create greater financial stability within the family and within both genders decreasing the gender gap. ● The Porto City Council organises monthly general assemblies open to the public so that citizens can intervene and co-create solutions and policies to the city's problems and its citizens. Having this in mind the participants in the world café suggested taking some of the ideas that emerged from the conversation to the Porto City Council assembly, fostering citizen co-creation of solutions to local city policies.
<p>Reflection on Lab's capability and the Ambassador's contribution</p>	<p>At VIVA Lab we seek to Inspire people to learn and innovate through making, so that together we change our world for the better. Our role as a Lab during the Shemakes activities was to create collaborative environments that fostered equality and empower community members to take action towards local problems.</p>
<p>Gender Vision findings</p>	<p>With the World Café we are trying to formulate the common perspective on the gender gap by empowering women through a collaborative approach towards discussing common problems, and to come up with guidelines & inspiration for the labs to become an enabling environment for promoting equality towards women.</p> <p>Inspiring - Seeing the engagement of all participants and the will to create change</p> <p>Collaborative - To see how all participants agreed to work collaboratively and how everyone sought to provide input from each other's perspectives</p>



Equity – There are still too many gender inequalities in Portugal, we still have to work hard to overcome them

Empowering – Discussing gender inequalities opens up space for greater acceptance of gender differences

Centre for Circular Design (CCD): Gender Futures Workshop

Gender Futures is a 3-hour speculative design workshop which aims to raise awareness on gender biases and empower self-expression and personal vision. In the past, specific clothes could guide one to distinguish social stratification, material availability, cultural customs, and, of course, gender. Clothing can be perceived as a system in our world which feels very well grounded. *How could rethinking on gender preconceptions influence the creation of new forms of armour?*

During “Gender Futures” participants will take part in a thought experiment on gender identities, propose fashions that respond to this imaginary world, and reveal the importance of design as a tool for world making and self-expression.



Figure 13. The CCD Gender Futures workshop led by Shemakes Ambassador Marilena Georgantzi.

Table 11. CCD’s Gender Futures workshop.

Goals & Format	This workshop was aimed to raise awareness on gender biases and empower self-expression and personal vision, to empower femininities to express their visions and to open up the discussion on the system of clothing. The chosen format was a three-hour long workshop inviting a small group of students to encourage self-expression, foster discussion and create new ideas around gender futures.
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	<p>The workshop started with an introductory lecture to the concepts of storytelling, speculative design, world building, 'what if' and gender. Through examples that principally got their attention and addressed questions the team engaged into an open discussion on these topics while defining the scenarios they worked on the next session. During the second part of the workshop, students were tasked with a personal design assignment, based on the created 'What IF' scenarios, to design speculative future clothing and scenario concepts. Participants created these scenarios through drawings and stories that challenge preconceptions on gender. They designed liberating clothes or concepts of space that would manifest new identities and body properties.</p>
Date & Location	<p>The activity took place on the morning of 31 March 2022 in the communal workshop room of the Centre for Circular Design at Chelsea College of Arts, University of the Arts London</p>
Participants & Reach	<p>In total 7 participants joined the workshop, all identified as women, students of the Graduate Diploma of Textile Design course at Chelsea College, UAL. Their background varied from fashion studies to textile and industrial design. A varied group with different nationalities.</p>
Outcomes & Key Learnings	<p>Outcomes: Overall students created expressive and creative ideas around new identities and clothing. Despite initially struggling or being doubtful, many different ideas were presented. Key outcomes and themes included:</p> <ul style="list-style-type: none"> • Creating a gender vision that is less rigid, static, and categorised, more fluid and organic. • A need for changing systems. • Gender to be defined by people not by policymakers. <p>Key Learnings:</p> <ul style="list-style-type: none"> • Learning about new concepts including world building, speculative design, and gender. • Ability to share personal experiences around the theme of gender. • Exchange ideas peer-to-peer. • Learning new methods through using 'What IF' questions. • Feeling inspired and excited. • Stimulating confidence; ability to share openly about gender topics within a small group. <p>To improve</p> <ul style="list-style-type: none"> • The workshop could have lasted longer to delve deeper into the subjects.
Reflection on Lab's capability	<p>The role of the Transfer Lab CCD, meant to support and assist the workshop, by organising participant sign ups, room allocation and materials, and taking photographs. CCD further assisted in overseeing the workshop as well as stimulating discussions and debates.</p>
Reflection on the	<p>The role of the ambassador was to lead the workshop, by designing, developing, and delivering the workshop content, schedule, and worksheets.</p>



Ambassador's contribution

Gender Vision findings **Inspiring** - It inspired young women to think through new methods and ways of thinking about gender in their practice. It inspired them to use some of the methods and topics in their own work in the future.
Empowering - It empowered young women in thinking how they have the potential to become leaders in the field of textile and clothing industry.

VIVA Lab: Textile Festival

As seen by the Shemakes Labs, the community engagement serves **as a platform for people to meet, learn, enable themselves and others, by using labs as launching platforms to discover more and explore more alternatives for positive change** serving its territory and population needs.

Having this in mind VIVA Lab launched a Textile Festival, a 2-day event that sought to empower and create links with the local textile community with the Shemakes Lab, ending with a full day visit to Covilhã, once Portugal's main producer of wool, now a hub for innovation and experimentation in the wool sector.

During the 2 days VIVA Lab had the following activities, which we chose to do by taking participants through both WP3 and hands on activities that are found in WP2 (that are detailed in deliverable 2.3), as follows:

1. **Visit to Covilhã Creative City of Design by UNESCO**
 - a. Visit to New Hand Lab¹⁰
 - b. Visit to the Wool Museum¹¹
 - c. Workshop in the Museum on natural dyes & carding wool
2. **Day of Textile Workshops at VIVA Lab (WP2) :**
 - a. E-Monsters Textile Electronics workshop
 - b. Laser Cut Tote Bag workshop
 - c. Sanded my Tote Bag workshop

We decided to combine activities during the two days in order to create a greater connection between participants. Thus, although only one day of the textile festival was dedicated to the Community engagement task, by connecting the community with the pathway of curiosity, we felt that we managed to enhance both.

¹⁰ [New Hand Lab - Covilha, Portugal](#)

¹¹ [Wool museum - Covilha, Portugal](#)



This activity was important as a means to serve our territory and sharing cultural heritage of key techniques to the community that can serve as a basis to create innovation by bridging traditional techniques with digital fabrication.

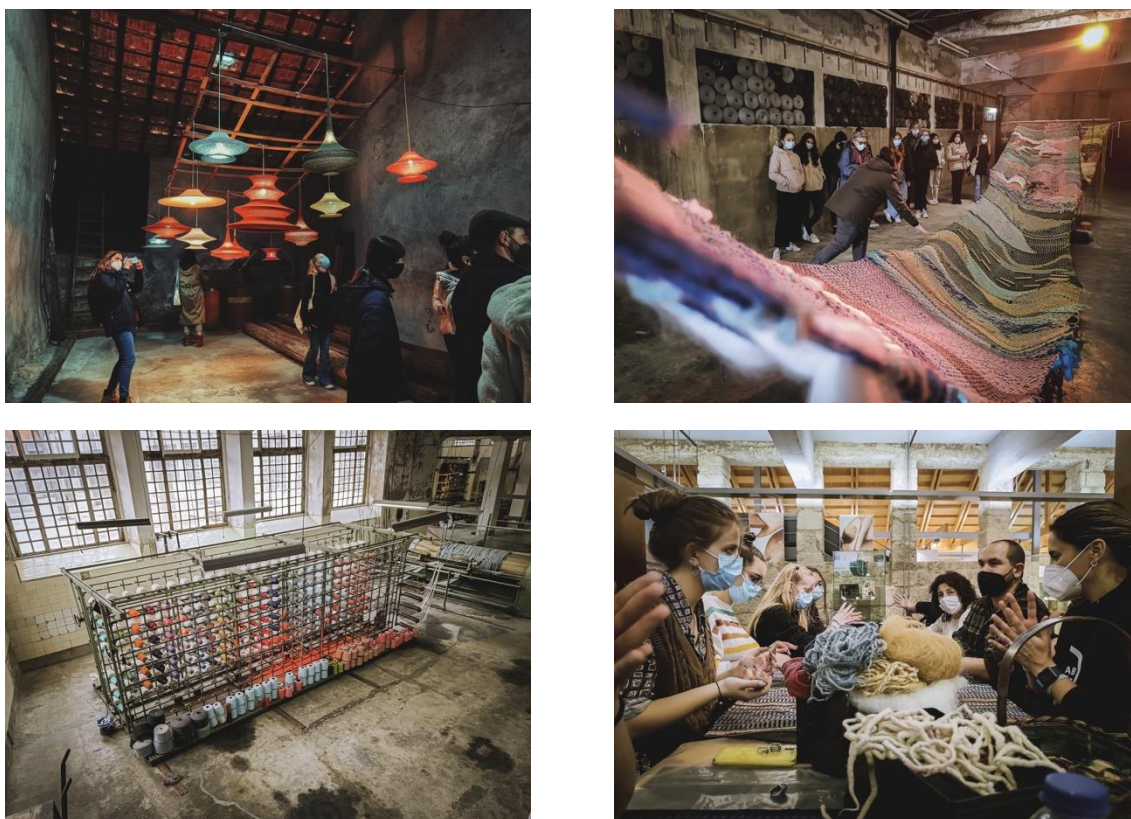


Figure 14. Workshop in the Museum of natural dyes & carding wool at the VIVA Lab Textile Festival.

Table 12. The VIVA Lab Textile Festival.

Goals & Format	<p>Showcasing the local community, the cultural heritage as a means of inspiration & how we can appropriate it to create bridges of collaboration that can empower local businesses.</p> <p>Our main goal with the textile festival was to create an inspirational and collaborative environment around the textile industry seeking to empower women towards a new innovation mindset in the sector, bridging traditional techniques with digital fabrication.</p>
Date & Location	<p>The first day of the Textile Festival happened on 7 April in VIVA Lab with a series of workshops and ended on 8 April with a visit to Covilhã, UNESCO's Creative City of Design & Center of wool production.</p>
Participants & Reach	<p>Out of 24 participants, 22 were women and 2 were men</p>
Outcomes & Key Learnings	<p>The Covilha's context</p> <ul style="list-style-type: none"> • Portugal has a rich wool technique heritage

- Covilhã is an inviting city welcoming makers that seek to experiment with new techniques
- There is not much information available for makers that are seeking to learn more about these techniques
- There is a big business opportunity for women that are innovating in this sector

The community engagement outcomes

- VIVA Lab is looking to further deepen the collaboration with Covilha where there is a lot of potential to create an exchange of female makers that are seeking to innovate in the sector. It is our role as an education, design, and social innovation lab to showcase hidden gems within our country to the community.

Through this day of activities, we aimed to create closer links between the different stakeholders by enabling each to experience the other's points of view. This kind of closer relationship brings with it the possibility of creating business opportunities and networking.

Gender Vision findings	<p>Collaborative – women already have a strong sense of community but through these activities we have given a voice to that potential by connecting the different stakeholders in the wool and textiles sector</p> <p>Empowering – by being with other women from different areas but with common goals, the participants feel they can go further and be more entrepreneurial.</p>
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DECODE Fablab: Future Women Innovators

This was a 2-and-a-half-hour activity including a presentation of the Shemakes network and a workshop for the selected participants to map out the challenges that current and future women face in each sector regarding education, technology, and innovation, followed by a conversation on key findings and networking.

Participants were encouraged to sit in one of the three tables (education, technology, business) depending on how they identify their professional field. After being introduced to each other they were asked whether they think they see or experience some form of gender bias in their field.

After they all agreed that gender bias is identified and that we need to discuss it and something about it, there were 2 steps:

1. We presented 4 questions and their possible answers on 4 acrylic sheets. As in the “star exercise” participants had to stand up and vote with a sticky dot for the answer that was closer to their belief. Then we discussed the results. The questions were selected from previous community engagement co-creation activities by REDU¹² and WAAG¹³ in

¹² [REDU - 3.2 Community Activity, REDUcing the Gender gap. Creating a community, Open Toolkit page](#)

¹³ [WAAG - 3.2 Community Activity, SHemakes community gathering: co-creating a gender vision, Open Toolkit page](#)



the previous phase

2. The lab presented another 4 questions that ignited conversations between the participants in each table (facilitators helped there) and then the table's answers were collected on post-it notes.

- What are the challenges right now in your organisation regarding gender equality?
- Is there an action you could do to reduce the gender gap in your organisation?
- How would you want the gender situation to be in 5 years?
- What would be your advice today to the women of the future?

The participants were asked to check the similarities and differences in the answers both on the acrylic sheets and the post it notes, and to discuss them with each other. Decode Lab drew from the World Cafe format as the participants from each table got to mingle and discuss. The facilitators were going around encouraging conversation and noting anything interesting.

The third step was a follow up email two days after, to connect everyone who was happy to share their contact details with the rest of the group, to thank them and to let them know there would be an event with the results of Shemakes and a session regarding specific matters that were raised in the discussions.



Figure 15. Participants comparing notes at the DECODE workshop on Future Women Innovators.

Table 13. The DECODE workshop on Future Women Innovators.

Goals & Format	Consulting a local community of education, business and technology-oriented professionals towards the challenge that current women face in their above workplaces and the future women challenges.
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	The aim of the workshop was to bring together people whose profession and experience in the workplace, would give insights on the local situation as an indicator on where to act upon.
Date & Location	15 June, Impact Hub, Athens, Greece
Participants & Reach	In total, 18 people participated, 15 women and 3 men, from different positions and fields: education, technology, and business following the quadruple helix framework.
Outcomes & Key Learnings	<p><i>Reaching an active and engaged community in Athens.</i></p> <p>We had initially invited women from the textile and clothing industry in Greece, who use technology in their process. First, it was hard to find these kinds of professional people in Athens, despite being the capital of Greece. We did manage to find 25 women. From these 25, only 10 responded positively to the event. We realised that this was not a good number for a workshop, considering last minute dropouts and the effort and expenses to run the event, we decided to postpone the event and to open it up to a broader audience, which in Athens is more responsive to such challenges: women and innovation. We invited 50 people from different fields of education, technology and business following the quadruple helix framework.</p> <p><i>Workshop results:</i></p> <ul style="list-style-type: none"> • The common belief is that in Greece, women are not given the same opportunities as men to contribute to a more sustainable future for the communities they belong to. • In Greece, women do not have equal opportunity as men in relation to the access to managerial positions. • The spirit of innovation is stimulated in society for men and not for women (through non-formal education that is taking place outside schools or universities degrees, i.e., lifelong learning, etc). • Women should be able to feel comfortable to speak up in order to reduce the gender gap in their organisations. After having identified any gender bias they need to discuss it with their teams and see whether there can be a change or improvement. • During the workshop the participants recommended that such workshops should be held in organisations for males in higher positions to understand the difference and for women to claim managerial positions or at least the right for 50-50 positions (male and female). • The main concern all tables agree on, is maternity and maternity leave. The country does not have a fair approach on the matter. Legislation does not support future mother freelancers and the employers do not know how to deal with the situation. • Future women have to be taught now, in schools, their autonomous rights in the society as well as entrepreneurial values and how to obtain this mindset.



Reflection on the Lab's capability	Our role was to design and lead the community engagement workshop. We designed the format of the workshop, schedule, and content as well as the way it would be presented. We collaborated with Impact Hub Athens for the workshop's space and sign-ups as well as for providing the refreshments. There was no ambassador for Decode Fab Lab for the Community engagement section of the project, but we got good feedback from REDU while planning our workshop.
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Gender Vision findings	Empowering – In an informal discussion we had with the participants, we gathered that the fact that a group of people met and shared similar insights, concerns and hopes for future women, empowered them.
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2.3. Model adaptation based on learnings of Phase 2

In previous deliverables we mentioned that when it comes to community building, exact formulas exist up to a point. Indeed, the ideal formula for the starting conversation and engaging a Shemakes community lies in the *Quadruple Helix framework*: business, academia, civil society, and government/public administration, even though bringing together actors from all 4 areas at a table or in an event/meeting can be a challenge.

From the experience of the core labs in the first two phases, but also from the experience of the 4 Transfer Labs in the phase 2 of activities, it is noticeable that there is one sector that is more difficult to mobilise than the other three, namely Government/Public Administration versus Civil Society, Academia, and Business.

The ecosystem, scope of activity, longevity, and existing community around the Lab significantly influences the stakeholder group structure of community events in Phase 2 – for example the Centre for Circular Design is clearly related to academia (University of Arts London) and their influence on policy recommendations, and RogLab to the City of Ljubljana (the Rog Centre project being one of their biggest cultural investments). The two labs are well positioned to engage key players from all 4 “helices” compared to Decode or Viva Lab, whose community is more oriented towards civil society and business.

A key approach that has been replicated from Phase 1 in Phase 2 activities is **exploration of local key issues**. In order to get a clearer picture of their local community's mindset and how they can act appropriately to generate positive change, the Labs have addressed one or two of these three methods:

- **Star Exercise** – Adapted from Waag;¹⁴

¹⁴ [Link to Shemakes Shemakes Open Toolkit –Star exercise guidelines](#)



- **Questionnaire** – On identifying the general perception/opinion regarding gender gap in STEM/ Textile & Garment Industry¹⁵
- **Gender Equality Plan** – to be developed as a first step towards creating an inclusive, enabling, and empowering work environment.¹⁶

Two of them can be seen as tools: the Star Exercise, a qualitative one and the Questionnaire, a quantitative one, both requiring reflection and analysis. The information gained from the two types of surveys above sets a context on which to intervene with improvements made, for example, through a gender equality plan.

New learnings and insights on Community engagement emerged from Phase 2 for the next phase of the Shemakes Labs:

- Quadruple helix is the framework with which we start to map potential stakeholders. Even if we cannot find representatives from all 4 areas at the beginning of the community mapping, trying to identify them is a process that itself contributes to community engagement.
- Whatever the format of the activity to be undertaken, whether NEW or EXISTING, it is advisable to set an open attitude, even if an agenda with all the steps and content is developed beforehand, one is not 100% in control of how things will unfold in reality. Furthermore, we can extend the time allocated to the activities as the participants also manifested a willingness to pursue the conversations regarding personal experiences.
- Even though we are in the post-pandemic period, where things are slowly starting to return to a certain normality similar to pre-2020, getting positive responses to invitations for activities/events is still difficult. As a first “solution”, we could try to extend invitations to a larger number of people than we have planned.

2.4. Steps towards the final model & tools

The Phase 2 activities also followed the path identified by Core Labs (WAAG, MAKESENSE and REDU) in Phase 2, namely, to act in small steps: engage – verify – draw conclusions – adapt to emerging needs – improve and test again. Transfer labs passed all their activities through all the steps mentioned above so that in the next phase, other Transfer Labs will pass activities through more precise lenses and test again before passing them on.

¹⁵ [Link to REDU's Questionnaire on identifying the general perception/opinion regarding Gender gap in STEM/Textiles and Clothing Industry](#)

¹⁶ [Link to REDU's Work in Progress Gender Equality Plan](#)



As an example, we can bring in the Gender Equality Plan developed by Roglab for the Rog Centre, which brings forward a new element to be addressed: **Diversity**. This means that we must face the fact that all employees deserve a safe and supportive working climate in which to operate, whatever environments and contexts. A place where they can develop professionally, have a voice, and have a means to share that voice.

More generally, the Shemakes Open toolkit ensures that ongoing progress can be developed and shared in a developmental way. One of the Shemakes work programme challenges addressed in the DoA was to break down gender stereotypes, especially in the field of innovation and entrepreneurship, and develop a smart, sustainable, and inclusive innovation ecosystem. As mentioned in D3.1 and D3.2, closing the gender gap is a long-term process, estimated to take 135.6 years, according to the *World Economic Forum's 2021, Global Gender Gap Report*¹⁷. A discouraging conclusion that we must accept, but to which we choose not to be indifferent.

Across all the activities carried out in the Shemakes project, regardless of the type or work package, we can affirm that we have succeeded in laying the foundations for lasting communities that are more aware, more empowered and have great potential to contribute to closing the gender gap in the medium and long term.

It has been remarked in this phase how the types of activities have branched out and how the methods explored by Transfer Labs are diverse. The community can be engaged by sharing personal experiences and/or by identifying and involving key industry players in developing and implementing new, inclusive, and diverse ways of working, as well as exploring hands on the tradition and default bias of clothing stereotypes.

¹⁷ [World Economic Forum's 2021, Global Gender Gap Report](#)



3. LAB-TO-LAB RESEARCH

3.1. Recap D3.1 + D3.2 & SUMMARY D3.3

Lab-to-Lab research projects have been defined as open and collaborative playgrounds for labs, their local communities and research ecosystems to take time to dig into a topic of interest, exploring it in a multi-faceted way and doing action-research, design-led research, collective making and reflecting.

For Shemakes, the methodology developed in the Bioshades project has been selected as an inspiration and customised to fit with the timeframe and the ambition of the project. It initially consists of nine steps, starting from defining a research agenda, creating a team, first phase of in-depth research and knowledge exchange, the formulation of an event, an open call for labs, the preparation and development of the local and global event and a time for conclusion and evaluation.

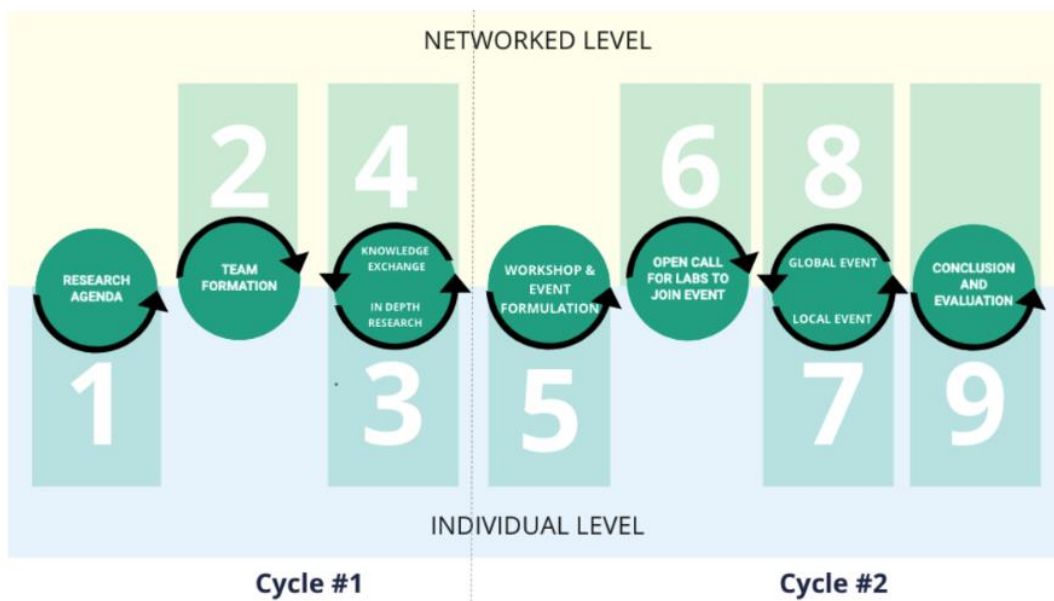


Figure 16. Research methodology for the Lab-to-Lab research of Task 3.3.

In Phase 1, three labs (WAAG; IAAC; REDU) have been working on the definition and the realisation of the project. After envisioning a series of relevant topics, it has been decided to work in a systematic manner on the wool topic. Three lab-to-lab projects were created, respectively focusing on (1) Wool Ecosystems (PLACE), (2) Natural dyeing and colouring



(DESIGN), (3) Open-Source Tools (MAKE). At that time, each lab developed their own investigations and regularly shared their insights, findings, and methods through online meetings.

After Phase 1, an effort for synthesising and documenting was done. In the Shemakes Open Toolkit, one introduction page was introducing the wool topic and the three working projects.

When Phase 2 started, the task leader (IAAC) supported by the two other core labs (WAAG and REDU) onboarded 4 new labs: the FarmLab (Austria), the Centre for Circular Design (UK), the Icelandic Textile Centre (Iceland) and Green Fabric (Belgium). Then, each lab planned and developed their own investigation and fed the three Lab-to-Lab projects according to the focus they chose and their own local environment and research process. In parallel, Labs have been formalising and planning an original series of hybrid distributed events entitled the Wool Mondays. Wool Mondays happened in May, on the 2nd, 16th and 23rd, each date dedicated to one of the wool research projects with global online and local onsite events in the Shemakes labs.

This section D3.3 on Lab-to-Lab research will firstly present the new labs involved in the project and their respective motivations. Then, the new contributions to each of the three projects will be presented, followed by the description of the Wool Mondays (from planning, development to results). Finally, reflections at different scales will be proposed to best capitalise the knowledge created from the recent activities.

3.2. Lab's onboarding

Participating labs

The Lab-to-Lab projects were consolidated by the core partner labs initially engaged in the activities (IAAC, WAAG and REDU). ONLFAIT and LEON Core Labs joined the projects with local contributions. In addition, 4 Transfer Labs officially joined the task: Farmlab, Centre for Circular Design, the Icelandic Textile Centre and the Green Fabric. During the activities other labs could contribute occasionally since the Lab-to-Lab Research projects were open for all the labs to join. Various labs expressed their interest in the topics and integrated the wool topic in their other WP2 and WP3 activities. For instance, the Decode Lab organised a local wool activity, Lottozero gave testimonies of their expertise in Italy, TPL supported one entrepreneur who partly used wool and wool machines or VIVALAB did local visits of Covilha and helped mapping the wool ecosystems in Portugal.



Onboarding and support

During the first two months of the lab-to-lab project, the onboarding occurred in parallel with all the Shemakes tasks and consortium: it consisted in giving a general presentation of the project with access to the writing content via the Shemakes toolkit and the drive, then each lab could use the set of design tools with a space in the Miro, to support the planning of their own journey. (See examples in the figures below).



Figure 17. Example of onboarding tool results: Inspiration Map by Farmlab.

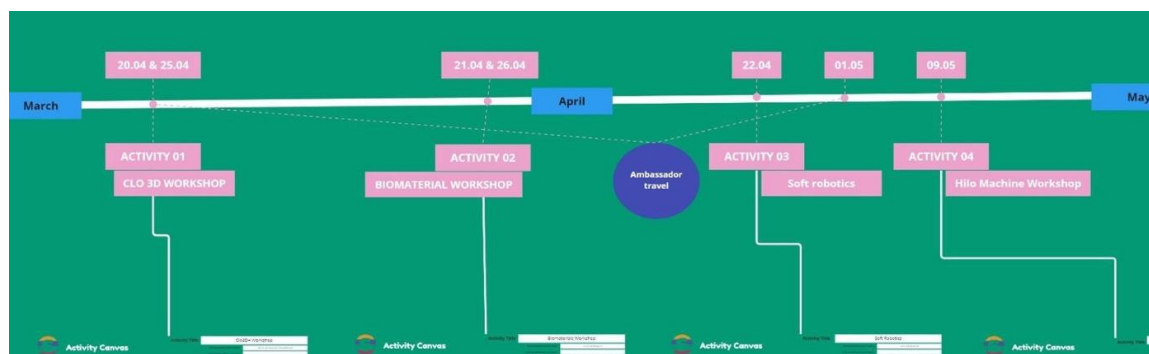


Figure 18. Example of onboarding tool results: Roadmap by Icelandic Centre.

Individual meetings also happened on demand to better frame the individual activities and foster knowledge exchange.

3.3. Research and Development process (Step 3-4)

Place

The “PLACE” project is looking for a better understanding of local dynamics and challenges regarding the processes of wool, from sheep to fabric, mapping and bringing together the local existing ecosystems, its key actors, and stakeholders to strengthen the networks and promote locally productive territories, while observing the situations of women and their potential for innovation.

The main contributions

The contribution of the place group consisted in the development of an open source Wool Ecosystem Map, a template for the labs to start conducting the desktop research around the local wool heritage, native breeds, current state of wool industry and local innovative projects and a series of co-creation tools to foster local interactions on the topic.

The Wool Ecosystem Map

The wool ecosystem map aimed at identifying and placing wool stakeholders in a geographical map to best identify local communities, specific expertise and projects. It is a google map accessible on Shemakes Open Toolkit¹⁸. After the activities of Phase 1, the initial mapping was revised. An effort was done to improve the categorisation of stakeholders. The contribution rights were open to all Shemakes Labs. In addition, the choice of Google Maps was done due to its user friendly environment, the fact that the labs were familiar with it, and the future sustainability of the project. This will ensure project after-life editability and further possible development by and with potential future stakeholders. Contributions from all the core and Transfer Labs participating in the events. A record of 1640 views of the map with 182 entities mapped out. (On 25.06.2022)

¹⁸ https://www.google.com/maps/d/u/0/edit?mid=1llc4hMupb2i_let0QvDzaomeQShprSL-



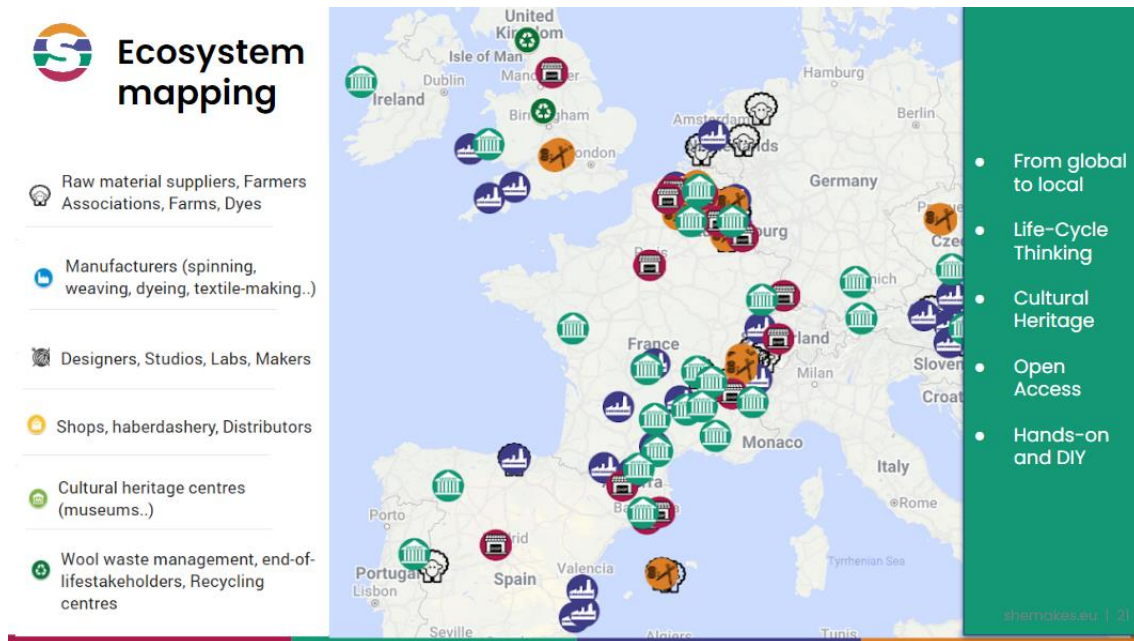


Figure 19. Screenshot of the Wool Ecosystem Map.

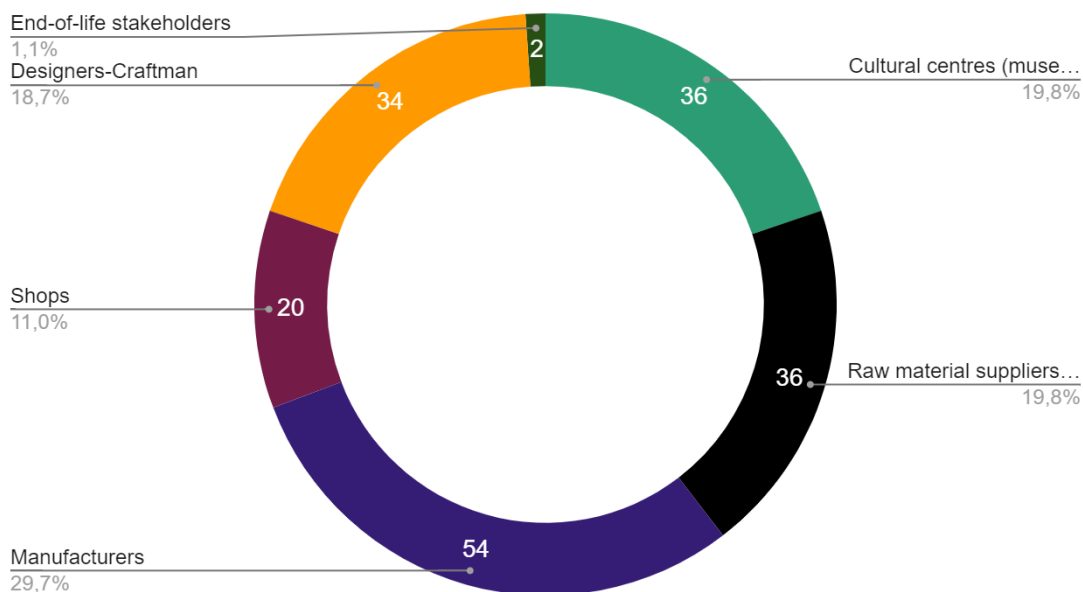


Figure 20. Current distribution of stakeholders in the Wool Ecosystem Map.

Strategies for improvement were discussed:

- How to benefit from existing research? During our research we discovered other initiatives that have mapped wool value chains, in Spain, Slovakia, Holland and a region of France, and from the EWE foundation and we discussed what would be the best strategy to integrate this map with other maps coming from other stakeholders. These initiatives are being mentioned in the Shemakes Open Toolkit.

- How to expand outside Europe? During the Wool Mondays' ecosystem mapping day we received attendance from the international extended Fabricademy community, including participants outside Europe. These contributions raise the question of expanding the map to the global wool ecosystem, rather than keeping a euro-centric focus.
- How to show the level of proximity and engagement with Shemakes Labs? Would it be relevant to add a Shemakes icon on Shemakes labs and showcase innovation projects conducted in the Labs?
- How extensive and detailed do we want this map? Would it be relevant and feasible to add information about gender for each mapped organisation? Or to link toward good practices (women stories...)?

Local diaries: a template for local context description.

To facilitate the onboarding of the Transfer Labs in the PLACE research, the template realised in Phase 1 was shared as a source for framing and reporting their current context investigations.

A set of co-creation tools to work locally with stakeholders.

Co-creation with stakeholders is the best way to improve knowledge and create synergies, identify, and ideate around opportunities. Labs have been gathering a set of co-creation approaches and experiment some of them during the distributed event. The main co-creation phase experiment remained the first one of "context analysis".

Here are the methods that were used and that will be documented:

- *Interviews and farm/industry visits onsite:* labs identified key places and people that they directly contact for organising a visit and/or an interview. By observing, taking pictures and videos, and discussing, they could build knowledge, share it, and discuss the current research.
- *Dialogues with testimonies from locals or experts.* Labs invite local wool stakeholders and create a conversation with their members around the practice of the invited speakers.
- *Collective synergy mapping.* The activity aims to map and debate around local wool initiatives and goes in 3 steps. First, labs invite participants to think about and share local initiatives; then, they complete the map with stakeholders' issues and finally they identify opportunities, gaps, and synergies.



- Following the approaches of *Emotional networking* with Wool and Experiential Characterization the Reinwardt academy¹⁹ and the researchers Camere, S., Karana, E in 2018., the activity consists in clarifying the emotions generated by wool, as concepts and artefacts. It helps to gather stories and build experiential knowledge that foster designers' creativity.
- *Collective roadmapping*: This activity aims to help labs in envisioning what they want to build together and to plan future actions.
- *Making/hands-on conversations*: This activity positions Making as a way to discover and exchange around practices. In the case of wool, it could consist of spinning, weaving, and showcasing tools and machines, with people explaining how to make/use, share their feelings, difficulties, personal stories.
- *Circular Design Team Workshop*: This workshop will be described below more in detail. It helps participants to envision future interventions of circular design by debating the compositions and roles of stakeholders through the life cycle chains.

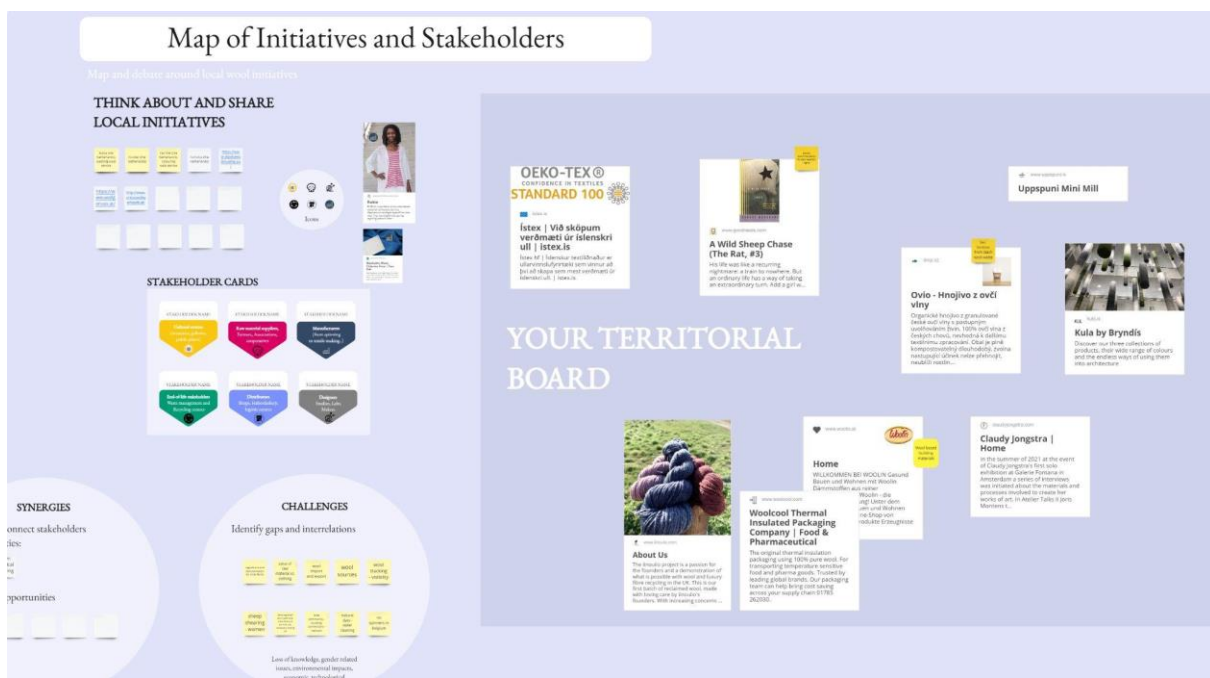


Figure 21. Example of Collective synergy mapping – Wool Place Monday.

¹⁹<https://www.reinwardt.ahk.nl/en/research-group-cultural-heritage/emotion-networking/>

The local specific contributions

Dutch context, contribution from WAAG

WAAG continued their local exploration mainly with the organisation of the Wool Mondays “PLACE” session as a live meet-up. Waag contextualised the Dutch ecosystem by mapping out some of the initiatives that are working in: connecting the different players in the wool chain and revaluing the wool produced in the country today. Researching the status and problems of local wool, the types of sheep that are native or later bred in the Netherlands – from the famous Texelaars sheep, all the way to long native breeds such as the Mergelland sheep.

The local element came back also in the second part of the program, where Waag brought to the spotlight two women researching and working on the Dutch wool domain: Sanne Muiser shared her journey from being trained and working as a researcher and designer, all the way to learning how to become a shepherd, how the two slowly combine each other into a new dimension. Sanne highlighted the role of sheep in the landscape, the eco-systemic link they play also in relation to land and (dye) plants. Mariana Anacleto shared her research about wool and spinning, as well as the deep connection wool has to women throughout history, both at a local level in the Netherlands, with examples from the women’s prison in Amsterdam where women had to spin and to a personal level to the heritage knowledge and techniques coming from Portugal, her origin country – where women spin, card, and sing together.

Where and what to look at: 2 interviews videos and a more complete mapping [here](#).²⁰

Southeast Austrian context, contributions from Farmlab

The landscape in Southeast Styria is shaped by sweet hills covered in forests, meadows, vineyards, plantations, and fields. Agriculture is small, structured and many families are running their farm on the side, having a day job in a different field. Increasingly there is a shift away from farming since even a small farm requires a certain attention and time to manage and maintain it. Some families and small farms keep small flocks of sheep or goats to maintain the grassland in their properties, and occasionally to get meat, as we used to do at the FarmLab.

The contribution of the FarmLab has been focussed in providing the perspective of a small farm on the problem of the European wool value chain, and in highlighting the possibilities of the network and of the new technologies in overcoming the contemporary challenges.

²⁰ http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Lab-to-Lab-Research/01_PLACE/01-research-Waag/



The team carried out a series of visits to the most interesting experience in wool entrepreneurship in the area, contributing to the EU wool mapping covering the Austrian context. In the first Wool Monday, about place, the Farmlab team explained the characteristics of the Southeast Austrian context, by highlighting the stories of 3 women entrepreneurs, as well as an introduction to the FarmLab's mission and facilities.

Where and what to look at: Wool Map Ecosystem, photos and videos of interviews, visits on the Farmlab and a diary [here](#)²¹.

Icelandic context, contributions from the ITC

Wool and wool production has been a part of Icelandic history since the time of the first settlers. Wool kept the nation warm and dry, and houses isolated. It was used as currency, both the raw material as well as woven and knitted products. For centuries, wool products were one of Iceland's main exports. Today, wool is considered a by-product of the meat industry. Since 1980, the number of sheep has decreased significantly, which can be largely attributed to the low price of sheep products and difficult farming conditions.

Iceland wool has outstanding breathability and thermal insulation. Over 1,100 years in the northern climate and isolation has given the Icelandic wool a distinctive characteristic. The wool is dual coated with a combination of inner and outer fibres. The soft inner fibres, pel, keeps the sheep warm and is highly isolating. It is used for soft fine wool yarns in undergarments and baby clothes. The staff at the Icelandic Textile Centre (ITC) has a lot of knowledge in traditional textiles as well as wool materials. The team has capitalised their knowledge by mapping the industry connected to wool as Studios, spinning mills, sheep farms, textile designers working with wool and museums connected to textiles. With the ambassador, Petra, ITC hosted a series of workshops open to the local wool stakeholders fostering interactions between them and adding a layer of more technical and innovative techniques coming from the knowledge of Fabricademy course.

Where and what to look at: Local context diaries and activities of the Icelandic Textile Centre [here](#)²².

Belgium context, by Green Fabric

There are 9 types of wool in Belgium. Thanks to the knowledge and know-how of the Verviétois, the city has become one of the world capitals of wool and inspired the other Belgium spaces around.

²¹ http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Lab-to-Lab-Research/01_PLACE/04-austrian/

²² http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Lab-to-Lab-Research/01_PLACE/05-icelandic_context/



The team of the Green Fabric learnt from the past and current practices of the territories and identifies around 15 stakeholders that currently process wool. To facilitate the exchange of knowledge, they organised the Rethinking Wool event, two days of lectures and workshops around Belgian wool production, on 30 April and 1 May. Rethinking Wool was a public event to rethink how to produce local wool in a society of overproduction and overconsumption. Can we reactivate local production sites in order to be autonomous? Green Fabric proposed 4 workshops: spinning, dyeing, knitting, and weaving, and 4 talks around natural dyeing, wool industry, the history of the creation of a Belgian knitting thread. In addition, they consolidate this event with their active participation in Wool Mondays and keep processing local wool with the lab's machines.

Where and what to look at: Wool Ecosystem Map. A Synthesis of the Belgium context [here](#)²³.

UK context, contributions from the Centre for Circular Design

CCD contributed research insights about wool developments in the UK, this included the use of new technologies, methods, models, and different ways of working with wool through a circular design lens. CCD shared valuable knowledge and experience on circular design research approaches and methods with the wider audience of the Shemakes network including the twelve Transfer Labs.

CCD was involved during the Wool Mondays PLACE, through contributing a presentation of the local context of wool in the UK. This presentation covered previous and current research projects using wool done by researchers from CCD as well as work by students from UAL. Additionally, an overview of key players using wool in the UK was presented, including industry examples, non-profit organisations and research projects. The second involvement, as part of Lab-to-Lab, CCD hosted an in-depth online symposium with twelve speakers presenting their research on wool in the UK. Amongst the 67 participants, a wide range of stakeholders were present including many leading design researchers, lecturers, and other organisations and businesses including representatives of UKRI KTN, the Ellen MacArthur Foundation, Panagaia, British Wool amongst others. Finally, CCD participated in the Design Research Society conference, organising a co-creation workshop "Circular Design Team" based on a wool case.

Where and what to look at: Recording of the Circular UK Wool event. [Here](#) and co-creation workshop method.

²³ http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Lab-to-Lab-Research/01_PLACE/07-belgium/



Alpine context, contributions from Onlfait and Fab Lab Barcelona

The Alpine context was explored by Onlfait and Fab Lab Barcelona covering the region of Geneva in Switzerland and Savoie/Haute-Savoie in France. Various small-scale wool ecosystems were identified.

A collaboration with one association (Defrise ton Mouton, situated in the Alps) allows the adoption of 2kg of raw and carded wool. The association just launched in 2019 and is actively looking for viable applications. Onlfait cooperates with knitters, fashion designers, and local makers to explore the activities in the local surroundings and identify new opportunities for cooperation. The wool has served as the basis for local explorations.

Where and what to look at: Description of the local investigation [here](#)²⁴.

Spanish context, contributions from Fab Lab Barcelona, Fab Lab Leon

In Spain, most of the investigations were focusing on Cataluña before Phase 2. In Cataluña, Interactions with Fabricademy student projects were the main focus. Two important facts were noted: the ecosystem based on the Xisqueta wool shared a series of posts announcing that the collective effort to maintain the processing of the wool will stop unless finding another “manager”. In addition, during one of the event, two new projects were identified and opportunities are now explored to initiate cooperation with - IaaC, especially with “[Tornen les esquelles](#)” aimed at valuing the wool of the Collserola region.

Other regions summed up as (1) the region of Madrid and Leon with the European Wool Day hosted in the Museum of “El traje” and the mapping support of Fab Lab Leon, (2) the region of Bizcaia thanks to the workshop with CCD and IAAC in Bilbao for the DRS conference.

Where and what to look at: The local context description [here](#)²⁵

Romanian context, contributions from REDU

Sheep farming in Romania is a very old occupation dating back to the 12th century; shepherding and pastoralism are part of the Romanian patrimony and heritage; wool in Romania is strongly connected to women.

The team of REDU have followed their close exploration of the context of Romania. After hosting the Rewool workshop in Phase 1, they planned visits in farming areas and invited local stakeholders to participate in the Wool Mondays in Romania. They shared the

²⁴http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Lab-to-Lab-Research/01_PLACE/07_alps/

²⁵http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Lab-to-Lab-Research/01_PLACE/02-research-iaac/



testimonies of two women-led initiatives: Alexandra Florea from ISAI, shared “The Journey of a Wool Sweater” and Oana Tudose, a textile artist illustrated her work with a series of photos of her wool pieces.

Where and what to look at: The local context description [here](#)²⁶.

Co-operations to support the extension of the shemakes lab-to-lab research on place

Co-operation with the European Wool Exchange foundation

Shemakes partners applied to present their research at the European Wool Day, organised by the European Wool Exchange foundation, through an open call held in January 2022. We were selected, and we presented the lab-to-lab project on 9 April, connecting with a large and engaging community of practitioners and research on wool.

Beyond strong connections and an extended knowledge of the European wool context with the participants and speakers of the EWD, a bond with the EWE foundation has been established; we contributed to the Wool Ecosystem Day by presenting our vision and activities and shared our interest in creating a joint wool ecosystem map to join forces and integrate existing materials. This collaboration around mapping is a work in progress, a nice opportunity for future months to come, since the topic of wool has raised a lot of interest to all labs that expressed their wish to further collaborate on this topic.

Cooperation with World Circular Textiles Day 2050

The Centre for Circular Design in collaboration with World Circular Textiles Day 2050 organised an academic study day as an online event aimed to explore the UK wool sector through the lens of current design research by inviting people from across industry, academia, and the public sector to try to understand what role design research can play within creating a circular wool industry.

It emerged that the UK wool industry has been a declining industry for decades, with much of the wool still being underutilised and undervalued. Participating designers, researchers and makers demonstrated that there is great potential in this industry - with craft, technology, and interdisciplinary collaboration as key themes throughout.

The sessions started off with Dr Zoe Fletcher giving us a brief overview of the unique wool ‘palette’ the UK offers, counting 60 different purebred sheep and thousands of cross breeds. Doppelhaus and Harris Tweed told us about the intricate technologies needed to

²⁶http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Lab-to-Lab-Research/01_PLACE/03-research-Redu/



make woven and felted fabrics; collaboration is vital to such developments. Researchers from De Montfort's Textile Engineering and Materials (TEAM) Research Group, including Dr Clare Lerpiniere and Dr Angela Davis, showed us multi-modal research approaches for exploring the potential of sustainable wool for innovation including archival material investigations, technologically-driven laboratory testing and textiles engineering, and theoretical approaches to wool as a communal, human resource. Later in the session we heard from early career researchers, designers and makers – Saumya Singh and Jennifer Drantell – showing us a more hands-on approach through the use of crafts and ancient knowledge, working from different locales including India and Mongolia. Meg Piri from Fashion Roundtable told us more about their recent pilot study and newly launched programme for building a greater understanding of how localising the supply chain could build more resilient rural economies in the UK. The last session of the day included a presentation by Dr Lynn Wilson from Sustainable Fashion Scotland, highlighting the importance of consumer behaviour around wool, and how we can become 'prosumers' instead of consumers.

Cooperation with the Design Research Society²⁷

The teams of Centre for Circular Design and IAAC attended the Design Research Society Conference²⁸ held in Bilbao in June 2022 and co-host a co-creation workshop entitled "Designing the Circular Design Team". The workshop was set up around the case of the Latxa Wool. After an introduction of the current projects, the workshop went into 3 parts: a mini exhibition of wool material samples with a video of Artileshell, a local Basque initiative illustrating the real challenges experienced in the Basque country. Then, people worked in groups and shaped their challenge related to Latxa Wool and defined the team with illustrated "who are we" cards and post-it notes. A geographical map with an integrated simplified life cycle and additional stakeholder cards based on the quadruple helix helped each group to expand their ecosystem and discuss the roles and synergies with other actors.

²⁷ <https://www.designresearchsociety.org/cpages/home>

²⁸ <https://www.drs2022.org/>



A focus on Natural dyeing, why?

Why are natural colours coming back and will they play a role in a circular, value-driven economy?

Natural dyes have been overlooked for the last 150 years. Since the first synthetic colours, research on pigments has been shifting its focus towards lab-made chemical dyes that did not require natural colour sources any longer.

The Shemakes research on colours shifted its attention on practices that promote more sustainable, bio-based, and holistic approaches for colouring wool, bringing to light the power and opportunities of locally growing resources for colours. This research is multidisciplinary, bringing together a mixed set of skills promoting mutual learning between different kinds of expertise and the past/present/future.

The knowledge pools of different kinds of expertise feed the mutual literacy in cases such as exploring the chemically identifiable biochromes hidden in the plants, or looking at plant matter at all different stages, from seed to plant, from dry matter to pigment.

The heritage knowledge feeding the research, starts to create a bridge between craftsmanship traditions and the future of bio-based material science, providing insights for both dyers, textile experts, chemists, designers, circular economy pioneers and researchers, as well as microfactories & labs.

The main contributions consist in structured research based on sustainable design criteria to form a matrix of colours representing a natural chromatic scale, colouring of wool at all stages.

The Emerging Values-Driven System for natural colours

The research on wool natural colouring was driven by a set of values relating both to the aspects of local ecosystems, for example, by using natural colourants available locally, and the lab scale work, sitting between a craft and an industrial scale, enabling medium sized actions that reflect the nature of the distributed Labs model.

Three key values were identified and presented during the Design / Colouring Wool Monday.



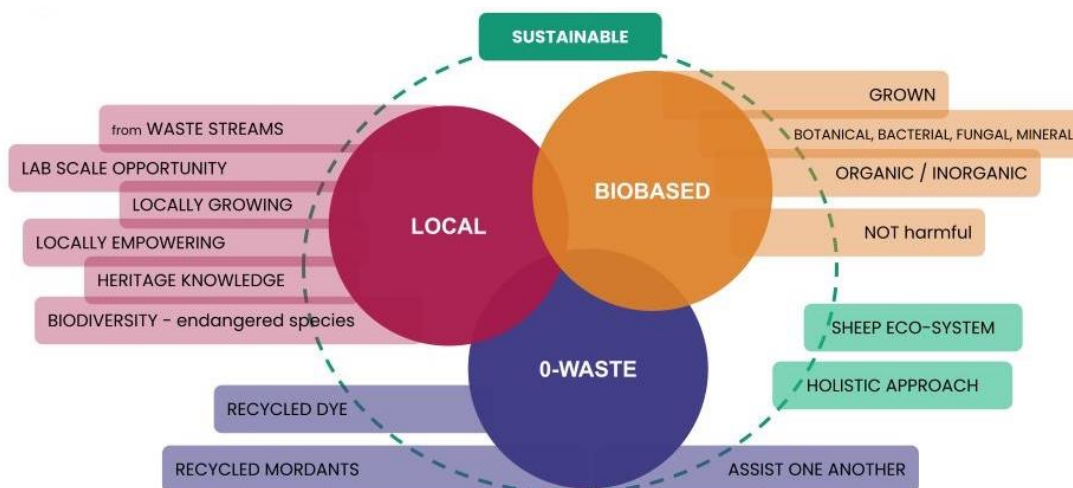


Figure 23. Value-driven approach of the “DESIGN” research.

Local

- Locally enabling and empowering (Lab scale)
- Native or locally grown
- From waste streams
- Heritage knowledge
- Biodiversity

Biobased

- Botanical, bacterial, fungal, mineral
- Food waste
- Compostable

Zero-waste

- Everything is recycled (dye water & matter, mordant)
- Waste as resource between dyes

Sustainable

- Holistic approach
- Sheep x plants ecosystem

These values are used as drivers for the development of the research and subsequent workshops. Given that sustainability and the participation and/or learning from women were central, the direction of research for each Lab and Transfer Lab was then based on finding a “local” opportunity to focus on, a “biobased” opportunity for the materials used and a “0-waste” process.

This thinking shapes the Hands-on research by the Labs presented in the next chapter.

Hands-on Labs research

In the Shemakes Open Toolkit the different processes and colour sample results come together to form a comprehensive colour matrix, which links to basic recipes for replication, and to highlight the potential of natural colours on wool.

Supporting material in terms of knowledge and research outcomes documented into tutorials so far are:



- Processes
 - Mordant dyes
 - Vat dyes
 - Direct dyes
 - Eco-printing
- Colouring matter
 - Plants: weld, madder, indigo (persicaria & woad)
 - Barks & trees: birch & cherry bark, campeche
 - Other: cochineal (insect), clay (mineral), jantino bacterium lividum (bacterial), annatto (seed), oak galls (plant-animal matter)

For Phase 2, three core research lines on colour were selected and used to shape the workshops of the Colouring Wool Monday. As described in the chart below, the final design criteria were identified:

- The typology of wool used (local fibre, yarn & fabric).
- The typology of local botanical source researched (plants, wood, barks, flowers).
- The typology of dyeing process implemented (mordant, vat and direct dyes and, printing).

Table 14. Lab experiments in colouring activities – Phase 2.

BOTANICAL COLOURING		LOCAL RESOURCE RESEARCHED			
		Leaves and Roots ↓	BARK ↓	FLOWER ↓	Food leftovers
T Y P E	FIBRE →	WAAG vat & mordant dyes	FARMLAB direct dyes		IAAC vat & mordant dyes
	YARN →			GREEN FABRIC eco-printing	
	FABRIC →			REDU eco-printing	



Plant dyes x raw fibres x vat & mordant dyes by WAAG

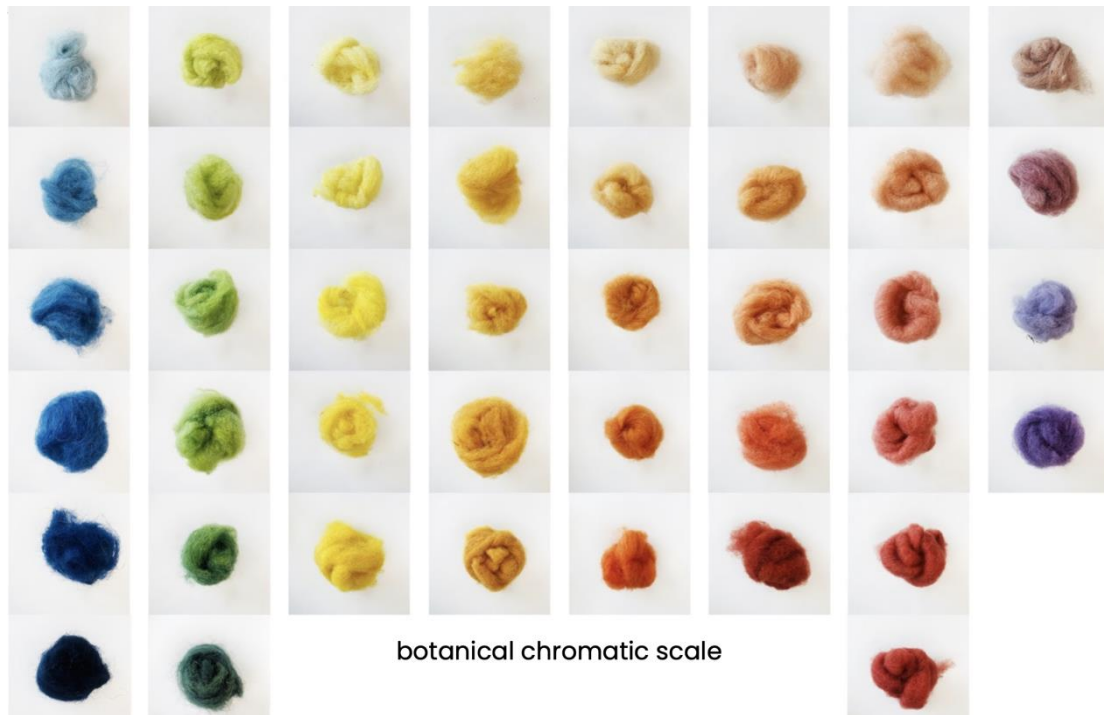


Figure 24. Botanical chromatic scale, by Waag.

Bark dyes x fibre + yarn x direct dyes by FARMLAB



Figure 25. Dyes from the Farmlab: Yarn dyeing in process, dyed yarns, chromatic of fibre dyed with barks, more in [video](#).²⁹

²⁹ https://www.youtube.com/watch?v=MLjVvJ4Ms9c&ab_channel=Shemakes

Flowers x Wool Fabric x eco-printing by REDU



Figure 26. Results of eco-printing techniques.³⁰

Flowers x Wool yarn x eco-printing by Green Fabric



*Ecoprinting with yarns
In Green Fabric*

*Matrix of foodwaste
dyes in IAAC*



Figure 27. Results of eco-printing techniques on yarns.³¹

³⁰ https://www.youtube.com/watch?v=viBwz6QkRm8&ab_channel=Shemakes

³¹ https://www.youtube.com/watch?v=viBwz6QkRm8&ab_channel=Shemakes



Figure 28. IAAC Dyes, Mordants & Modifiers.

Summary of contributions

Labs experimented applying and testing the processes mentioned below in diverse ways, which makes each of their contributions unique.

Table 15. Lab contributions to the Design project.

Lab	Experimentations and results	Documentation
WAAG	Led the full project. Creation of a full chromatic scale of these botanical dyes on the different types of Dutch wool (“Dutch rainbows exists, and not just in the sky”) Hosted the wool colouring Monday	Design sections of the Shemakes Open Toolkit, slides, and photos, as well as recipes
Farmlab	Hosted one of the parallel online workshops about how to dye with barks Preparation of a tutorial about what to prepare to get ready to dye with bark and prepare the iron liqueur Development of the recipe and the step by step on how to dye with birch, apple, and cherry bark	<ul style="list-style-type: none"> - Photos of the bark dye session - Bark dye recipe and step by step - Video tutorial on how to prepare the bark dye and the iron liqueur
REDU	All about eco-printing in collaboration with Elena Stanciu, Wear me with flowers project.	Photos of sessions 2 videos on eco-printing

Lab	Experimentations and results	Documentation
	Creation of an hybrid event, hands on wool dyeing and eco-printing activity, at REDU venue, with 8 participants.	
IAAC	Hosted the wool colouring Monday, focusing on food waste dyes. Realisation of a matrix of colouring with food waste	- Photos of the session and results
Green Fabric	Invitation of experts and practical workshops during the Rethinking wool event. Natural dyeing workshop (eco-print) and talks with Maria Botto about bacterial dyeing during wool Monday day 2	- Photos - Sharing the presentation of "ecology of colours" by Maria Botto.
ITC	Bacterial Dyeing workshop and Biomaterial workshop	Documentation of the workshop by the ambassador Petra Garajova
Leon	During Wool Colouring Monday. dyeing of natural fibres (silk, wool, linen, and cotton) with indigo.	Photos.

Make

The third lab-to-lab Shemakes project is gathered around the idea of developing "Little Wool Factories" that are accessible for all and that allow for more inclusivity in textile making, under the title "Make". Labs wish to create a database and test open access tools and machines that can be made in Fab Labs, Textile Labs, Ateliers, Makerspaces and Workshops for creating laboratory scale microfactories, reviving lost skills and enabling local wool ecosystems.

The main contributions

The concept of Little Wool Factory

The concept of Little Wool Factories aims to create **laboratory scale** microfactories, reviving lost skills and enabling local wool ecosystems. Each lab participating was equipped with a set of traditional tools, hacked ones and DIY machines, in order to be able to process wool. Labs could also figure out the potential of digital fabrication tools for making machines and support part of wool processing.



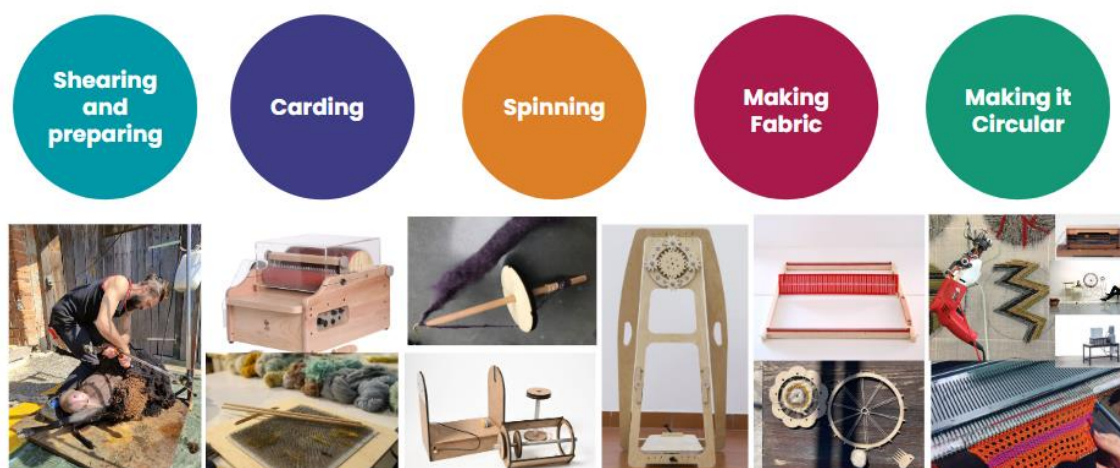


Figure 29. Overview of the Little Wool Factories – Tools.

A matrix of tools with open-source files

In the Shemakes open toolkit, a matrix of tools with open-source files has been shaped and will be updated with current results.

The work mainly focused on finding, reproducing, and adapting tools rather than creating new ones. Below is an overview of the DIY machines:

- **Drop Spindle:** a simple, handy tool to transform raw and carded wool into yarn.
- **Hilo Spinning machine:** an electrical machine for spinning developed in two versions by the Hilo studio. The labs are used to build them and act as user testbed for improvement.
- **Mini-Loom and Fabricademy loom.** Mini Looms are available in different sizes and shapes (square, circle...)

During Phase 1 the need for carding tools was detected. Providers were found and different machines were tested. Tutorials on how to make the machines were listed. The FarmLab is currently finalising a tutorial for using a drum carder machine. They were supported by Lucija White from Slovenia, who was met during the European Wool Day.

In parallel with wool processing tool discovery and uses, the lab reflected and shared a process for engaging with open-source hardware, as illustrated in the figure below.



Figure 30. A process for engaging with Open-Source Hardware, IAAC.

A presentation to communicate the process

In parallel, the collection has been illustrated in a more [accessible presentation](#) (PPT). This one has been updated and shared during the wool open-source tools Monday.

Contributions from the labs

Table 16. Lab contributions to the Make project.

Labs	Contributions	Local Little Wool Factories composed with
IAAC	Process mapping, archiving open source tools and machines, development of Loom and videos, Robotic Tufting	Raw wool from Catalonia, Alps and Iceland, Dryers, Carding Mats, Spindle, Hilo Spinning machines (being repaired), small and medium looms, robot tufting
FARMLAB	Tutorial on how to use a carding drum and industrial machines captured in visits	Great connection with onsite machines/practices and collaboration with local manufacturers (shearers, carding, duvet makers).
WAAG	Carding mat tutorial and Drop spindle	Focus on, carding, and spinning dyed wool to widen the colour options for that project.
CCD	Rope Making Machine, machine developed by Sanne Visser few years ago	Not relevant for this lab.
ONLFAIT	Drop Spindle	Drop spindle, wood spinning hand-spinning machine, small loom, sewing and knitting machine,
ICT	Small videos of industrial machines	Access to larger scale machines and processes



Labs	Contributions	Local Little Wool Factories composed with
Green Fabric	Testing machines, documenting Hilo machine	Scouring pots and dryers, carding, spinning machine, hacked/digital knitting machine, tufting...
DECODE	Mini looms	Ephemeral lab with only small devices

3.4. Distributed event: Wool Mondays (Steps 5-8).

The most important contribution of the task in Phase 2 consisted in formalising and running a distributed event that fostered co-operation between the shemakes labs. It is part of the Research Methodology, from Step 5 - 8:

- Step 5: Workshop and Event formulation
- Step 6: Open Call for Labs to joint event
- Step 7: Local event
- Step 8: Global event

With the intent to best adapt the model to the real context of shemakes, the labs came out, co-design and run the WOOL MONDAYS.

Wool Mondays consisted of 3 Mondays in May to rethink and foster the research done in the Shemakes labs onto the three wool projects. The aim is to revisit the making-of, from its origin, how it was designed and organised, what happened, and what are the first results out of it.



Figure 31. Flyer for Wool Mondays.

Formulation of the Wool Mondays and communication campaign (Steps 5 - 6)

One of the key activities of the lab-to-lab research methodology is the planning and development of a hybrid distributed event that allows labs to share their research and create momentum for collective making, learning, and reflecting.

Beyond the inspiration of the Bioshades distributed event, that was a real successful event and gave us a starting point for planning the event, and as three projects were set around wool, the first specifications of the event were:

- to run 3 workshops that relates to the three respective topics,
- to prepare the relevant documentation, and
- to do it in a hybrid format.

From mid-February, a draft document has been set up by the task leader and commented by the two other partner labs. The main questions relied on the format of the event: should we run it on the week? How long does it take? Is it better to do one global event or three smaller ones?

On 23 March, a session only with the core labs (WAAG, IAAC, REDU) permitted to draw the first line of the future distributed event. The concept of Wool Mondays was born, among other creative ideas: WOOLDAYS / WOOL WEEKS, WOOLAB, WOOLEM, Woolshop, WOOLALAB, Little Wool Factory challenge, Women in Wool challenge. The 3 dates were adjusted after looking at availability of each of the three labs.

The week after, the concept was diffused to the Transfer Labs and weekly meetings were set up from 6 April until 2 May, the date of the first Wool Mondays. Each lab was asked to contribute by proposing interventions and/or by running local events.

In only one month, the setup of Wool Mondays was collectively developed:

- The communication graphics, [webpage](#) and campaign in collaboration with FLOD team.
- A detailed agenda of each Wool Monday was shared and refined during the meetings
- An excel sheet was shared with the shared calendar, the list of documentation to produce and bill of materials for each workshop, each day.
- A [booklet for the labs](#) was designed to help them in organising their own event
- Dedicated contents were produced for each day.

Day 1: each lab filled in a template for presenting their local context. A Miro board was set up for supporting the geographical mapping of synergy. In local labs, some





exhibitions were set up. FarmLab and Waag prepared videos that respectively present the originality of the farm + lab in Austria and an interview from a Dutch woman in transition to become a shepherd.

Day 2: 3 types of activities were proposed and respective video tutorials, short step by step process and bills of materials (BOMs) were developed: Waag on natural dyes processes, Farmlab on bark dyes, and Redu on eco-printing.



Day 3: The documentation for making tool wool processing steps was gathered and shared in one document so people could make their own tool prior to the session: drop spindle, spinning machines, looms, knitting machines. Farmlab interviewed the nomadic shearers and prepared a video to show their activities. Iaac shared their work in digital tufting.

Global and Local events – What happened? (Steps 7–8)

The 3 days were held online and in different places with a similar structure for all days. Each day started with an online inspirational series of talks and was followed by more interactive and hands-on sessions held either online or physically in labs hosting the events. All the details of the agenda can be found on the [toolkit](#)³².

Wool Monday 1: Wool ecosystems (Place)

The first day of Wool Mondays, May 2 2022, was framed by the lens of “Place” and looked at local wool ecosystems in the various places in which Shemakes labs operate.

It was communicated as an opportunity to discover the European wool ecosystem map, open up discussion on this map, see where Shemakes can innovate, and get to know each other better in the Shemakes network. After a round of presentations, it was followed by co-creation online or local workshops about synergies and challenges.

The roles in this workshop were:

- Facilitation: IAAC team

³² <http://fabricademy.fabcloud.io/shemakes/handbook/2.-innovation-services/Lab-to-Lab-Research/Woolmondays/>

- Contributions from all task-related Labs (3 Labs + 4 Transfer Labs) + Transfer Labs Lottozero and Decode Lab, Petra Garajová (ambassador) and EWE Foundation.



Figure 32. Wool ecosystem flyer and photo (WAAG - Amsterdam).

Wool Monday 2, Colouring Wool (Design)

The “design” session was conducted on May 16 and aimed to bring colour to the surrounded wool ecosystems by focusing on natural ways to dye wool and options for printing as well. It started with an introduction to natural dyes and then focused on research presented by the Shemakes labs. Then, it broke out into sessions to look at plant dyes in red, blue, and yellow, eco-printing, and wood dyes and barks.

The roles in the workshop were:

- Facilitation: WAAG team
- Main contributions from WAAG, REDU and FARMLAB



Figure 33. Wool colouring flyer and photo (REDU - IASI).

Wool Monday 3, Wool open-source tools (Make)

The third session on May 23, aimed to create what we called Little Wool Factories. This day focuses on the “make” theme of the Shemakes exploration with the construction, demonstration, and use of a series of open-source tools. It was targeted to people who want to know more about open-source hardware, the wool processes, and appeal to learn how to make their own DIY tools and play - craft with them for every stage of the wool chain, from carding to spinning, and weaving to knitting, tufting, felting.

The roles in the workshop were:

- Facilitation: IAAC team
- Contributions from IAAC, Farmlab, Icelandic Textile Centre, Waag, CCD, HILOSTUDIO, Onl'fait



Figure 34. Little Wool Factory flyer and photo (IAAC - Fab Lab Barcelona).

3.5. Outcomes and Key Reflexions (Step 9)

This section is divided into 4 parts corresponding to various levels of analysis of the task. First, we reflect on Wool Mondays by sharing the numbers of participation and reach, and feedback from participant’s and labs. Then we discuss wool research and future opportunities. In the third part, we reflect on the collaborative research methodology to end with insights on gender observation and findings.

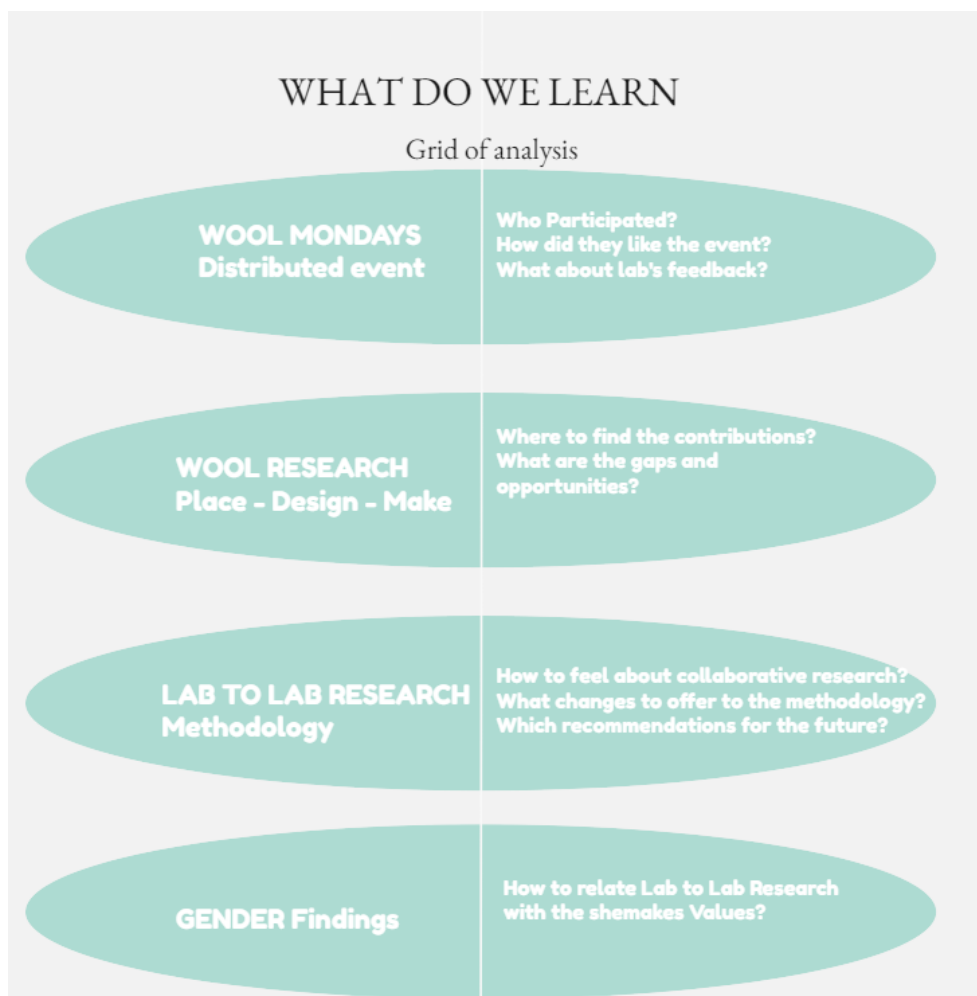


Figure 35. Analytical grid for the Lab-to-Lab Research.

About Wool Mondays

Quantitative participation

The total participation reaches the objectives of the tasks with high numbers and qualitative participation both online and in local labs.

Table 17. Wool Mondays' effective participation.

Participation	Day 1	Day 2	Day 3	Total WM	Others	Total
Online	23	31	18	71		71
Barcelona		12	14	26		26
Amsterdam	12	8	11	31		31

Participation	Day 1	Day 2	Day 3	Total WM	Others	Total
Geneva	6		5	11		11
Leon		5		5		5
Iasi		8	8	16		16
Brussel	4	8	8	20	25	45
UK					67	67
TOTAL						272

The campaign of communication and the local embedding of labs permit to diffuse the events widely and to raise interests inside and outside the Shemakes ecosystem. It is important to highlight that this online event reached **7,771 people** on a Facebook page event and had **1,100 views** on the page of the website. Also, as it occurred most of the times, the effective participation was lower than planned via the registrations. As an example, on Eventbrite, the online events had a record of 195 registrants (day 1 - 60, day 2 - 68, day 3 - 67) while most of the local workshops were sold out in short periods of time (in Iaac, Waag and Green Fabric).

Qualitative feedbacks from participants

A survey post-Wool Mondays was designed and sent to participants 2 weeks after the last Wool Mondays. It is a Typeform survey framed in the following sections:

- Situating the participation (in which lab, relation with the lab, how did they know about the event and how they participated (online/physical/etc.))
- Rating the event out of 5 and giving insights on the event, day by day
- Global reflection and future motivations (improvements, documentations, gender insights, impact on their research and design)
- Profile of participants

30 answers were received, with a majority of women (>85%) and an important representation of people aged [25 - 54]. (Only 3% were 18-24, 16% were 55+). The received answers come from online participants (27%), participants from IAAC (23%), Green Fabric (17%), Leon (3%), Farmlab (3%) and WAAG (23%). Those preliminary results show a good balance between newcomers (55%) and close members of the lab's ecosystem (45%).



The overall ratings of the three workshops are positive and similarly distributed each day (80% of participants rate are 4/5 or 5/5). Respondents gave a lot of relevant qualitative insights highlighting both positive insights and aspects to improve. (See table below)

Table 18. Qualitative insights from the survey of participants.

	Positive insights	Aspects to improve
Day 1	<p>Knowledge exchanges.</p> <p>"The broad knowledge and the importance of understanding how our actions affect our landscapes.</p> <p>To discover how the wool problem is common throughout Europe, but there are so many solutions already in place! And the map is amazing."</p>	<p>Time Management</p> <p>More co-creation and complex learning experience</p>
Day 2	<p>The topic of colouring raised interests and fascination</p> <p>"I love the scientific attitude combined with creative experimentation. Also, how simple boiling and timing created shades and fresh colours.</p> <p>That everyone was able to do it themselves"</p>	<p>Adapted spaces (ventilations) for labs that require it</p> <p>Optimising the live online part when making:</p> <p>"Attending online it felt a bit 'out of the circle', definitely missing the interaction and the hands-on approach"</p>
Day 3	<p>Little Wool Factories on.</p> <p>"Interviews with interesting makers and the actual doing; nice to learn but also to connect.</p> <p>It is always interesting to know the craft technique.</p> <p>That everything was DIY and open-source."</p>	<p>Add references</p> <p>Find the good balance between making and talking.</p> <p>Engage more with tool makers.</p>

The survey shows that the respondents are interested in using the documentation of Shemakes (see figure below), and in coming back to the lab, mainly for doing workshops, research, and talks. As the Impact Word Cloud in the figure following suggests, the participants share how the Wool Mondays impacted on their practice. Some of them ensure that they will test and apply techniques in their practices, while other comments targeted much more the collaborative practices and learnings about ecosystems, as illustrated in this sentence: "Made me realise again how important and interesting the communities are, share ways of working and interesting things happening".



of synchronisation and information sharing. What was experienced with all labs was a greater collaborative culture, a licence to bring diverse and complementary angles to the research and the benefits of alternating between dedicated events and regular meetings

A co-creative and agile lab culture reinforced

Most of the labs had already collaborated with one or several labs prior to the project, Fabricademy and TCBL being mainly the playground for past collaborations. With the integration of the Transfer Labs, there was an effort for onboarding but most of the labs were familiar with the way of working, the values and leadership style. Discussions showed that the management of the research was about "**boosting, mobilising, creative and self-organising**". At the same time, it could have felt too intense, sometimes hard to follow, or overwhelming with other activities. Some comments coming from the Green Fabric are illustrating this later part: *"The wool research was the more collaborative project in Shemakes on our side, and it was sometimes difficult to follow what was expected from us and what was supposed to be done. For Wool Mondays, it took us time to get what we should do and what we could do. Whatever the little organisational difficulties, we really enjoyed the wool research. For our lab it allows us time to develop projects that we had in mind and allows us to show our interest and expertise in the Belgian wool ecosystem. As we started with the discovery path workshops organisation, the timing to organise the wool events was short."*

Different forms of engagement and contributions according to the type of labs, the level of expertise in wool and the time constraints

As described, the contributions of each Transfer Lab were quite diverse and added significant angles to the process:

- **The Farmlab** appeared as a real **booster** sharing their activities in a proactive way, proposing **original** contributions aligned with their own objective of development. Even if the time did not allow them to properly organise an event locally, their interventions with sharing stories, tutorials, and support to other labs in collective sessions was impressive and inspiring to the team.
- **The Icelandic Textile Centre** was the most advanced lab concerning the wool topic and shared their knowledge by **inspiring** the other labs, while creating new spaces for discussions inside their **local** ecosystem to raise the potential of **integrating** digital fabrication and new materials within the current practices. On the other hand, the lab was frustrated that the timing of the project was not aligned with the "sheep" natural cycles hindering them from



properly connecting with a larger group of stakeholders and processing wool in the season of lambs. The presence of the ambassador Petra Garojova for 2 weeks was the core of their activity in Shemakes and helped to shape their interventions.

- **The Green Fabric**, on their side, took the opportunity of shemakes to create a totally new **local** dynamic around wool with wool processing, local research and lab-scale production. Even if they had a more discreet role inside the collective interaction space, the way they framed the "rethinking wool" event was inspiring and illustrated how to create a learning playground for wool research locally.
- Finally, the **Centre for Circular Design** enriched the project by bringing **circular** design academic research and practice that was at the beginning different from the other labs. Most of the work collected were from PhD students or researchers works, with specific design research methodologies that are used in a longer timeframe. In such context, they focused on organising the Circular UK Wool event, which had a great reach for external participants. This more solitary route might have hindered interactions and learnings with other Shemakes labs during the timeframe of the Wool Mondays, but the results appeared to be a great learning tool for all the Shemakes wool community letting new interactions and synergies to come within and beyond the Shemakes network.

Labs' feedback about the formats

Dedicated events vs regular moments of exchange and making for labs

The dedicated events such as a week-end format with "Rethinking Wool" or an intense morning session with the "Circular UK Wool" were planned along regular bi-weekly meetings to organise the Wool Mondays. Both succeed in mobilising people. They appear as complementary as some labs like to have regular exchanges with concrete making activities and would for example like to continue with the Wool Mondays. At the same time, a more dedicated global research event makes sense, as could be the Fabrigathering or the TCBL conference to share findings and practices, once or twice a year.

Accessibility/availability for the external audience.

Mondays appeared to be a good day for lab's life, however, it was much less convenient to reach an external audience, especially people who work, in both urban and rural contexts. Some labs also recommended to reduce the duration of the activities and make it only outside the hours of work (after 18.00).



About Wool Research

It was a strength for the task to run 3 research projects under the same topic. Even if a deeper mapping will be done in the next months, the following table is synthesising what remains to be done in documenting activities, identified gaps and opportunities for each of the three projects.

Table 19. Next steps, gaps, and opportunities for Wool Research.

Projects	Wool Ecosystems	Wool Colours	Little Wool Factory
Remaining documentation work	Synthesis of local contexts and integration of co-creation tools	Synthesis of recipes and results	Synthesis of tools and videos. Updating matrix of tools x wool process and presentations
Gaps	Higher Involvement of farmers and industrials in the lab Keep connecting with realities	Sometimes lack of infrastructure for local dyeing workshops Research in sustainability business model Circular management	Time for making with existing tools Sustainable materials and process in open source Time for design
Opportunities	Wool Mapping with EWE and other external networks Expand research to more countries and find funds	Cooperation with current practitioners, residencies, exchanges of knowledge, consolidating local playground for natural dyes.	Explorations of "larger small-scale" tools. New research for future local manufacturing. Labs are ready for experimentation Opportunity to replicate dyes.

Documentation next steps

In the next two months, labs will coordinate the integration of the results in the current open toolkit and extract relevant content to be published directly on the Shemakes website to be added to the existing videos that were recorded for each event. It will mainly consist of listing new contents to upload and doing a tutorial on GitHub for all Transfer Labs for them to share locally and document their activities. Once ready, a revision from task leader + voluntary based reviews will be done to finalise the phase 2.



Table 20. Synthesis of the Transfer Labs' contributions to Documentation.

Farmlab	Southeast Styria wool context analysis , Bark dye recipe and step by step , - Video tutorial on how to prepare the bark dye and the iron liqueur , Video tutorial on how to use a carding drum The complete documentation on how to build a carding drum (under preparation)
Green Fabric	Green Fabric is providing the Belgium context, Hilo Studio Machine documentation and use tutorials
ITC	ITC documented each workshop with pictures and videos and outcomes. Petra documented her learnings from the Icelandic TextileLab and Margrét from laac FabLab in Barcelona. It will be integrated in the open toolkit during summer.
CCD	CCD are contributing to the Shemakes Open Toolkit by sharing the Circular Wool UK event recording, by sharing documentation for the open-source ropemaking machine tool and the co-creation tool developed within the Design Research Conference 2022.

Main Gaps

As seen in the above table, the most important gaps were focussed on how to maintain the community proactive in the long-term within the small-scale and local realities.

- **Connecting realities:** Great synergies were established thanks to the Lab-to-Lab project. However, a distance is still there. How to facilitate the engagement and synergies between farmers, industrials, designers, and makers? How to make farmers come to the labs? How to reduce distances between academia and makers and cross-pollinate knowledge among them?
- **Collaborative Funding and Economic model:** In the Farmlab, the participants showed a lot of enthusiasm and energy to provide contacts to rural wool makers in the region. What seemed unclear for them is how to get funding or to sustain such an ecosystem in the long term. As a participant highlighted “networking is key but making actual collaborations where different actors work together (not only share info) is what makes the links stronger and longer lasting”.
- **Time for design and making with existing small-scale tools.** In terms of technologies for small-scale local production, there is still a complex balance to find between the level of automatism, the arduousness of the tasks, the worker well-being, and the effective eco-efficiency of the system.
- **Circular management and sustainability in open-source communities.** The open-source knowledge mainly focuses on sharing open files for replication,



giving tips, and sharing stories of practices. Circularity and sustainability are still at an early stage of consideration in such projects, and it would be worth connecting with eco-designers and environmental specialists to complete the documentation with environmental data information, vigilance points, material provision, etc.

Opportunities

- **Wool theme as a catalyst of new learning paths.** The knowledge developed on wool during the research is creating a lot of opportunities for education. The Colouring and Little Wool Factories Workshops, as such, could be deployed within many contexts, whatever the age of participants. Leon and Farmlab manifest their interest to explore in the future the relation between wool and education for smaller kids, showing direct connection with the Curiosity Learning path. There are also opportunities for educating the end users and designers to know the source and the “how-to” of the materials they regularly use.
- **Wool Hand-Making and Craft as therapeutic and self-reflective.** Stories from labs staff and participants confirmed the need for people in the labs ecosystem to have time for carding, spinning, weaving, or knitting. Taking time serves three purposes: it is dealing with emotional catalysing, it creates conversations, and it supports self-reflection. Altogether, that could help prevent socio-cognitive overloads and better manage stress and anxiety. Such a topic (selected as a core topic for the European Wool Day 2022 by the event committee), is adding another layer of reflections on well-being and care in the locally and sustainable production models that are envisioned nowadays.
- **Ephemeral labs.** Opportunities to run workshops or small interventions with rural contexts, outside the cities have been identified. By having small tools to process wool, Ephemeral Little Wool Factories could act as a tool for dialoguing with local stakeholders, reviving past knowledge. This was also tested by the Decode lab in the Community engagement task.
- **Lab-to Lab Research Residencies.** Inspired by the gurus and ambassadors’ feedbacks on how important and useful travelling to transfer labs was, Leon and ITC suggest fostering more “interchange of knowledge and people from one lab to another” namely through several weeks’ residencies.
- **Towards Little (Wool) Textile factories.** This wool research is a step forward to enable Labs to be places that enable more sustainable local production of textiles, through design, research, and micro-production. Labs are planning



future investigations: Farmlab is looking forward to investigating the topic of the zero km reconfigurable garments (by carding, felting, and laser cutting their wool), learn how to extract pigments from their indigo plantation and host an artistic residency; Waag is participating in a local project for making local natural dyeing a reality of Amsterdam’s textile production practice; Green Fabric is thinking about a mini mill project; Onlfait is interested in creating a proposal for recreating Wool sheds in the Alpine region.

- **Towards International mapping and co-operations.** Interest for following international exchange was raised. The opportunity created through the mapping with the European Wool Foundation could be an interesting following step for the Shemakes network.

About the research methodology

First feedback from the labs have been captured to gather their insights on the research methodology, based on the PLACE-DESIGN-MAKE model and step-by-step collaborative research methodology.

The Place - Design - Make model works out well with a potential for replication with other fibres.

Table 21. Feedback from Transfer Labs on the research methodology.

FARMLAB	We believe that each of the 3 wool areas we presented through the Wool Mondays is a full research topic per se. In our case, all of them have been relevant to our needs and within our possibilities as a small farm, therefore we also believe there is a great potential to explore these topics further to help other small farms. We are eager to complete ours because we believe they will be very relevant to the community.
ITC	Thoroughly mapping the skills, knowledge and personal interests in the various labs could be beneficial and open up different possibilities for learning and collaboration
CCD	Having an open-source tool like the Fabricademy Shemakes Open Toolkit is making the process very inclusive for other people to join that missed live events or want to read about it in more detail and step-by-step. Engaging with other labs in the future would be of interest for CCD by further exploring circular design tools in other local wool contexts. This could be through online or in-person workshop engagements with the aim to explore opportunities and barriers.

Concerning the guided research methodology, the real Shemakes context did influence the process as the Transfer Labs had joined the research prior to the formalisation of the event and did support the Wool Mondays’ definition and did



participate in in-depth research. The open call for Transfer Labs to join was done before the phase of in-depth research and knowledge exchange. Phase 2 launch initiated a short second loop of research/knowledge exchange. Once the event was formulated, the campaign of communication was framed not as an open call for labs as previously done in other projects but kept open to both labs and external participants. The Figure X is a sketch for adapting the methodology developed in Bioshades with Shemakes realities.

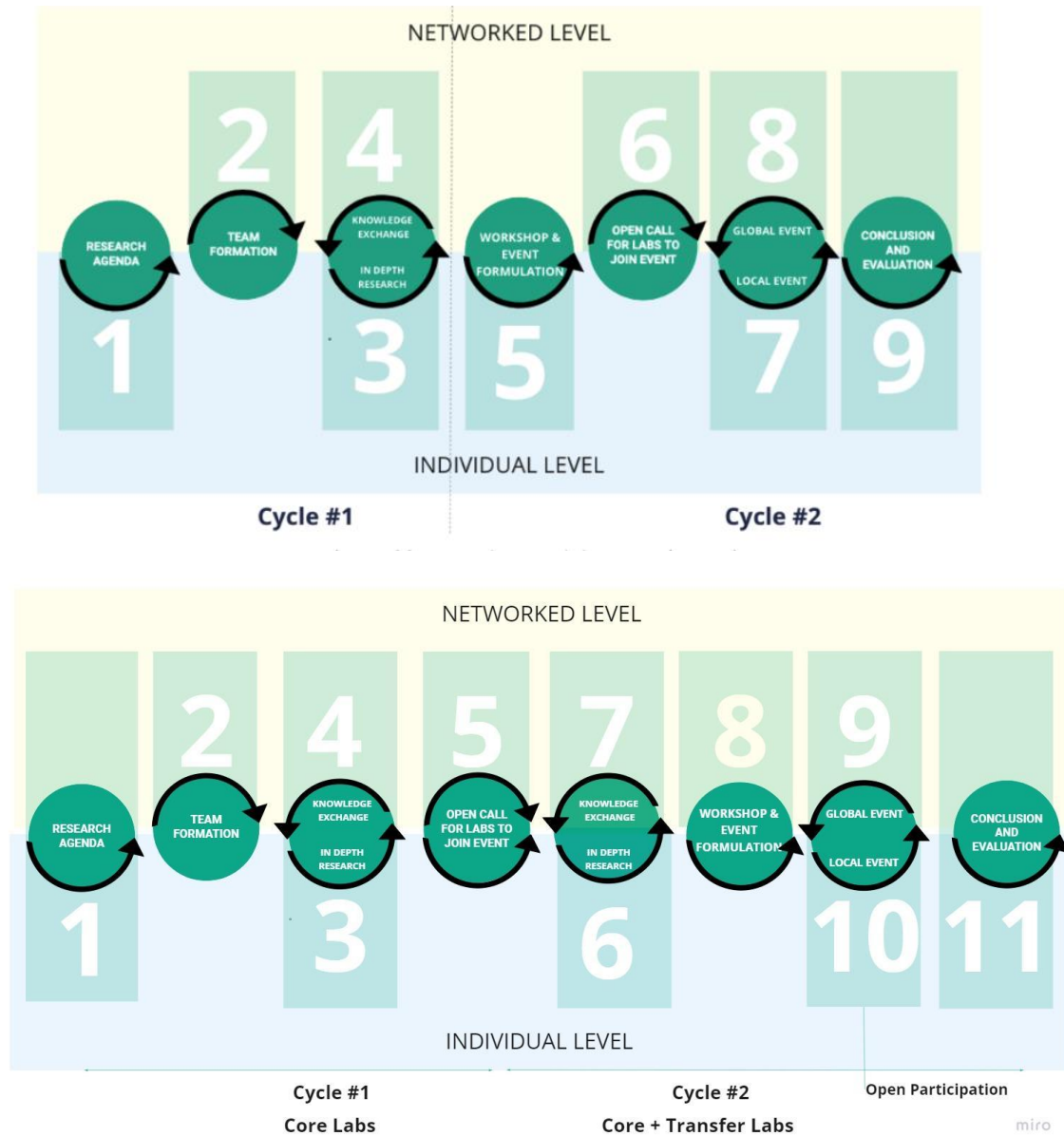


Figure 38. Starting and revised Lab-to-Lab methodology for Shemakes Phases 1 + 2.

To fully absorb the knowledge generated by this experience, several lines of improvement have been noted. For further collaborative projects, it is important to define a good balance with several dimensions.



- **Think with iterative research cycles:** thinking with the notion of cycles or spirals is relevant. In this case, two to three research cycles were identified (one with core partners, one with Transfer Labs, one with the Distributed events)
- **Time for research.** The availability of people for in depth research is quite low within today's lab practice. When there were no clear deadlines, and because of the high rhythm of work, the progress of the research was quite slow. With the second round and the distributed events, research accelerated and could be perceived as too short for optimising the quality of work and the synchronous dimension.
- **Research space and communication:** Because it aims to be collaborative and inclusive, communication of the work and knowledge exchange take a big role in the process. Here a balance needs to be found between allowing time for the research to be done with a proper time and quality, while being able to communicate the ongoing findings and artefacts. The questions were "is it ok to share a process that you are still exploring and maybe not having the guarantee of sharing a "good enough" or "validated" knowledge?" "Is it worth replicating processes that are not "tested" or "approved"?" "What are the limits to sharing knowledge and work progress as the research goes along?"
- **Distributed as both Virtual and Local.** One the strengths of the Lab-to-Lab research is the co-operation between labs across the world. In this event, the synchronous hybrid side has for sure permitted to build and share collective knowledge but also could have been perceived as hindering creative exchanges and a source for cultural barriers as the English language monopolises the floor of the talks. As the Farmlab (Austria) mentioned: "the language was a barrier, and it will probably be a limit to the application of the results of the research in the area". One option could be to use the virtual networking environment as a space in which to attain skills and ask questions and allow local events to take place separately. Also, it was mentioned that residencies or short to long term visit/exchanges is giving a new dynamic and deeper space for boosting the research.
- **Supporting the mindset for documenting.** Researching and documenting at the same time is a complex exercise for the mind. In practice, people need time to frame and explore the research itself and might not be able to use the Git interactive platforms for documenting "on the go". There are also different needs for documenting, depending on: advanced users of Git vs others, various types of research and type of artefacts or media to communicate the



research progress or results. To support documentation as part of the DNA of a lively community, additional effort could be made to simplify its process and increase the agility of the peer-to-peer helpdesk.

- **A step towards research funding opportunities.** This research has permitted us to define a common layer of knowledge, gaps and opportunities, and synergies between a set of labs that are now ready to explore different formats to structure training and workshops from the contents produced but also, apply to calls together to research specific topics related to alternative hands-on and open-source learning, local and sustainable innovation, gender issues and community building etc.

Gender Vision Findings

The Shemakes lab-to-lab project was a space to observe and reflect on gender inside local and global research networks. All labs' Gurus were acting as action-researchers making connections with what they were experiencing and the Shemakes values that they were aware of.

The main reflections about gender values have been observed at the local and the global levels

- **Locally.** During the analysis of the local heritage, capitalising on the evolution of gender practices over time, or while connecting with the local stakeholders, in visits and local events, looking at the distribution between males and females, the collaboration between them and the relations between farmers and sheep, notably how humans valued animals.
- **Globally.** During the hybrid events, inside research groups and within the exercise of documentation, it was possible to be inspired by practices and better understand how collaborative research between men, women and non-binary people is running within the ecosystem. Connecting with other research ecosystems also gave Shemakes access to other gender-in-practice frameworks.

Wool as women-led

Two transfer labs insisted on the importance of women in wool.

- Farmlab (Austria) discovered that the local wool business was actually a woman's business, even more than the average local textile sector, and this made them feel proud of the women entrepreneurs in their area.



- Green Fabric (Belgium) mentioned that “during the different events, the participants were exclusively women, showing that this field is now led by women and that supporting the local wool can really support women in textile.”

The role of women in wool will be further explored with all transfer labs that worked with wool and more detailed in the final deliverable on Innovation Services (D 3.4).

Wool as a catalyst for the Shemakes values

The four values that were most active in this lab-to-lab innovation process were (1) Collaborative, (2) Inspiring, (3) Empowering, and (4) Welcoming Differences.

As shown below in the quotes

An anonymous participant’s feedback: *“First it’s so **heartening** because it’s organised by women. [...] It’s a first good step to encourage women to act and have a space and time to share their skills with other **women or non-binary/trans people**. It’s a time and place where we can **feel heard**. Also, I like that this **network is worldwide** and not only Eurocentric. I am happy to hear that issues about wool could be the same in Belgium as they are in Jordan, and that we can **share storytelling and skills**, and **search for solutions for sustainable practices** in any place on earth sharing the same purpose”*

Icelandic Textile Centre’s feedback: *“From the perspective of gender, our experience showed a huge interest among women to gain **more knowledge and be more involved in the digital world and new technologies connected to textiles**. In the chat during the workshops, it became obvious that **women share the same story about being dismissed by the males in the industry and overlooked especially when technology plays a part**. Textiles in Iceland is mostly a women’s field as we could see that the attendance by females was always higher than by non-binary and males. We found out that in Iceland there already is **a certain level of skill and self-confidence regarding business-building, especially amongst young women**; however, textiles and handcrafts (“women’s work”) are still very undervalued and often perceived as leisure activities, which is a gender issue.”*

Shemakes Network as a contributor to a more inclusive and sustainable Textile and Fashion Industry

This theme was integrated as a question in the survey sent to Wool Mondays participants.



The summary of the first answers is, to date, that a Shemakes community makes this possible, by expanding on the following actions.

- **Open up local knowledge** and bring skills to the community.
- **Create learning opportunities** as well as develop new challenges for creatives and designers.
- **Create a platform** for wool stakeholders and researchers.
- **Organise events.** Monthly events to inform and share creative energies, between labs and people far from labs – e.g. farmers, local associations, independent designers working from home, families. Dedicated events like Wool Mondays.
- **Be an inclusive blueprint** for textile practices. As an example, replicate wool activities with other fibres.
- **Bring a sense of community** to all “genders”. Not only she/her but they/them people.
- Continue to **explore the connection** between small-scale and 'big' industry.
- **Expand to other labs and initiatives**, especially outside Europe.

The outcomes and reflections presented in this section will serve as a basis to make another round of exchanges with the Shemakes labs and partners, in order to consolidate the knowledge created, outline the short-term and long-term challenges, plan future pathways of possible collaborations and develop a lab-to-lab research methodology that contributes to foster early-stage co-operation and reduce the gender gap in the textile and clothing sector.



4. BUSINESS ENGAGEMENT

4.1. Recap D3.1 + D3.2 & SUMMARY D3.3

The business engagement (Task 3.4) builds upon Task 2.4 hypotheses regarding more efficient routes to jobs for women with alternative education. The focus of Task 3.4 is to test business concepts of future women entrepreneurs. Our common approach was to engage women with an entrepreneurial potential to match with the local and sustainable fashion ecosystem: businesses, start-ups, or even incubators and mentorship networks. As labs, our role consisted in supporting the smooth and fruitful development of each collaboration.

Task 3.4's final objective was to identify six possible start-up opportunities and six possible new business lines for existing companies between the two phases of activity.

During the previous phases of the Shemakes project, MAKE (*T3.4 leader*) together with WAAG (*WP3 leader*):

- Explored the labs' different realities and business ecosystems to increase the consortium's capacity to create a model to be followed by great number of labs in the future.
- Tested out different activities to achieve the objectives of start-up opportunities and new business lines: makesense adapted and executed the Shemakes version of the Challenge Solving Workshop while Waag focused on researching female entrepreneurship and mapping the different possibilities within its network to understand its starting point.
- Created multiple paths for activities to happen on the next phases, especially coming up with a business engagement set addressed to Transfer Labs to help them launch their own business engagement activities. (*cf D3.2 / 4.3.2*)

In the last phase, in order to get all the Transfer Labs on board, makesense fine-tuned the objectives of this task by creating success criteria, thus allowing the lab to better understand how to contribute and what kind of action to take. The Labs worked together on three fronts, hand in hand with the ambassadors:



- **Supporting women innovators** in their entrepreneurial activities through coaching, training, expert-matching, challenge tackling, etc.
→ *contributing especially to the success criteria under start-up opportunities*
- **Amplifying women innovators' voices** to broaden their network and inspire future generations by providing online and offline platforms and by facilitating the contacts necessary for the development of the projects
→ *contributing especially to the success criteria under business lines*
- **Creating a network of better-skilled and better-equipped labs** to support women in their entrepreneurial paths
→ *contributing to the whole task by building on labs' capabilities*

Through different activities such as challenge workshops, mentoring programmes, individual coaching sessions, roundtables, learning expeditions and other formats that you can discover in this deliverable, we count:

- **26 women entrepreneurs who were helped to move forward in their entrepreneurial journey** by removing operational tensions and enabling them to take a leap forward with their project, thus contributing to the goal of start-up opportunities. (*Start-up opportunities*)
- **24 entrepreneurs who were helped in promoting their project and creating links between them and their ecosystems**, thus facilitating contact with specific contacts and opening up opportunities for new business lines. (*New business lines*)
- **5 labs who exchanged and built on their capacity to support women entrepreneurs** by sharing good practices, methods, tools, etc.

4.2. Development Process – Phase 2.

As a reminder, at the end of Phase 1, the set of actions that were planned went as shown in the following table.

Table 22. Planned Business Engagement actions for Phase 2.

Phase	Tasks	Date (Timing)
Reputation building and transition	Meetings among MAKE, WAAG and TCBL to review and adapt the existing activities templates	Oct-Nov
	UX and UI Design improvement of the Shemakes Open Toolkit pages	Dec



Innovation actions Phase 2	Implementation of the reviewed and adapted Shemakes Open Toolkit ready for the Transfer Labs	Jan-Feb
	Introduction for the new Transfer Labs that are exploring, collaborating on, and executing tasks to engage with their local community of businesses and entrepreneurs	Mar-Apr
	Testing of the templates and activities present in the Shemakes Open Toolkit by the Transfer Labs. Follow-up with the Gurus and Ambassadors	May-Jun
	Reflection, enlargement of the activity templates as add-ons to the online Shemakes Open Toolkit	Jul

Below are some of the general steps the labs took to discover and uncover a, now even broader, diversity of entry points that labs have towards business engagement.

To launch this new phase of the Shemakes project, where the main challenge would be the replicability of the activities tested in the previous phase, MAKE gathered with the labs that had joined this taskforce and presented them with the reflections, past activities and lessons learnt so far on Business Engagement.

More than creating a top-down relationship, the idea of these first meetings was also to get to know the labs: their desires, the actions they were already doing, the challenges they wanted to tackle, the entrepreneurial ecosystem that surrounds them and their knowledge in the field, and the motivations that made them decide to join this consortium of actors committed to gender issues.

Ideas were flowing to help female entrepreneurs shine with their projects in the textile and clothing industry. To keep the focus of all the labs in the right place and in particular on the objectives set out in the DoA, it was necessary to recontextualise the challenge. That is why, MAKE, together with the Transfer Labs that joined the task, offered to clarify the goals of start-up opportunities and business lines by setting the following success criteria behind each of the two objectives:

Start-up opportunities

- Enabling innovators to take a leap forward with their project.
- Tackling a specific challenge identified by the innovators that prevents them to go further in the process.
- Building-up the innovators' self-confidence.



- Supporting the innovators in better understanding how to finance their project.
- Coaching the innovators for the long term.

New business lines

- Allowing innovators to broaden their network.
- Helping the innovators become better pitchers.
- Fostering collaboration between the innovator and another T&C actor.

Thus, with more precise objectives contributing to the big picture, the Transfer Labs found it easier to get into action and to choose the activities that were to be implemented.

This new level of information led to less replication than expected because, in order to check off all the success criteria, it was clear that it would be necessary to iterate on what had been built in the previous phase, but also to imagine new formats that would make it possible, in particular, to explore the success criteria of the "new business lines" section.

The only actual replication that can be thought of is the following: MAKE deciding to iterate on the first tests of the previous phases in order to come up with even more relevant formats to honour the consortium's theory of change that was stated in the first works and deliverables (D1.1) of the project.

However, even though we can't talk of actual replication, the activities of the previous phases do have inspired certain practices in the implementation of these new ones that you will discover later in this deliverable. Plus, as most of the activities implemented were specific to the labs, it left room for innovation within the network.

Before discovering all the activities, it is useful to discuss the functioning between labs to develop this phase of the project.

- While the Transfer Labs were put in touch with their Ambassadors, they were invited to autonomously find common areas to work as pairs.
- As for the Business Engagement labs amongst themselves, a bi-monthly meeting was held by MAKE to keep abreast of each other's progress, to take advantage of each other's knowledge and collective intelligence to unblock situations, and finally, to give each other moral support in the context of the war in Ukraine, with a lab domiciled in Moldova for whom the situation was particularly difficult.

As a reminder, here are the Transfer Labs who joined [makesense](#) (MAKE) on this task and the contacts associated:



- [Ziphouse](#): Carolina Tulgara (carolina.tulgara@ziphouse.utm.md) paired with Melanie Martin as an ambassador
- [Le Textile Lab](#): Pauline Gamore (paulinegamore@gmail.com) paired with Camille Le Gal from [Fairly Made](#) as an ambassador
- [Textile Prototyping Lab](#): Sigrid Rotzier (sigrid.rotzler@izm.fraunhofer.de)
- [Lottozero](#): Tessa Moroder (tessa@lottozero.org) paired with Alexandra Florea from [ISAI Style](#) as an ambassador

Here is a short overview of the activities held during this phase before exploring them in depth one by one.

4 Business Engagement activities carried out by Transfer Labs

In this next table, the colour code gives you more insights about what each activity better contributed to:

- **purple**: supporting women innovators in their entrepreneurial activities (*contributing especially to the success criteria under start-up opportunities*)
- **green**: amplifying women innovators' voices to broaden their network and inspire future generations (*contributing especially to the success criteria under business lines*)
- **orange**: creating a network of better-skilled and better-equipped labs to support women in their entrepreneurial paths (*contributing to the whole task by building on labs' capabilities*)

Lab	Period	Title and short description	Key figures	Duration
makesense	19/03/2022	<i>Day of female entrepreneurship (challenge solving workshop)</i> A challenge solving workshop to tackle the entrepreneurs most urgent challenges.	5 entrepreneurs (for 5 projects) 11 mentors 2 facilitators	half-day
makesense	19/03/2022	<i>Day of female entrepreneurship (pitch my target)</i> Training and workshops to share useful contacts for entrepreneurs to open new opportunities.	5 entrepreneurs (for 5 projects) 11 mentors 2 facilitators	half-day



makesense	19/03/2022 - 24/06/2022	<i>Mentorship program</i> A three month mentorship program to help entrepreneurs leaping forward with their project while feeling supported.	8 entrepreneurs (for 5 projects) 5 mentors 1 facilitator	3 months of bi-weekly meetings
Le Textile Lab	15/04/2022 - 06/05/2022	<i>Co-development sessions</i> Through five sessions, five women entrepreneurs met around a co-development methodology to advance their entrepreneurial projects and overcome the challenges they faced. One to one coaching was also organised thanks to the ambassador of the Transfer Lab.	5 entrepreneurs 1 ambassador	5 sessions of 2 hours
Le Textile Lab	13/05/2022 - 08/07/2022	<i>Co-development sessions</i> Through weekly sessions, Fabricademy students met around a co-development methodology to advance their entrepreneurial projects post-Fabricademy and overcome the challenges they faced.	10 students Fabricademy	10 sessions of 2 hours
Textile Prototyping Lab (TPL)	04/05/2022 - 10/06/2022	<i>Coaching sessions</i> Through several coaching sessions we helped Hannah Fischer of Boob Talk to define the product better, create sample prototypes for different functional areas of the bra and business advice.	1 startup 1 knitting coach	4 weeks
Lottozero	18/05/2022	<i>Mixer event</i> An aperitif dedicated to female entrepreneurship, but open to all, where experienced female entrepreneurs from the district and young start-ups from the world of sustainable fashion meet with the aim of	2 entrepreneurs 3 designers	3 hours



helping each other and creating new connections.				
Lottozero	19/05/2022	<i>Lab collaboration on business engagement</i> Presentation of best practices, exchange of know-how, information on infrastructure, data, networks, and the planning of a roadmap toward a more established form of cooperation between existing textile and fashion labs.	9 businesswomen working in different European labs	1 hour and 15 minutes
ZipHouse	26/05/2022	<i>From Waste to Experimental Couture at the Romanian Creative Week 2022</i> Presenting the work of female led sustainable brands to an exhibition "From Waste to Experimental Couture", part of Design section at RCW22 and spreading their sustainable stories.	2 entrepreneurs 8 entrepreneurs from Romania, The Netherlands	1 day
Lottozero	28/05/2022	<i>Brand roundtable</i> Roundtable discussion bringing together three female entrepreneurs and helping them engage with the local community.	3 entrepreneurs	1 hour and 15 minutes
Textile Prototyping Lab (TPL)	30/05/2022	<i>Her textile path</i> Digital event where 12 female innovators presented their own career path and inspiring story. In the second half, the audience could get feedback on their own ideas, ask the innovators questions, and get tips for their own careers in 4 theme sessions.	12 female innovators 148 registrations 99 people in the audience	3 hours
ZipHouse	04-05/06/2022	<i>PopUP Shop</i> Organising the selection of a group of young designers,	9 entrepreneurs	2 days



emergent clothing, and accessories start-ups in order to present them to the general public; in a PopUP Shop type, during Creative Industries Festival, Chisinau.				
ZipHouse	06-11/06/2022	<i>Fabricademy Bootcamp</i> Meeting with inspiring profiles to inspire the participants in their path and help them gather new useful knowledge while expanding their address book.	2 lectors 5 mentors	6 days

Supporting women innovators in their entrepreneurial paths

When exploring the transferability of the business engagement activities, it became clear that our activities could not be reproduced as they were thought of by one lab, but this phase showed us that they could inspire new ones.

Therefore, in this phase, makesense (MAKE) reviewed its challenge solving workshop as a launching event for a longer mentoring program that would create a real support system for young innovators.

Also, in the same vein, the Transfer Labs put in place various new options: for some, coaching directly by the lab teams (TPL), and for others, taking advantage of being part of an ecosystem of resourceful women entrepreneurs who can help each other (Le Textile Lab & Lottozero).

From a challenge workshop to a mentoring program, the evolution of the makesense activity

Last year MAKE organised a challenge solving workshop with 3 entrepreneurs and 6 mentors (*2 per entrepreneur*). As a reminder, a challenge solving workshop is paced by a facilitator with specific questions and generally two sequences (*a time of creative divergence and a time of convergence*) around a precise challenge of the entrepreneur. The goal being to exchange ideas, offer solutions and sometimes change perspectives on a problem.

However, after the workshop, lacking time to continue exchanging with the entrepreneurs was a bit frustrating. Although assistance was provided during the workshop, the link with the entrepreneurs did not seem to be strong enough to allow for longer-term follow-up. This left several questions open: did they succeed in



implementing the solutions they had come up with during the workshop? Did they need help to implement them?

That is why, MAKE decided to improve the support of their entrepreneurs by setting up a post-challenge follow-up, hoping mainly for two main outcomes: supporting young female entrepreneurs over time to ensure that the project does not remain at the idea stage or stop in its tracks (creating a real start-up opportunity) and enabling entrepreneurs to access more resources and contacts while seeing their confidence in themselves and their project boosted (enhancing new business lines).

Below, you can find a table with more information on the mentorship program.

Table 23. The makesense mentorship program

Goals & Format	<p>The mentorship program began with a challenge solving workshop organised during the “day of female entrepreneurship” by MAKE. The workshop took 3 hours in the morning and gathered 5 women entrepreneurs in ethical fashion, 11 mentors working in the T&C sector, and 2 facilitators. The goal of this first step was to tackle some of the entrepreneurs’ most urgent challenges.</p> <p>There was another workshop focusing especially on new business lines in the afternoon, but it will be described later on in this deliverable.</p> <p>After establishing a first contact by phone to make sure that the pairs will work, the entrepreneurs met their (long-term) mentor IRL during this challenge solving workshop. The goal of the mentorship program is to follow the entrepreneurs over a longer period of time. It was organised as follows:</p> <p>Firstly, training is provided to mentors on the coaching posture in the world of social entrepreneurship, with a focus on the empowering and enabling posture to adopt to accompany emerging projects led by women.</p> <p>Then, the mentor-entrepreneur pairs are advised to meet once every fortnight, with a follow-up document of the exchanges to capitalise on each session and to accompany the women entrepreneurs in their increase in skills on complex project management.</p> <p>And finally, to keep the momentum going, meetings are held once a month, online, for all the mentors on one side and all the women entrepreneurs on the other: to debrief, to build a sense of community, to address their concerns and to check that everything is going well in the mentoring program.</p>			
Date & Location	<p>The workshop took place on 19 March (from 9 a.m. to 5 p.m.) at makesense_space, in Paris.</p> <p>The mentorship began in March and ended at the end of June.</p>			
Participants & Outcomes	<p><i>The challenge solving workshop</i></p> <p>Out of 18 participants, 17 were women. The program impacted 5 projects:</p> <table border="0" data-bbox="459 1910 1350 1951"> <tr> <td style="text-align: center;"><i>Project</i></td> <td style="text-align: center;"><i>Represented by</i></td> <td style="text-align: center;"><i>Challenge</i></td> </tr> </table>	<i>Project</i>	<i>Represented by</i>	<i>Challenge</i>
<i>Project</i>	<i>Represented by</i>	<i>Challenge</i>		



Bien Luné-e-s	Anaïs	Achieve a successful crowdfunding campaign
Click and Couture	Tamsin	Set up a communication strategy adapted to her target
Le club des Simone	Pauline	Build brand loyalty
Rolling Fripe	Charlotte	Establish a clear communication strategy to avoid getting lost with her partner
Le coup d’pouce d’Abé	Amandine	Build a business model for her project

A questionnaire was administered to both the entrepreneurs and the mentors who participated in the workshops to measure the impact, and in particular to know if the activities were useful for the entrepreneurs. Here are a few learnings:

The entrepreneurs' motivations for participating in these workshops were multiple: 80% of them wanted to network and open up opportunities and 40% (entrepreneurs could vote for more than one answer) wanted to discover new tools and ideas.

100% of the entrepreneurs are satisfied with the assistance provided by the workshops: 60% rate it as good, and 40% as excellent.

Specifically, the challenge solving workshop provided entrepreneurs with new ideas (60%), new tools (40%), industry contacts (80%), opportunities (40%), and an outside perspective (60%).

9 out of 10 mentors were women. They were also impacted by the activity. According to the impact survey, they feel they improved their skills in project coaching, their creativity, and expanded their network.

The mentorship program

The 6 coaches are women that were present during the challenge solving workshop. For the pairing, it goes as follows

Anaïs (Bien Luné-e-s) with [Laetitia Thomas](#),

Tamsin and Arelys (Click and Couture) with [Gwenaëlle Barré](#),

Pauline and Alison (Le Club des Simone) with [Anne Catel](#),

Charlotte and Hermine (Rolling Fripe) with [Joanna Martins](#) and [Hélène](#),

Amandine (Le coup de pouce d’Abé) with [Maurane Montreau](#).

We have also done an impact questionnaire and regular check-ins to see if everything was going well. Here are a few learnings:

The entrepreneurs are satisfied with the help provided by their mentor coach, out of 5 responses: 3 consider it excellent, 1 good, and 1 average.



The mentoring allowed the entrepreneurs to move forward on specific issues (3), to take action (3) to project themselves in the development of their project (3), but above all to feel supported and surrounded (4). Out of the 6 mentors, 4 considered that this program helped them to improve the way they support projects, 1 to increase their self-confidence, and 1 to increase their ability to question themselves.

The details about the setup of this activity and the content of our training in the coaching posture, will be available in details on the shemakes toolkit.



Figure 39. The challenge solving workshop at makesense.

Replacing mentors with peers: the Transfer Labs' strategy to support their young female entrepreneurs

As mentioned in the table with each of the business engagement activities, the Transfer Labs have also put women entrepreneurs back at the centre of achieving the objectives of this task, by building on the strengths of the community.

Indeed, both TPL and Le Textile Lab, through different forms of activities, both facilitated exchanges between women entrepreneurs so that they could give and receive feedback and help each other overcome challenges by drawing on each other's experiences:

- Le Textile Lab with two series of co-development sessions,
- TPL with an online event where entrepreneurs could get feedback on their projects after pitching.

Below, you can find a table focusing on the co-development sessions that Le Textile Lab has undertaken with 5 entrepreneurs:

Table 24. The Co-development sessions at Le Textile Lab.

Goals & Format	<p>The process can be defined as "a group of people who want to improve their professional practice, whatever it may be, and who help each other to do so because they believe they can learn from each other."</p> <p>A co-development session takes place in 2 hours with, at the centre, the "Client" who wishes to launch a project or solve a problem and, around him, the "Consultants" who help. In concrete terms:</p> <ul style="list-style-type: none"> ● Around a table, 5 women entrepreneurs and a facilitator are brought together to help them go from being idealists to innovators, and to fully realise their potential. ● A session is based on a specific situation of one of the entrepreneurs, which the 4 others will be led to understand, question, give their inspirations, contacts, feedback... ● At each session, we change roles so that each entrepreneur takes on the role of the one getting inspiration. At the end of the cycle, each woman will leave with her own action plan to advance her project or career and will have provided inspiration to the four others.
Date & Location	<p>The workshop took place over 5 weeks, with one co-development session every week focusing on a different entrepreneur and her challenge. It took place in Le Textile Lab's premises.</p>
Outcomes	<p>Globally, the entrepreneurs told us that it helped them realise that they can be more successful through the practice and inspiration of others. And that also, it helped them end up with an action plan to tackle their challenges. Here are the five challenges:</p> <ul style="list-style-type: none"> ● Help me to have all the keys to make my project viable. ● How to create a community of actors in my project? ● What position should I take today to make my project a success in 3 years? ● How can I bring my ideas together in a coherent concept? ● Help me to organise myself and gain stability to develop my artistic career.





Figure 40. Co-development session on one “client” project with the support of “consulting” peer entrepreneurs and facilitator.

One-to-one coaching: a powerful tool handled by both labs and ambassadors

In this second phase of activities, the Transfer Labs also opted for direct support with one-to-one coaching. Here is an example of how the Textile Prototyping Lab (TPL) helped the entrepreneur behind Boob Talk.

Over the course of a couple of weeks, TPL supported Hannah Fischer and her project Boob Talk. The idea of her start-up was to rethink the bra and create a more comfortable – but still supportive bra especially for larger breasts that is produced seamlessly using knitting technology and does not need an underwire.

During the coaching sessions, TPL worked with Hannah to improve the design of the bra, gave her advice on material, textile, fastening and processing considerations. In order for the seamless knitting structure to provide sufficient support while being comfortable, Hannah identified different zones that require different stretchability and fastness. With the help of an outside knitting expert from one of the textile research labs with whom the TPL had cooperated before, Hannah was able to try different knitting patterns and evaluate their suitability for the different functional zones of the bra, so that she can now start to create functional prototypes.

Table 25. “Boob Talk” coaching sessions at the Textile Prototyping Lab.

<p>Goals & Format</p>	<p>Strategic areas of interest:</p> <ul style="list-style-type: none"> ● Support an upcoming founder in bringing their project one step closer to the market. ● Use the expertise of the TPL staff to advance ideas of new founders in a collaborative process. ● Use resources from our network (external experts) where our own expertise is insufficient.
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Format – series of coaching and prototyping sessions at the TPL
 First session: Presentation of the project and evaluation of needs for the founder Hannah, coaching on suitable materials for the textiles and the fastenings.
 Second session: Identifying the requirements for the different functional zones of the bra and creation of first, basic knitted samples.
 Third session: Intensive, full day prototyping session with knitting expert Theresa to create more complex samples and decide on suitable knitting patterns.

Date & Location	Location: Textile Prototyping Lab Dates: 04.05.2022 (3 hours), 25.05.2022 (3 hours), 10.05.2022 (8 hours)
Participants & Outcomes	1 upcoming founder (Hannah Fischer), 3 TPL staff, 1 knitting instructor (Theresa Kretsch). Hannah was very happy with the results of the coaching sessions and is now ready to produce her first fully functional prototype and can start wearability tests. Especially the technical session with knitting instructor Theresa was extremely helpful.

The one-to-one format was really helpful to make an impact on the progress for the coached founder but is quite time-consuming and work-intensive. The results for Hannah were very positive and she profited a lot from the program.

For things outside the TPL's direct expertise (*like complicated, specialised knitting patterns*), it was very good for the outcome of the coaching session to get an outside expert. Working with the expert, they could also increase their own knitting knowledge.



Figure 41. Coaching and prototyping sessions with an upcoming founder at the Textile Prototyping Lab.

As stated by the subheading, labs were not the only ones who handled one-to-one coaching sessions. As part of their mission, ambassadors were also really helpful to the entrepreneurs supported in this phase.

Camille Le Gal, founder of Fairly Made, was ambassador to Le Textile Lab., Camille, thanks to her background and all the expertise she has accumulated as an entrepreneur herself, was able to help two women entrepreneurs:

- Manon, who developed an on-demand, ready-to-wear brand with dead stock and who needed advice as she was about to open her own store.
- Souad, who is working on a sports collection in a very niche market - modest clothing - and wanted advice on how to get into it.

Mutual support between women, listening to one another and belonging to a common sector are three key factors that make these individual coaching sessions a key to success in the entrepreneurial journey of these young women, since they allow them.

- to gain a great deal of confidence,
- to gain precious days of work and reflection on certain subjects,
- to de-dramatise certain blocking challenges,
- or to discover models of success that are more similar to themselves and thus to change their mental model of their ability to carry out their project.



Figure 42. Le Textile Lab owner and her Ambassador from the first phase of activities.

Amplifying women innovators' voices to broaden their network and inspire future generations

One of the greatest challenges of this new phase was to think of activities that would feed the new business lines also, as it was not so much the case in the previous one.

This is why all the Transfer Labs have worked to give more visibility to these entrepreneurs in a variety of formats, with several benefits in store:

- entrepreneurs who expand their network and thus meet potential new partners,

- young girls inspired by the journey of these entrepreneurs who get closer to their local communities.

To get a better understanding of this type of activity and outcome, let us look at a few activities in particular.

Makesense: Pitch my target

Table 26. The Pitch my target workshop at makesense

Goals & Format	<p>The objective of this workshop is to allow entrepreneurs to create a network and/or to enlarge their community. It is a workshop of sharing and mutual help. All good contacts are welcome: those coming from the mentors, but the entrepreneurs can also share contacts between them.</p> <p>The workshop lasted 2 hours and 30 minutes:</p> <ul style="list-style-type: none"> • reception of the participants, • pitch training, • individual work on the pitch, • pitches • sharing of contacts through a QR code page <p>We had the same 5 projects as for the challenge solving workshop, and the same 10 mentors too.</p>
Date & Location	<p>This workshop took place on March 19 2022 at MAKE's office in Paris.</p>
Participants & Outcomes	<p>Out of 18 participants, 17 were women:</p> <p>Anaïs needed contacts of people who had already launched a crowdfunding campaign,</p> <p>Charlotte needed contacts of festival organisers and directors of higher education institutions in Paris,</p> <p>Tamsin needed contacts of communication professionals,</p> <p>Pauline needed contacts of exhibitors in events in Montpellier (France)</p> <p>Amandine needed contacts of seniors who could sew.</p> <p>After the workshop, the entrepreneurs received tables with all the contacts that were shared by participants and mentors, and who it came from. After measuring the impact of this activity, it appeared that:</p> <ul style="list-style-type: none"> • all of them (5) got the contacts they needed, • but 2 of them did not contact the contacts given to them during the workshop. There were two reasons for this: "stepping back from the project and changing objectives" and "obtaining more relevant contacts afterwards".





Figure 43. Pitching and testing one's ability to grow and engage networks.

What is particularly interesting here is the fact that by facilitating connections via people who have already developed a common and collective trust during the morning's challenge solving workshop, the activity not only allows the network to grow in a one-shot format but also increases tenfold the chances of this expanded network sustaining itself as the connections between people become multiple.

To illustrate simply: A and B develop a relationship, B who knows C connects C to A and all three then connect on different levels. Imagine this with a lot more people involved!

To find out more about how to set up this activity, or to discover the content of the pitch training, we invite you to check [this part of the open toolkit](#).

Ziphouse: From Waste to Experimental Couture Exhibition

Table 27. The Waste to Experimental Couture exhibition by Ziphouse.

Goals, Format & Participants	<p>"From Waste to Experimental Couture" was part of the Design section of Romanian Creative Wear 2022 in Iasi.</p> <p>The goals of that exhibition were to:</p> <ul style="list-style-type: none"> • give more visibility to sustainability initiatives and designers behind, from Romania and from other countries • give young designers the opportunity to have contacts in a new market. <p>Designers from brand Ramuri, Irina and Valentina, presented 2 pieces from their latest collection to the exposition. Along with other 8 sustainable designers they presented creations made with care for nature from organic textiles with responsible consumption of materials.</p>
Date & Location	It took place at the Romanian Creative Week 2022 (Iasi) on 26 May 2022.
Outcomes	<ul style="list-style-type: none"> • Promoting sustainable initiatives; expanding to new markets. • Getting in touch with the sustainable representatives of Romania. • Creating a roadmap for future collaborations.

Table 28. Her Textile Path at the Textile Prototyping Lab.

<p>Goals & Format</p>	<p>The aim of the event was to inspire and empower the audience to dare to go their own innovative textile path, that does not necessarily have to be straight, simple, or easy, but instead can take on many forms and may involve detours. The more intimate Q&A part of the event gave ample opportunities to present own thoughts for textile innovation and could help participants gain more focus.</p> <p>Planned as an online event with two parts, Her Textile Path showcased the different career paths of female textile innovators.</p> <ul style="list-style-type: none"> • In the first phase of the event, 12 innovators – <i>3 from each of the four sectors material, technology, product, and service</i> – told their individual story of how they made their own textile path, highlighting difficulties and chances encountered on the way. Among them were developers of textile machinery, owners of sustainable and/or fair clothing brands, the creator of the first fashion label for little people who is also developing a body mass table for little people to make fashion more inclusive and creators of an AI-quality control system. The speakers also gave insight into how they identified a need or a niche not yet occupied, and how to find a solution for the specific issue they were addressing. • In the second half, the audience (<i>consisting mainly of students from the textile sector and young textile professionals</i>) had the chance to speak with the innovators in thematic 4 breakout sessions (<i>material, technology, product, and service</i>), get feedback on their own innovative ideas and advice on how to advance their own career. <p><i>Strategic areas of interest</i></p> <ul style="list-style-type: none"> • Create a platform to show innovative and successful female careers in textile. • Give aspiring female innovators at early career stages the chance to get feedback from more experienced role models. • Show that textile career paths are manifold and there is no “right” or “wrong” way to do it. • Lessen the fear and doubts about founding their own businesses _____ for the participants. <p><i>Format – online event with different stages</i></p> <p>Digital event that allowed for a large number of participants from different locations. Presentation language was in English to make the event as accessible as possible. Short presentations in the first half from the female innovators followed by 4 thematic Q&A sessions in the second half</p>
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Date & Location	30.05.2022 online via platform Hopin from 6–8.45 p.m.
Participants & Outcomes	<p><u>Reach:</u> 12 female speakers; 148 registered audience members, 99 participating audience members; 1 Shemakes ambassador.</p> <p>The survey showed that most participants were from a textile background and either students or early career professionals, exactly the audience we wanted to reach for this kind of event aimed at empowering innovative textile careers. The participants were mainly from the EU (with a German majority), and some from outside the EU and overwhelmingly female, so the target audience was also reached in this aspect.</p> <p>The feedback was very positive (both from speakers and audience), and many of the participants wrote to us that they were amazed and inspired by the speakers. We are already planning follow up events and thinking about doing a similar activity once or twice a year. Female innovators are often overlooked, and this activity is a very and easily organizable format to give them a platform. There were also connections formed between some of the speakers who plan on staying in touch and supporting each other with their specific skills.</p>

The other activities that served this goal are presented in green in the table showing all the activities and are similar formats with similar goals: roundtables, afterhours, broadcasted interviews or learning expeditions in large impact textile communities such as Fabricademy.

Creating a network of better skipped and equipped labs

Lottozero organised an event that brought together several labs so that they could grow together in their ability to support women's entrepreneurial adventures over time. It is in the DNA of Shemakes to dream and co-create an ecosystem that has the reflexes, methods, tools, and support systems to help bridge the gender gap. The idea is not to create an ephemeral consortium but to work on the capacities of a maximum number of labs in different countries so that they see the benefit of being part of a network of actors and that they move towards the achievement of the gender objectives defended by shemakes.

Lottozero: Lab collaboration on Business Engagement

Table 29. The Lab collaboration meeting organised by Lottozero.

Goals & Format	The main objective of this meeting was the presentation of best practices, exchange of know-how, information on infrastructure, data, networks, and the planning of a roadmap toward a more established form of co-operation between existing textile and fashion labs.
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Date & Location	It took place at Lottozero's office on 19 May 2022.
Participants & Outcomes	<p>5 representatives of the labs and 1 ambassador as both a moderator and observer, taking notes, writing down the interesting quotes, keeping track of the timings and of results of the exercise.</p> <p>All the participants are labs working in the field of textile design and art: Le Textile Lab, from Lyon, France; The Textile Prototyping Lab from Berlin, Germany; the Fashion GreenHub from Roubaix, France; and the European Creative Hubs Network.</p> <p>It was perceived as a first step into further dedicated cooperation on the Shemakes tech and inclusive subjects, under the form of a "working group".</p>

Participants to the business Engagement activities carried out during this second phase

If we count single participants (some participants took part in several activities), the labs working on business engagement topics during this phase managed to:

- **help 26 women entrepreneurs to move forward in their entrepreneurial journey** by removing operational tensions and enabling them to take a leap forward with their project, thus contributing to the goal of start-up opportunities
- **support 24 entrepreneurs in promoting their project and creating links between them and their ecosystems**, thus facilitating contact with specific contacts and opening up opportunities for new business lines.

All of this is in addition to, as mentioned above, more than **100 young women who were inspired by the speaking out and highlighting of innovative women entrepreneurs** who have had many more opportunities as usual to tell their stories during the past months.

Outcomes and Gender Vision Findings

As of today, business engagement activities are successful in:

- Lifting women innovator's obstacles, especially self-confidence.
- Creating a safe space to exchange ideas, develop and get a positive advantage of the community's collaboration.
- Networking women in the T&C sector.
- Nurturing women's pride in their creativity and encouraging knowledge sharing.



- Matching women with people and structures that will open new entry points for business opportunities.
- Helping women not to be held back by gender stereotypes - *i.e., make women entrepreneurs understand that it is allowed to make money and run a sustainable business.*

Out of Shemakes values, the ones that are most represented in Business Engagement activities are **collaboration, empowerment, and inspiration.**

By mapping the local business ecosystem and running tailor-made engagement activities to match women innovators with mentors (resources) or yet-established entrepreneurs, solutions to business challenges are found and new **collaborative** working relationships created (immediate outcomes).

These activities and the experience of mentors provided free time, energy, and resources to **support** the participants, enabling female innovators/entrepreneurs to feel engaged and more confident about themselves and their projects This motivates/enables them to turn their innovations into new business lines or start-ups (intermediate outcomes).

These business lines are led by women and promote both sustainability and women's empowerment (opening up promotion opportunities and eliminating the glass ceiling). This will lead to more women-led start-ups and women in tech enabled environments and ultimately the creation of new T+C business models.

4.3. Model adaptation based on learnings Phase 2

Key Learnings

The key learning point arising from Phase 2 is that the previously mentioned heterogeneity of labs on business tools and services that could be provided by them made us rethink our model of transferability. Where we thought that the labs should meet around specific methods, it actually appeared important to increase the knowledge of the labs on the issues and the objectives/sub-objectives to be reached in order to really work on the gender gap.

Secondly, although each lab was inspired by what had already been done or what others were doing, it was important that each lab were able to organise activities that were unique and adapted to their local context, knowledge, etc. Here are some correlated learnings:



On the functioning and role of the labs

- The transferability of the activities as such seems complicated to implement for many reasons: different realities and cultures which imply different relationships to entrepreneurship and to the way of approaching it, divergent desires of the labs in terms of skills development, etc.
- The labs have a lot to contribute with their knowledge in different sectors, but what seems to be interesting is to place themselves as facilitators of exchanges before everything else.

On the needs of women entrepreneurs

- The need for a sense of belonging to a community is strong and is of course correlated with the ability of women to continue to push their projects over time
- A need to be addressed even more as it seems to be crucial and come up a lot in the discussions, is that of breaking the financing barrier for women: both because it is complicated and because of women's relationship to money.

Model adaptation

For the time being, the adaptation of the model has been based on breaking down large objectives into sub-objectives to help labs understand how to contribute to the Shemakes project. However, it seems that other steps are missing to arrive at the final Shemakes business engagement model, namely:

- Understanding the path from these sub-goals to our overall goal to make sure we support each step for the innovators.
- Improving the ability of the labs to upskill each other.

Table 30. Steps towards the final model & tools.

Phase	Tasks	Date (Timing)
Reputation building and finalisation	Meetings among MAKE and the TL to analyse the current model and think about the final model	Jul-Aug
	Consortium meeting to share learnings and exchange on a first version of the final model	Sep
	Development of the final model and tests with the new set of ambassadors	Nov-Oct
	Final report	Dec



5. Conclusions and outlook

The main goal of the work reported in this deliverable has been to validate the Innovation Services and other Shemakes tools and methods developed in the first phase of activities, while extending the network from the 6 core Labs in 5 EU Member States to 18 Labs in a total of 16 Member States and Associated Countries. The degree to which this has been successful, and the insights gained in the process, have important consequences for the development of the project's final toolkits and the definition of its post-project impact path.

In this context, a first consideration to be made concerns the richness of the results of the activities in this second phase. In the short space of six months, the network tripled in size, the new Labs were aligned with the Shemakes model and values, and they were thus able to "hit the ground running." Nine community engagement initiatives and events were held, of which 4 developing wholly new formats. Three Lab-to-Lab projects developed different aspects of a sustainable wool value chain, with the "Wool Mondays" series witnessing over 250 participants and attaining a Facebook reach of over 7.500 individuals. Fifty women entrepreneurs were supported in developing their entrepreneurial projects and paths. This not only validates the transferability of the Shemakes model and tools, but the vibrancy deriving from the range of participating countries and cultures validates the sense of the Commission's requirement for geographical coverage as a guarantee of a solid impact path.

A second point is related to the systemic quality of the Shemakes approach. In all the key moments of the uptake and integration process of the Transfer Labs in WP3, all of the other work packages contributed to its unfolding dynamics. The Gender Vision of WP1 provided the core values guiding the path from onboarding through evaluation. The Toolkit of WP2 fed the transfer of existing activity formats and inspired the definition of new ones. The Gurus and Ambassadors identified and groomed in WP4 developed leadership for network integration. Finally, the communication activities of WP5 played a strong role in accompanying these processes and strengthening their impact. A core element of the success of this multi-faceted operational framework has been its ability to find the appropriate balance between clear guidelines for replicating, adapting, and reflecting on the Innovation Services activities on the one hand and, on the other, the freedom to bring in different knowledge, ideas, and



experiences, allowing for flexibility and enriching the feedback path leading to the constant development of the framework itself.

Finally, our understanding of the complexities surrounding the question of gender parity at the workplace – the core issue of the H2020 call and the Shemakes project – continues to grow as we reflect on activities such as those reported in this document. Already in the visioning exercises of WPI it became clear that broader societal models “welcoming differences” at all levels needed to emerge as a prerequisite to reaching more concrete and immediate goals such as pay parity. In this report, we can see this happening through the emergence of new models of community engagement, new ways to carry out collaborative research, and new career paths for new business models. The second phase of WP3 thus strongly reinforces the intuition (first emerging from the Advisory Board’s reflections on the results of phase one) that a new paradigm of work, production and consumption is emerging that sees difference as a value, and that women not only benefit from it but are actually leading this change.

What we have seen then is a validation of Shemakes Labs as an “enabling environment” that can accompany women, and the textile and clothing industry as a whole, through this regenerative transition. Work in the second phase has tested both the robustness of the models and tools framing network activities and the degree to which new ideas and insights can be captured through organic growth and flexible adaptation. These rich inputs can now feed into the final months of the project, in which the lessons learned are incorporated into the definitive version of the vision, the toolkit, and the models that define the Shemakes approach and structure the Shemakes network.



Document information

Revision History

Revision	Date	Author	Partner	Description
V 0.1	11.05.2022	I. Boszhard; C. Raspanti; B. Sandini,	WAAG	First draft and table of contents
V 0.2	27.06.2022	I. Boszhard, C. Raspanti, B. Sandini; A. Sofronea, E. Sandu,, M. Real; V. Senave	WAAG, REDU, IAAC, MAKE	Second draft
V 0.3	18.07.2022	F. Thureau; K. Junge; A. Cabrera	TCBL, TIG, MATRIX	Third draft (peer-review)
V 0.4	25.07.2022	B. Sandini, C. Raspanti; A. Sofronea; M. Real; V. Senave	WAAG, REDU, IAAC, MAKE	Fourth draft (answers to comments)
V 1.0	31.07.2022	F.Thureau	TCBL	Final version uploaded

Statement of Originality

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