

co-creation for concept design

living document

Version: August 2019



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This **booklet** is a living document, in which we collect and share the *strategy* and *materials* for, and *results* of, co-creation in **Mingei**. Assignments for partners, related to co-creation, will also be addressed in here.

Co-creation in Mingei is done in two ways:

- 1) Based on the progress in the project, Waag will host a **co-creation workshop during each consortium meeting**. In these workshops all partners participate. The goal of these sessions is to align insights, outcomes and approaches amongst partners, and to adjust development accordingly.
- 2) Each pilot partner will host several (minimum of 4) **co-creation sessions on site**, to collect knowledge, experiences and insights on each craft individually, and to develop concepts for pilots. Waag will support each pilot partner in the preparation of these sessions, but *each pilot partner is responsible for the execution on location*.

Waag is in charge of the implementation of co-creation in Mingei. To help facilitate the following tools and supportive measures are put into place:

1. This **living document** will serve as a reference guide, as well as a place to document progress. Waag will keep this document up-to-date, fed by the input of each partner.
2. Waag will host **tri-weekly 'co-creation calls'** specifically created to support the pilot partners in their process of hosting and facilitating co-creation sessions. These calls are specifically meant for the three pilot-partners, but other partners are welcome to join.
3. Waag has identified 4 types of co-creation sessions that need to be performed over the course of the project by the pilot partners. Waag will provide, leading up to each sessions, **materials and exercises**, to execute these sessions. These materials will be added to this document.
4. Each pilot partner will get **one-on-one coaching**, when needed. Depending on the needs of this partner, this could include a site-visit, on-site coaching, support with session design via Skype, etc.
5. Waag will host a **co-creation program during each consortium meeting**. The content of this program can be adjusted to the needs of the project partners.

Mlinge Strategy

co-creation

Co-creation is a design method in which **end users*** and other people with specific **relevant knowledge and experience** are involved in a design process. In co-creation, creative and inspiring work forms are used to arrive at new, innovative insights.

The goal of co-creation is to create **shared values** and support with and alongside those involved - and it can actually be applied in **any context**.

It is a common approach for design agencies. But nowadays other organizations, such as government institutions or cultural organizations, increasingly involve end users in their design process to, for example, develop policies or organize exhibitions.

Regardless of the context in which you operate, the introduction of a co-creative approach ensures the **relevance** of your end product**, **agency** and **ownership** among the people with whom you design, and a **sustainable implementation** of the process and end product.

By involving experts, you ensure **relevance**, as you connect with an existing dialogue on a specific topic. A topic needs to resonate with the audience that you want to reach, and it has to be important to the experts involved.

When you co-create your solutions, you will generate **agency**, which means that the people involved get a concrete view of their options. They get to see how things could be handled or changed, which gives them perspective to make informed choices that are most fitting to their circumstances.

Ownership will emerge when people feel that they are part of something, or when they have made something themselves - then they are proud of it, and are more likely to commit to its future.

And finally, experimenting with designs, together with co-creators, will generate **sustainable** (durable) design options. By testing, (re)iterating and improving designs and solutions, you will eventually get to the best fit for your particular audience, in your particular context.

That is because co-creation starts with the idea that everyone has knowledge and experience, especially about their own lives. This diversity of knowledge is valuable; participants build a relationship, and ideas and shared values arise in the dialogue with each other.

Co-creation is not a one-time intervention, nor is it a consultation***. Outcomes can surprise and lead to innovation, but that also means that there must also be room for uncertainty. Co-creation is thus an inclusive process that requires clear communication, and also requires time to form. And that must be properly supervised.

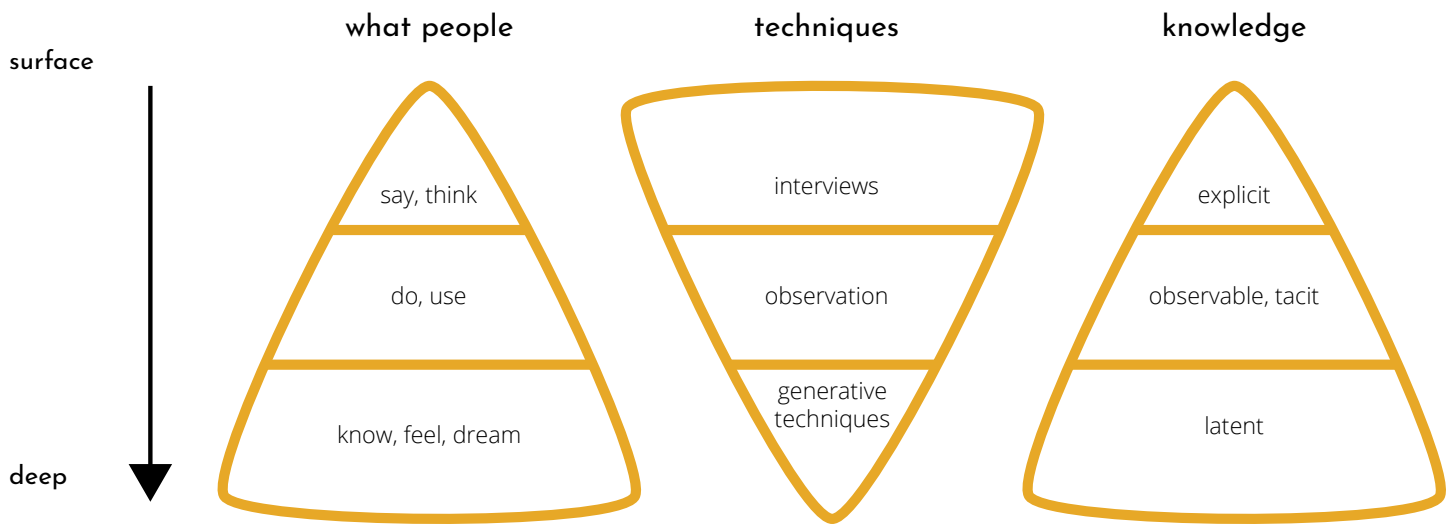
To use co-creation effectively and efficiently an organization should be able to facilitate this bottom-up process, and give some freedom for the project to change course (based on the outcomes of the co-creation and intermediate results).

* *end users is the umbrella description for people who will (potentially) be using a product, service or application.*

** *end product is the umbrella description of a product, service or application that is being developed*

*** *Cottam, J., Leadbeater, C., 2004. RED PAPER 01 HEALTH: Co-creative Services. London: Design Council.*

co-creation



Different levels of knowledge are accessed by different methods
(Sleeswijk Visser et al., 2005)

Co-creation is what we call a 'generative technique', when it comes to gathering information and knowledge. The way we approach people will influence the type of information we can collect.

Co-creation is the most elaborate participative design practice as it goes beyond doing interviews and observing people. It uses active, hands-on, social activities and methods that help trigger latent knowledge by accessing different parts of the human brain; knowledge that is not on the surface and easy accessible, but knowledge that is in someone's 'bones'; knowledge of muscle memory, knowledge of routine, knowledge of unspoken tradition and knowledge of the subconscious.

This means that co-creation can lead to unexpected results - and inspire totally new, but very relevant, design and research directions, other than anticipated.

To guide co-creation, you must understand the process well and also have enough tools and methods at your disposal to set up the process.

As a process facilitator of co-creation, you must be comfortable with uncertainties, have some talent for improvisation and develop some specific social skills, or mindsets.

7 mindsets of co-creation



The 7 mindsets we describe here support an open, constructive and responsive process - the ideal conditions for co-creation.

These mindsets, relevant for both the facilitators and the participants of co-creation sessions, are regularly overlooked because they are less tangible, interpersonal skills that are often used unknowingly. But by addressing them you enable people to fully participate in a process and exchange knowledge and ideas, while you can keep track of your own goals.

They always play a role in co-creation, regardless of the context. It is up to the process facilitator to be aware of the effect of a mindset at the right time and to act accordingly.

Below we describe the 7 mindsets (in the order of the pictograms above), with their corresponding attributes.

OPTIMISTIC

- see the possibilities
- believe in a solution
- be constructive
- encourage others to take a positive view

HANDS-ON

- make things tangible
- create while doing
- be practical and pragmatic
- improve something that exists (prototype)

FLEXIBLE

- adapt to new contexts
- allow others to change the direction
- go where the stories are
- alternate between in-depth and superficial

FEARLESS

- take a leap of faith
- be open to criticism
- trust your intuition
- allow for uncertainty

EXPERIMENTAL

- both success and failure lead to insights
- test hypotheses
- allow yourself to be surprised
- try something new

CRITICAL

- question the ordinary (ask why?)
- introduce other expertise into your process
- consider the bigger (societal) picture
- find a common language

SENSITIVE

- step into someone else's world
- get to know people and show empathy
- allow yourself to be influenced
- challenge your own assumptions

5 stages of co-creation



This working structure for co-creation allows room for flexibility and is adaptable to individual specifications and contexts. It has been presented as a linear process, but needs to be considered a guideline, that allows for **reflection**, **iteration** and **revisiting** previous stages.

FOUNDATION

A co-creation project starts with a 'design question' and a solid foundation. This includes creating a balanced team, considering the position and profile of an organization, the project's scope, limitations, mandate and rules and regulations for cooperation. It is about having a common perspective on what you need in the project, and of what you could achieve with the skills, scope, and profiles at hand. If it turns out the project needs different foundations than you can provide, you can work this out early - instead of being surprised by it later on.

CONTEXT

For co-creation to take effect you need to step into the world of the subject, its stakeholders and its context(s), and be open and emphatic to other agendas and solutions. This process of opening up, and emerging is what we call **sensitizing**, and it is what prepares you for working with diverse communities. It could include, but is not limited to, desk research, exploratory interviews, work sessions with specific people or groups, excursions and mapping of the context.

COMMUNITY

Without people, there is no co-creation. Each co-creative process will require the involvement of various stakeholders that represent a variety of expertise on a specific

topic like users, citizens, policy makers, business owners, scientists, artists, children, etc. You need to bring them together as a community. Sometimes, work for community and context stages take place simultaneously or in reverse – as you often need some stakeholders to familiarize yourself with during your context stage.

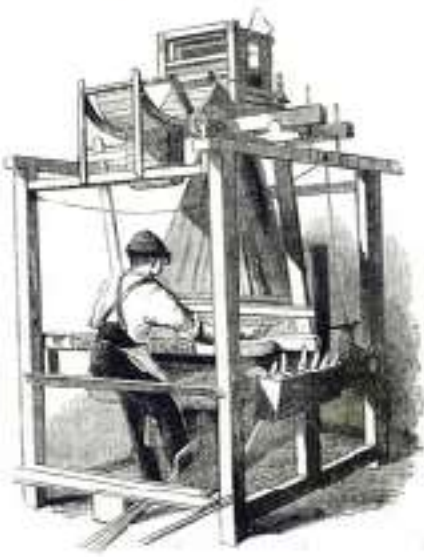
WORKSPACE

Although the other four stages are vital for the entire process, the most time is spent in this stage. When all the bases have been covered within your own organization you can start creating in the **work space** with the **community** you have built. Allow for plenty of face-to-face interaction; learning from each other and, above all, creating, exploring and developing things together.

The work space is also an iterative space, which means that development in this space does not necessarily need to take a linear form. You can go back to previous designs, ideas, and concepts, and improve them, in cooperation with the same and/or new co-creators.

WRAP UP

Every project will wrap up at some point. At that point, there is much to reflect on, but also a lot to look forward to. Part of the co-creative process is that you allow room for uncertainty; the outcome might not be what you would have expected. Evaluating this process will help you pay attention to these new insights and at the same time reflect on your assumptions and ambitions. You also want to look ahead. How would you like to implement or scale-up your results? What is needed to make this happen?



co-creation in Mingei

In Mingei craft/pilot partners, technology partners, research and design partners and external experts will work together, in co-creation, to develop new (technological) solutions to capture and share knowledge and skills for crafts. To achieve this, several work-sessions with (a combination of) these different partners and experts need to be organized over the course of the project.

Each **pilot partner** representing one of three crafts (silk weaving, glass-blowing and mastic harvesting) **will need to organize their own co-creation process** and work together with the tech partners. The tech partners will heed the needs and requirements that follow from these co-creation sessions, and they will take part in this iterative process.

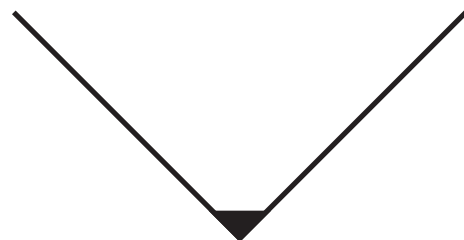
Each pilot partner will eventually also host the (technical) interventions or solutions that are developed in the Mingei project in a pilot.

This is why it is important that each pilot partner will assign at least one person, but preferably two or three people, to host and facilitate these local sessions, and coordinate the pilot(s).

Waag will coach these people, and give support where needed, long-distance, and, when time and budget permits it, on location.

Co-creation is an iterative approach, which means that whatever is going to be developed will go through multiple stages of review, reflection and improvement – with the selected group of stakeholders and communities.

CRAFT + TECHNOLOGY



NEW WAYS TO DOCUMENT & SHARE CRAFT HERITAGE

co-creation strategy

In Mingei we are working towards different (technical) solutions to document and share crafts. What these solutions are, need to be conceptualized; made into concrete ideas to test and experiment with. We use co-creation as a way to first **better understand** the crafts and the context of their representation, but also to **develop concepts**.

Below, we outline the requirements of a concept. A concept includes:

- **An innovative idea or product**
- An intended audience
- An intention / goal
- A clear idea of stakeholders
- Scope
- (technical) requirements

In order for us to get to these concepts, each pilot partner needs to host a series of co-creation sessions - with each session focussing on a different aspect. On the next page we present a general guideline for these sessions. It describes the topic of the session, the general order in which these sessions need to be performed and a timeline. In later stages Waag will provide more details on the execution of each session.

Keep in mind, it is a guideline, not a strict instruction. Context, timing and situational occurrences are all factors in the process. The important thing is to be mindful of the bigger picture (for each organization). The guideline will make it easier to communicate about progress.

Over the course of the project Waag will provide methods and coaching for each type of co-creation session.

workspace

co-creation sessions

prototyping, testing and iteration

Coaching will be done via tri-weekly 'co-creation calls', one-on-one coaching calls, on-site visits and via workshops during consortium meetings.

Waag has helped facilitate a version of the first co-creation session for the Haus der Seidenkultur in Krefeld, and hosted mini-versions of this type of session for the other two pilots during the consortium meeting in Krefeld. These sessions **should be redone in some form on location**, with local experts, hosted by the pilot partners.

In general, it is important to consider that the nature of co-creation is that **it can take you in unexpected directions**. Sometimes it might feel that nothing that you wanted has come out of a session. Understand that that is also a result, and you need to take that with you in the development of your concepts.

Before you start any co-creation session, determine who (person or organization) is going to be the 'owner' of the results of the session, and with that, the owner of the concepts that are being developed. In this project, the pilot partners are most likely the 'owners' of results that will inform the researchers and developers.

co-creation sessions

Each type of session described below has a specific goal in the process. For each individual session Waag will provide a more **detailed instruction**, including a **guideline** for documenting the outcomes.

To best reach each goal, you need to involve the right people at the right time - and in all cases: these people need to be given space to be heard - you can't force your own agenda on these people. A facilitator needs to be able to motivate and coach participants towards co-creative results. This would include asking 'stupid questions'.

The time-line below is an indication for the planning of the sessions for each pilot partner. Waag is available to assist each pilot partner in setting up the sessions during the tri-weekly calls, during one-on-one coaching calls, and via e-mail.

| Activity | Planning |
|--|---------------------------|
| Co-creation session type 1: IN SCOPE | August - October 2019 |
| Consortium meeting Chios: workshop with project partners | September 2019 |
| Co-creation session type 2: STATE OF THE ART | September - November 2019 |
| Optional: launch surveys* | November 2019 |
| Co-creation session type 3: PUBLIC VIEW | November - December 2019 |
| Consortium meeting Paris: workshop with project partners | December 2019 |
| Co-creation session type 4: SHARED PERSPECTIVE | January - March 2020 |

The central goal of the Mingei project is to *digitize and transfer knowledge about the (in)tangible aspects of crafts*. Following that goal, we can identify several research questions:

1. How do we define the term 'craft'? What is considered a craft, and where does it meet art and/or industry?
2. Who has the knowledge and expertise on a craft, and who do we need to transfer this knowledge to?
3. How do you identify and capture intangible aspects?
4. How can you digitize knowledge and expertise that is so inherently practical?
5. What is the best way to transfer knowledge to specific audiences, in specific contexts?

We have to understand that these questions can be answered in many **different** ways, because they can all be influenced by the context in which they are asked. In Mingei we will use three different contexts, each connected to a different craft (silk weaving in Germany, glass blowing in France, mastic harvest on Chios), to research these questions.

* see instruction co-creation session type 1

co-creation sessions

Some additional/specifying questions that can be asked for each craft are:

- What does this craft entail, from a cultural heritage perspective?
- What is the general knowledge about the craft?
- In what way is this heritage craft performed throughout Europe/the world?
- What are the local variations of the craft?
- Who are (currently) responsible for maintaining the skills and knowledge?
- Which (part of the) craft is close to extinction?
- What will happen when this craft goes extinct?
- How easy is it to get into the craft?
- What is the future for the craft?
- In what way is this craft suitable for reinvention (with new technology)?
- What do we want the next generation to learn/maintain from the craft?

Participants

For this project, each pilot partner has created a list of stakeholders, relevant to the context of the specific crafts, but also relevant to the context in which the craft will be presented to the outside world (museum, tourist agency, etc.).

Each context will have its own specific stakeholders, but the following type of people are relevant in each context: craftspeople, (crafts) teachers and crafts-organizations, end-users (visitors, tourists, etc.), institutional professionals (curators, tour-operators, etc.) and educational experts.

For this project, the technical partners will also play a vital role in the co-creative process.

prepare for co-creation

The goal for the first co-creation session is to set the stage: **'understanding the craft'**.

Even though there are assumptions about the scope of the project, it is important to gauge these assumptions with the experts involved.

This first session is often an introduction and will help both experts and project partners get used to working together, to co-creation, and it will create space for unexpected outcomes. The first session often will also help to get a better understanding of the stakeholders that need to be involved in the next stages of the project.

Below we describe the general steps for setting up and hosting a session. We will go into more detail during the coaching calls (tri-weekly co-creation calls, or one-on-one calls).

Preparation

Prepare a short presentation on the Mingei project. Try to capture its essence in a maximum of 7 minutes. Primarily focus on how the project is relevant for the people involved in the session.

Invite a group of 5 to 15 people to a session. Quality is more important than quantity in co-creation. Make sure that the people you invite are willing, pro-active, and have relevant knowledge and experience to share. It is better to have 4 of those than to have 20 unmotivated people.

Prepare a time slot of about 2-4 hours, in a room with enough light, large tables and space to move around. Make sure it is at a convenient moment for your participants. (For example: if most of

your participants work during the day, plan a session in the evening or weekend). Be flexible. Prepare all your session materials beforehand and make sure there is enough food and always something to drink during the session.

If possible, create access to a space where the craft is being practiced, or provide materials to practice the craft (depending on the type of craft).

Execution

Make sure you host the session with at least 2 people. One can be in the lead, the other can assist and makes notes.

Remind yourself of the 7 main 'mind sets' of co-creation: Be flexible, experimental, critical, optimistic, hands-on, sensitive and fearless.

Start the session with the short presentation on the project.

If the participants are not yet very familiar or comfortable with each other, you can opt for a warm-up activity after that, like 'Portrait Drawing' (<https://ccn.waag.org/navigator/tool/portrait-drawing>), '4 Quadrants' (<https://ccn.waag.org/navigator/tool/4-quadrants>). At least make sure all participants are aware of each other's names and background.

Reporting

For each session there is a suggestion for documentation included. As these are suggestions - please add items or change them if that will fit your case better.

co-creation session type 1: IN SCOPE

At least one co-creation session should be organized with craftspeople, educators and professionals working with the selected crafts.

| | |
|-------------------------|---|
| Participants: | 5 - 15 people |
| Goal: | <i>Understanding the craft.</i> Define the scope of the craft, and the needs for documentation and knowledge transfer. What to include and exclude? What is the most important and what is a bonus in relation to the craft? What do we need to know from the intended target group (end-users)? |
| Concrete result: | Scope of a craft, ambitions of craft people, anchors for narratives optional: content for a survey* |
| Time: | 3 hours |
| Planning: | Between August and October 2019 |

Examples of participants:

Amateur practitioners - representing crafts as a hobby

- *local craft associations*
- *hobby clubs*
- *members of online crafting communities (e.g. Facebook-groups)*

Professional practitioners (artistic)

- *Private artists (Etsy?)*
- *Art school students*

Professional practitioners (industrial)

- *(former) factory workers*

Arts & crafts educators

- *museum educator*
- *art teacher*
- *art school teacher*

*** survey (optional)**

Based on the results of this one co-creation session a survey could be composed which could be distributed among the Mingei project following (via the newsletter, or website of the project or via the museum and tourism-channels of the partners) to gauge the results, and the interest in the subject among the general public. Ideally, this survey should to be conducted among adults visiting the various museums, parents of schoolchildren and teachers and among the members of the various crafts organizations.

co-creation session type 1: IN SCOPE

| timing | content | materials | documentation |
|---------------|--|--|--|
| 00:00 - 00:10 | <p>Introduction</p> <p>Who is present? What is everybody's background? If needed, make use of a warm-up activity.</p> <p>The host explains the project and the goal of session.</p> | <p>Presentation of Mingei project.</p> <p>Warm-up activities can be found: https://ccn.waag.org/navigator/theme/warm-ups</p> | <p>Summarize in minutes</p> |
| 00:10 - 01:10 | <p>'Paint a picture'</p> <p>The participants are asked to create visual together; this could be a drawing, but also a Lego-structure, a cardboard-artwork, mixed media... anything.</p> <p>This piece should represent their perspective on the craft at hand: their personal relationship to it, their knowledge, the place in history – anything that they can come up with.</p> <p>Once they have decided on what piece they are going to construct they split up in teams of two to work out a specific part of the piece. Eventually everything needs to fit their work together.</p> <p>When participants get ideas of things that should not be forgotten in the general scope but can't be added to the piece they can write down these thoughts on a flip-over ('parking lot'). This can be anything; safety, weaving requires looms, many techniques to create the same effect, silk is expensive, etc.</p> | <p>various fabrics, yarn, (safety) pins, Lego, paper, markers, cardboard, scissors, glue, flip-over ('parking lot').</p> <p>Optional: 'coasters' with pictograms.</p> | <p>Photos of process and end products.</p> <p>Additional summarization in minutes.</p> |
| 01:10 - 02:00 | <p>'Tag and pin'</p> <p>Once the piece is finished the discussion can take place. This discussion is conducted by tagging and pinning specific parts of the piece.</p> <p>Each tag represents a part that needs specific focus in the process of developing. This can be a technique or a material, a method or an object. The tags explain why this part needs focus.</p> | <p>tags, pins</p> | <p>photos of pinned tags and summarization of the explanation in minutes</p> |

co-creation session type 1: IN SCOPE

| timing | content | materials | documentation |
|---------------|--|---|--|
| 02:00 - 02:20 | <p>'Brainstorming with crazy 8'</p> <p>Following the tagging exercise, the participants brainstorm ideas on how to share their knowledge on the craft with others. They do this by participating in a crazy 8 exercise in which they produce 8 ideas, in 8 minutes.</p> <p>Participants are free to think outside the box (think different locations, technologies, scale, etc.)</p> <p>After the exercise, each participant gets to present their ideas, and the other participants will vote on that person's best idea.</p> <p>When everybody has presented their ideas, the group will decide together, which two ideas seem like the most interesting.</p> | <p>A3 paper, markers/pens</p> <p>Instructions for crazy 8 exercise (page 38)</p> | <p>photos of crazy-8 drawings, summaries of the explanations in minutes.</p> |
| 02:20 - 03:00 | <p>Prototyping</p> <p>Depending on the size of the group, the participants will either split up, or work together, elaborating on the 'winning' idea.</p> <p>They can draw it out, or build it again with Lego or cardboard.</p> <p>Questions that need to be covered: What are the (tech.) preconditions? Which parties need to be involved? Who is the target audience? Which levels of difficulty are a minimum?</p> <p>It is up to the facilitator of the session to ask critical (but constructive) questions. But participants should be invited to do the same.</p> | <p>various fabrics, yarn, (safety) pins, Lego, paper, markers, cardboard, scissors, glue, flip-over ('parking lot').</p> <p>Optional: 'coasters' with pictograms.</p> | <p>Short summary of idea, with overview of requirements</p> |

co-creation session type 2: STATE OF THE ART

At least one co-creation session, but preferably two sessions, should be organized with professionals working with the selected crafts in the context of industry, the heritage sector or tourism and experts in technology and storytelling.

| | |
|-------------------------|--|
| Participants: | 5 - 15 people |
| Goal: | <i>State of the art.</i> Getting insight in the 'state of the art' in art, technology, heritage and tourism on sharing (heritage) knowledge, exploring options for new applications for old crafts, and gain a better understanding of the opportunities within the project. |
| Concrete result: | Scope of workspace for sharing knowledge (practical limitations and requirements), ambitions of heritage / tourism professionals, anchors/first ideas for narratives and applications. |
| Time: | 3 - 4 hours |
| Planning: | Between September and November 2019 |

Examples of participants:

Professional practitioners of crafts (artistic)

- *Private artists*
- *Art school students*

Professional practitioners of crafts (industrial)

- *(former) factory workers*

Heritage professionals

- *Educator*
- *Curator*
- *Conservator*
- *Museum guide*
- *Exhibition builder*

Tourism professionals

- *Tour operator*
- *Tour guide*
- *Government employee*

Technology and storytelling professional

- *Mingei project partners*
- *Filmmaker*
- *Animator*
- *Writer*
- *Artist*

co-creation session type 2: STATE OF THE ART

| timing | content | materials | documentation |
|---------------|--|--|--|
| 00:00 - 00:10 | <p>Introduction</p> <p>Who is present? What is everybody's background? Each participant explains what their practice is, what their speciality is. If needed, make use of a warm-up activity.</p> <p>The host explains the project and the goal of session and summarizes the results of the first co-creation session.</p> <p>Basic information the host needs to provide the participants:</p> <ul style="list-style-type: none"> • We want to explore the use of new technology to showcase a original crafts. • There is a need to transfer cultural heritage to the next generation. | <p>Presentation of Mingei project.</p> <p>Warm-up activities can be found: https://ccn.waag.org/navigator/theme/warm-ups</p> | <p>Summarize in minutes</p> |
| 00:10 - 00:50 | <p>'Map the field'</p> <p>The participants will create a map together of the landscape in which they are operating together.</p> <p>The visual starting point could be the museum: how would you position yourself in relation to that building/institute? Inside the building? On a specific floor? Outside of it? Would that be totally outside the influence sphere of the museum or is it in an institution connected to the museum (university? archive?)? How would you interact with the museum?</p> <p>Similarly, this could be done starting with the island of Chios or with a university.</p> <p>First participants will visualize their own position. After that they will work together and try to figure out how they would meet and would be able to work together.</p> <p>During the making process, participants can get ideas of things that should not be forgotten in the general scope but can't be added to the map. They can write down these thoughts on a flip-over ('parking lot').</p> | <p>Big A0 pieces of paper, markers, mini-flags, etc.</p> <p>flip-over ('parking lot')</p> | <p>Photos of process and end products.</p> <p>Additional summarization in minutes.</p> |

co-creation session type 2: STATE OF THE ART

| timing | content | materials | documentation |
|---------------|--|---|--|
| 00:50 - 01:50 | <p>State of the art 'tag and pin'</p> <p>Once the map is created, the discussion can take place.</p> <p>This discussion is conducted by tagging and pinning specific parts of the map.</p> <p>Each tag represents a technology, a (storytelling) technique, educational approach, an intervention type, a type of content, etc. that could fit in a specific area on the map.</p> <p>The tags explain what it is and how it would fit that situation.</p> | Tags and pins | photos of pinned tags and summarization of the explanation in minutes |
| 01:50 - 02:10 | <p>Meeting of minds</p> <p>Participants find one or two other people that do not share their expertise - and identify an 'area' on the map where they would like to work together on 'solutions'.</p> <p>During this time the participants will brainstorm on ideas how to bring together their expertise, and in what the requirements would be for that collaboration.</p> | | Summarize in minutes |
| 02:10 - 03:30 | <p>Concept development</p> <p>This could also be done in a separate 2 - 3 hour session: 'STATE OF THE ART 2'</p> <p>During the last part of workshop participants will brainstorm and start creating concepts. They can do this in the teams of 3 they created in the previous step.</p> <p>As mentioned on page 10, a concept needs to describe the following aspects:</p> <ul style="list-style-type: none"> • An innovative idea or product • An intended audience • An intention / goal • A clear idea of stakeholders • Scope • (technical) requirements <p>There are several ways to come to these concepts. Participants can prototype () or sketch - but you can also opt to use the one of the exercises from the Co-creation Navigator (ccn.waag.org).</p> | <p>Template for concept requirements.</p> <p>Prototyping: https://ccn.waag.org/navigator/tool/rapid-prototyping</p> <p>Role play: https://ccn.waag.org/navigator/tool/role-play</p> <p>Make a machine: page 41</p> <p>Boardgames: page 42</p> | <p>Photos of process and end products.</p> <p>Additional summarization in minutes.</p> |

co-creation session type 3: PUBLIC VIEW

At least one co-creation session should be organized with end-users; visitors, school groups, tourists, the general public, and students / aspiring crafts people.

| | |
|------------------|---|
| Participants: | 5 - 15 people |
| Goal: | Understanding the needs and interests of the end-users. |
| Concrete result: | A set of requirements for applications or interventions for the intended context. |
| Time: | 2 - 3 hours |
| Planning: | Between November and December 2019 |

Examples of participants:

Visitors / general public

- *Families*
- *(Grand)parents*
- *Children (different age-groups)*
- *Teachers*

Tourism

- *National/local tourist*
- *International tourist*
- *Tour operator*
- *Tour guide*

Students

- *Art school students*
- *Vocational learners*

co-creation session type 3: PUBLIC VIEW

| timing | content | materials | documentation |
|---------------|---|--|---------------|
| 00:00 - 00:20 | <p>Introduction Present the project.</p> <p>Make use of a warm-up activity. When working with children - choose something playful - that is not necessary related to the subject, but that will open them up, like: https://ccn.waag.org/navigator/tool/find-your-pair or https://ccn.waag.org/navigator/tool/untangle-yourselfes</p> <p>Who is present? What is everybody's background? Why are you here?</p> <p>Make sure everybody understands the objective of the session: <i>create an experience that would invite (these) people to learn, explore, understand the craft at hand.</i></p> | <p>Project presentation</p> <p>warm-up activity: https://ccn.waag.org/navigator/theme/energizers</p> <p>Or https://ccn.waag.org/navigator/theme/warm-ups</p> | N/A |
| 00:20 - 00:35 | <p>About the craft Present an overview of the craft at hand, including the scope of the project and the most vital parts of the practice (cultural, practical, historical, etc.) based on 2 previous sessions and the knowledge collection. If possible, give access to a rudimentary database with information.</p> | <p>Prepared presentation (slides or physical presentation) on general scope and information of the craft</p> <p>Database/ onthology</p> | N/A |
| 00:35 - 00:50 | <p>Inspiration station Present a variety of interventions, technologies, prototypes to inspire the participants, and help them get ideas to implement in their own 'solutions'.</p> | <p>Prepared presentation (slides or physical presentation) on technology</p> | N/A |

co-creation session type 3: PUBLIC VIEW

| timing | content | materials | documentation |
|--------------------------------------|---|--|---|
| 00:50 - 02:00 or 00:50 - 02:30 | <p>Create a boardgame</p> <p>The participants will now form groups of 4 - 5 people, preferably with a mix of backgrounds.</p> <p>Each group get's the following assignment: Create a board game that will let you explore the craft at hand.</p> <p>Further instructions on the method can be found on page 42</p> | <p>See instructions on page 42</p> <p>optional: Templates for boardgames</p> | <p>Photos of process and end products.</p> <p>Additional summarization in minutes</p> |
| 02:00 - 02:30 or 02:30 - 03:00 | <p>Present and play</p> <p>Each group will now present their board game.</p> <p>The other groups get to play the games.</p> <p>Discuss as a group the game-principles, the interventions that have been created and which elements of the games can be translated into a museum-context and/or an application to showcase the craft.</p> | | <p>Document the leads for further exploration - techniques or principles that are new, or worth testing in a prototype.</p> |

co-creation session type 4: SHARED PERSPECTIVES

At least one co-creation session should be organized with a **mix of stakeholders**, who participated in earlier sessions.

| | |
|-------------------------|---|
| Participants: | 5 - 10 people |
| Goal: | Bringing all the views together / reflection and iteration on first concepts/ (paper) prototypes. |
| Concrete result: | feedback and iteration on progress so far |
| Time: | 3 hours |
| Planning: | Between January and March 2020 |

| timing | content | materials | documentation |
|---------------|---|---|--|
| 00:00 - 00:20 | <p><i>Introduction and update</i></p> <p>Present an overview of the progress of the project and the prototypes that have been developed.</p> <p>Make use of a warm-up activity as this is a mixed group of people, that all have participated in a different previous session. Let all the participant introduce themselves, and share their experience in their previous session.</p> | <p>Prepared presentation of progress (slides and/or physical presentation)</p> <p>warm-up activity: https://ccn.waag.org/navigator/theme/energizers</p> <p>Or https://ccn.waag.org/navigator/theme/warm-ups</p> | N/A |
| 00:20 - 01:20 | <p><i>Test and play</i></p> <p>The participant will now get the opportunity to experiment with the prototypes and/or interventions that have been developed for the project.</p> | Prototypes | <p>Photos of the testing</p> <p>Additional observations/ vocalized feedback in minutes</p> |

co-creation session type 4: SHARED PERSPECTIVES

| timing | content | materials | documentation |
|---------------|--|---|---|
| 01:20 - 01:50 | <p>Discuss</p> <p>Take some time to discuss the first impressions and feedback from the users.</p> <p>Think about questions like: Was it easy to use? Did you know what you had to do? Did it work? Have you learned something new? Was it fun? What did(n't) you like about it? How could it be improved?</p> | Prepared questions | Observations/ vocalized feedback in minutes |
| 01:50 - 02:40 | <p>Iteration dice</p> <p>Let the group split up In smaller groups. Preferably you would have one group per prototype. If there is just one prototype - create group of 4 - 5 people.</p> <p>Each group will now try and improve the concepts of the prototypes by using the iteration dice.</p> <p>Instructions can be found on page 43</p> | <p>Prototypes + concept descriptions of prototypes</p> <p>Instructions Iteration Dice (page 43)</p> <p>1 Iteration dice per group</p> | N/A |
| 02:40 - 03:00 | <p>Present improvements</p> <p>Each group will now present their improvements to the concepts.</p> | | Document the leads for further exploration - techniques or principles that are new, or worth testing in a prototype |

ASSIGNMENT

Looking at the co-creation process described on the previous pages, the majority of the work in Mingei will be done in the 'work space' (see page 6).

But in order for that part to be really a co-creative process, some preparation work needs to be done within each (pilot) organization, to make sure there is a good understanding of scope, mandate, and ambitions.

We advise each **(pilot) partner** to undertake at least the below mentioned activities for setting a foundation for co-creation, and exploring the context and community. The instructions for these activities are enclosed in the 'materials' section (starting at page 26) of this booklet.

There are a lot more tools available on the Co-creation Navigator (ccn.waag.org) that will help you explore the foundation, context and community - if needed.

The guideline for the actual work sessions in the 'workspace' will follow on the next pages.



ambition ranking

stakeholder mapping

co-creation sessions

circles of connection

photo safari

prototyping, testing and iteration

**activities for pilot partners
(to prepare for co-creation)**

**activities for the project
(co-creation with partners and stakeholders)**

stakeholder mapping

Throughout the Mingei project, we are working with 4 types of stakeholders:

- 1) for co-creation (WP1)
- 2) for content (WP2)
- 3) for impact evaluation (WP7)
- 4) for dissemination (WP8)

Some of these stakeholders will overlap, but some are slightly different.

1. stakeholders for co-creation

The Mingei project is a three-year long design-process for the development of new ways to document and share (intangible) knowledge on specific crafts, using new technologies.

To go through a balanced design process, we need to involve different stakeholders, connected to the crafts, the technology, the purpose (e.g. education, storytelling, tourism, entertainment, etc.), and the 'end-users' of the project results for each pilot.

2. stakeholders for content

Each craft has a specific group of experts that can provide knowledge, materials, and other input to describe both the tangible and intangible aspects of the craft. This would include the craftsmen and -women, but also historians, curators, etc.

3. stakeholders for impact evaluation

Impact assessment will be done with key communities and stakeholders per pilot; the people that should be influenced by the project and/or project results.

4. stakeholders for dissemination

For communication and dissemination the focus is on two levels: first of all, the stakeholders that interact on European level, including the project partners, European commission and other parties directly involved in the project. Secondly, the communities that will be involved on a national, European and international level as audience and followers of the project. This includes the involvement of and sharing results with (amongst others) craft communities, students and the scientific communities.

For the mapping of stakeholders, we take the following steps based on the BSR Five-step Approach to stakeholder engagement*:

Identifying: listing relevant groups, organizations and people

Analyzing: understanding stakeholder perspectives and interests

Mapping: visualizing relationships to objectives and other stakeholders

Prioritizing: ranking stakeholder relevance and identifying issues

In the 'materials' section (from page 31) of this booklet there are several methods to help identify stakeholders.



Mlinge
Materials



ambition ranking

get a sense of what your team would like to achieve

| | |
|---------------------|---|
| timeframe: | 20 - 40 minutes |
| facilitator: | 1 |
| group-size: | 4 - 10 people |
| materials: | post-it notes markers ranking field |

instruction

No ambition in a project team is less valid – but some are more pressing and shared by more people.

This exercise will give you a better idea of priorities in the project, and a better insight on each person's interpretation of the work.

1. Start by setting up a ranking field like a ladder. Start with a baseline at 0 and mark lines above that to indicate a step.
2. Hand out post-it notes to all participants.
3. Ask them to write down 1 – 3 ambitions they have for the project/session/ etc. If you have a big group only 1 ambition per person is enough.

4. Go around the group and briefly discuss the ambitions each person has written down. If two people have written down more or less the same ambition, one of the post-its will be dissolved, and the other will be placed one step up on the ladder. (10 – 20 min)
5. Each participant will now 'up-vote' two ambitions (not their own). Up-voting means that a participant can take one ambition, and have it go up one step on the ladder. Depending on the size of the group this can be done simultaneously, or one participant after the other. (5 - 10 min)
6. Review the results of the votes. Which ambitions have risen to the top? This information can feed new exercises.

Take a look at the top 3 ambitions. What does this mean for the project? When you look at your entire field, are there ambitions that you would have overlooked before?



value tree / ladder

a physical way to display your top shared values

| | |
|--------------------|----------------------------------|
| timeframe: | 15 - 50 minutes |
| group-size: | 2 - 10 people |
| materials: | post-it notes markers |
| optional: | print out of tree |

1. Each participant will write down 5 values they consider important within the context of the project. (2 minutes)
2. Participants will now form duos and compare and discuss values. Each duo will bring their 10 values back to 5 shared values. (5 - 10 minutes)
3. Now the duos will team up with another duo and again bring their 10 values back to 5 shared values.
4. This process will continue until all participants agree on 5 shared values.

instruction

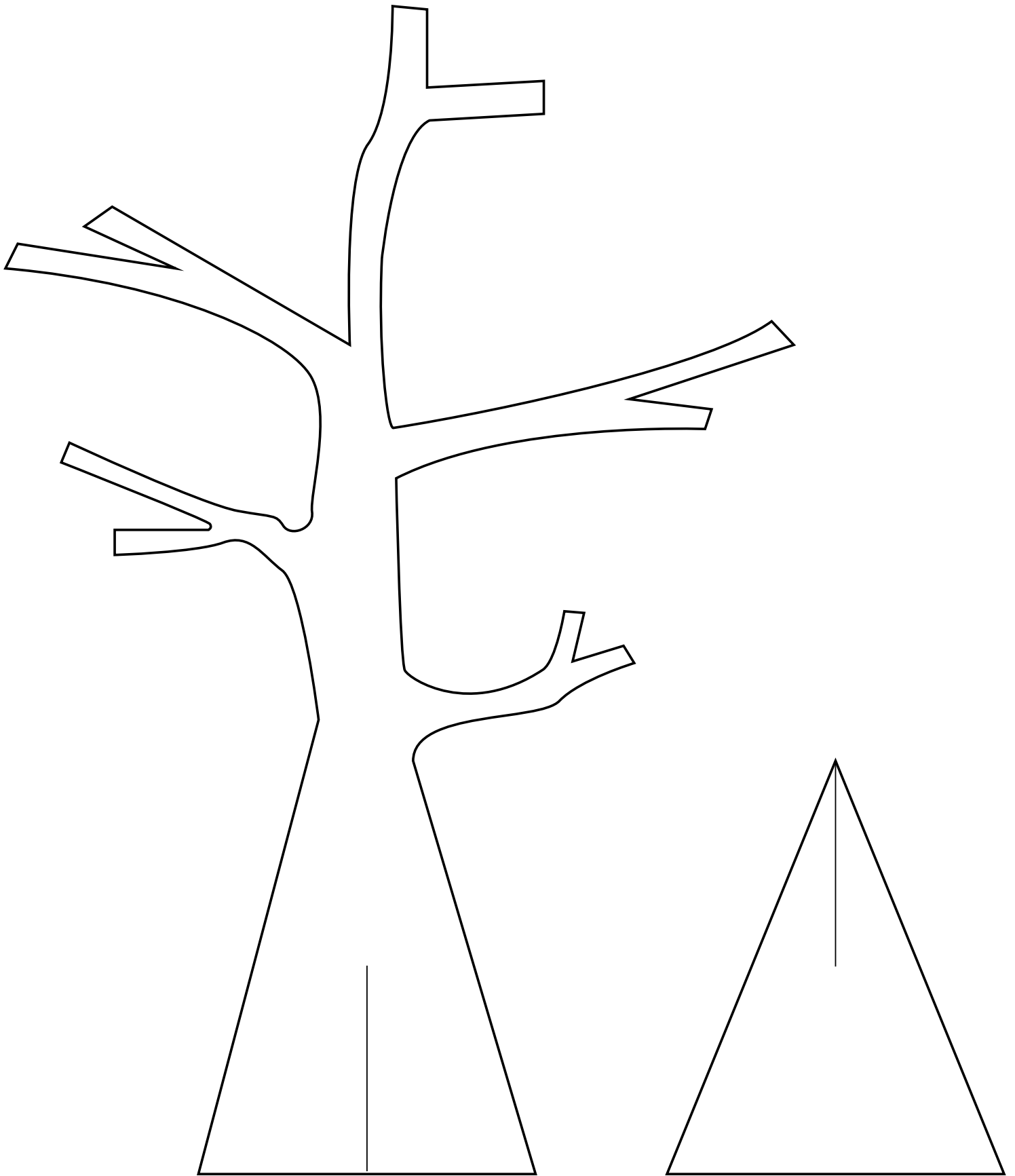
A **values tree** is physical way to display your top 5 shared values in a project, on a subject, or even in life.

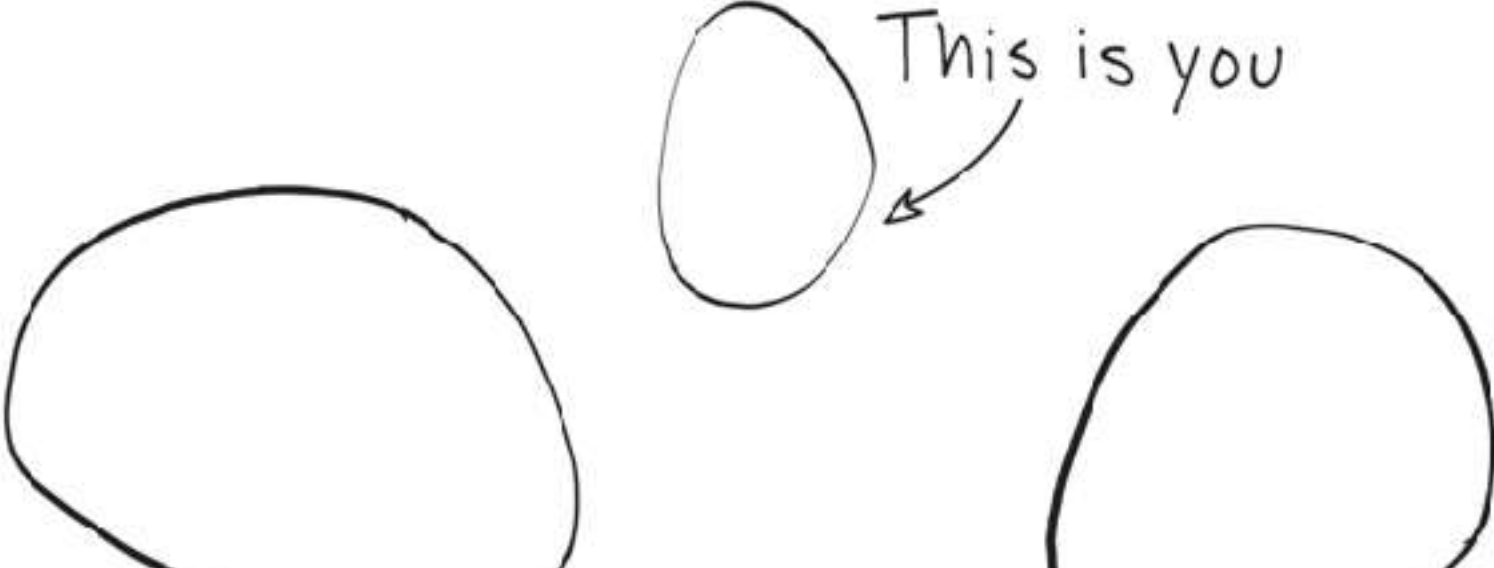
The tool can be used to keep the values (literally) visible throughout the course of a project – to serve as a reminder on why you are doing the things you do.

An easy way to get to these top 5 values is to merge and discuss individual values in a **value ladder exercise**.

These 5 shared values can be placed on post-it notes in a project room, or placed on the values tree (in order of importance, if needed) to keep the values visible.

canvas: value tree cut-out





circles of connection

Purpose

Visualize the distance or steps between you(r organization) and your goal. A goal could be an intended target audience, an ambition, or anything that you would like to reach or achieve over a period of time.

This exercise can be done with a team internally, or with your community – depending on the goal you set out to reach. Working in a smaller team (max. 5 people) will be most effective.

| | |
|---------------------|--------------------------|
| timeframe: | 20 - 40 minutes |
| facilitator: | 1 |
| group-size: | max. 5 people |
| materials: | paper markers |

instruction

- Take a piece of paper (minimum A4 – preferably bigger) and draw one circle on one end of the paper. This circle represents you or your organization. Draw another circle on the other end of the paper. This circle represents your target/what you would like to achieve.
- Now try and draw out a route between the two circles – to signify your approach to reach your target. You could consider this your 'six handshakes' to connect. Each step in your route is another circle that signifies either another organization, or activity, that will bring you closer to your end goal.
- Try and mark your 'blind spots' or missing links. Do you already know how to reach the end goal or do you still have open spaces? Do you know what steps in your route you are missing or do you need help identifying these steps? When you mark a 'blind spot' define your next steps / to do's to fill them.

analyzing stakeholders

Now that you have your list of stakeholders, you should have a look at the relevance of their contributions, and the new perspectives they can offer.

For this, you need to better understand your (organization's) connection to them, and their interests and ambitions.

You can do this analysis by looking at a list of criteria, like one on the right, and check in what way a stakeholder holds up.

Another way to analyse stakeholders is by using the 'stakeholder trust map' exercise described on the following pages.

Based on the BSR list of criteria (which was developed for businesses), we came up with the following checklist for criteria:

Contribution:

In what way can a stakeholder contribute to your process? Did you consider this person for their experience? Or for their creative mind? Do they have a unique perspective?

Legitimacy:

In what way is the input of the stakeholder validated? Is this because it is an experienced craft-person? Or because they have curated many exhibitions?

Access:

In what way is this person or organization prepared to be involved in the process? Are you able to rely on regular interactions? How willing is the person or group to engage?

Value:

In what way is the involvement of the person or group essential for the process? Do you risk overlooking people or over-representing certain groups?

By assigning values (low, medium or high) to each stakeholder, for each criteria, you could get a better sense of the stakeholders you actually need to invite, and who are optional / additional.



stakeholder trust map

understand your relationship with your stakeholders

| | |
|--------------------|------------------------------|
| timeframe: | 30 - 60 minutes |
| group-size: | 1 - 5 people |
| materials: | large pieces of paper |
| | markers |

Instruction

In a **stakeholder trust map**, you can visualize who your stakeholders are, how you are connected to them, and what the quality of your relationship is with them. When you have the trust of your stakeholders, it will lead to a more constructive outcome of your (co-creative) process.

This can be a solo-exercise, but it will be more effective if you have someone to spar with. When you can think out loud, and share your thoughts you tend to get more ideas.

1. Take the large piece of paper. Write down all the stakeholders you can think of, and separate them from each other by drawing

- a circle around each one of them. If you are working in team that represents multiple organizations, or that has people with diverse networks, assign a color marker to each person or organization.
2. For each stakeholder, you now mark who or which organization has the most direct connection to that stakeholder.
3. Take a second piece of paper and group the stakeholders that have the same connection to your project. If some of the stakeholders are not yet matched, you'll assign them, dividing them over people/ organizations involved.
4. Now mark down for each stakeholder what type of relationship they have. If it is a positive, trustful relationship mark it with a plus ('+'), if it is a negative relationship mark it with a minus ('-') and if it is something in between mark it with a plusminus ('+-'). If you don't know what type of relationship you are dealing with mark it with a question mark ('?').

5. Alternatively, you can draw circles around a core that represents you, and map your stakeholders around that core, based on their closeness to you. You can use the template on the next page for this.
6. Take a look at the list of plusses/the inner-circle: how can you make use of that relationship to further your project?
7. Looking at the minuses/outer-circles and the plus-minuses, what can you do to improve that relationship?
8. And finally, think of ways to get a better view on the relationships marked with a question mark.



When you have this overview, you can assign people to actively work on each relationship.



mapping and prioritizing

If you used the stakeholder trust map exercise, you already made a start with the visualization and mapping of your stakeholders.

If you used the checklist of criteria, you can elaborate on the assigned values, and visualize them in a grid. This will help you get a better idea of the most useful stakeholders to engage with.

For this to work, draw a quadrant like the one on the right.

Consider the check-list criteria 'contribution' and 'legitimacy' the stakeholder's 'expertise'.

Now try to place each stakeholder you have identified in this quadrant. The more valuable the stakeholder, the bigger the circle.

Use the circle diagram on the next page to map the stakeholders that have the highest priority to involve.

Now that you have a better sense of which people are most important to your process, you better know how to allocate your effort to engage these people.

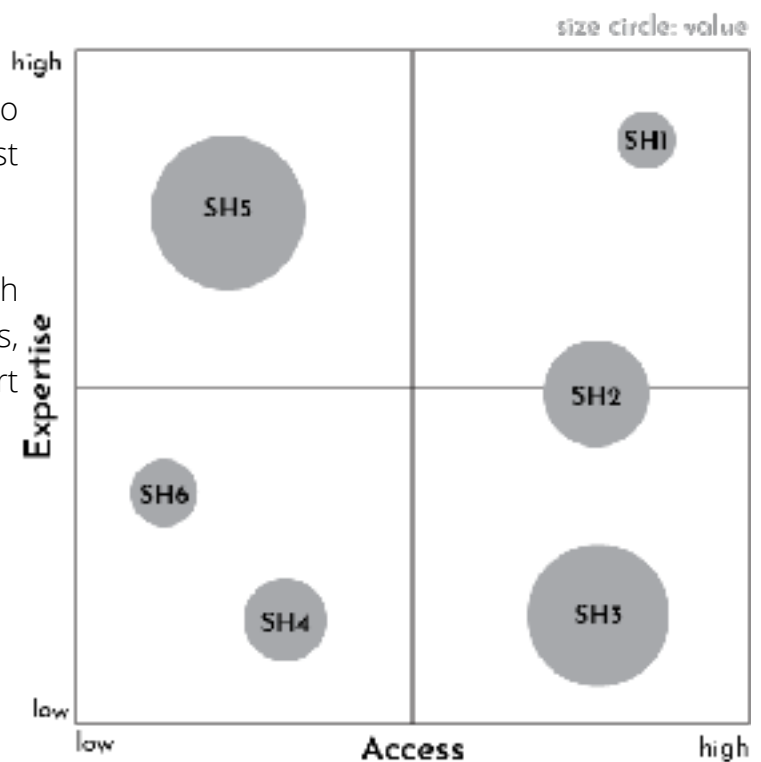
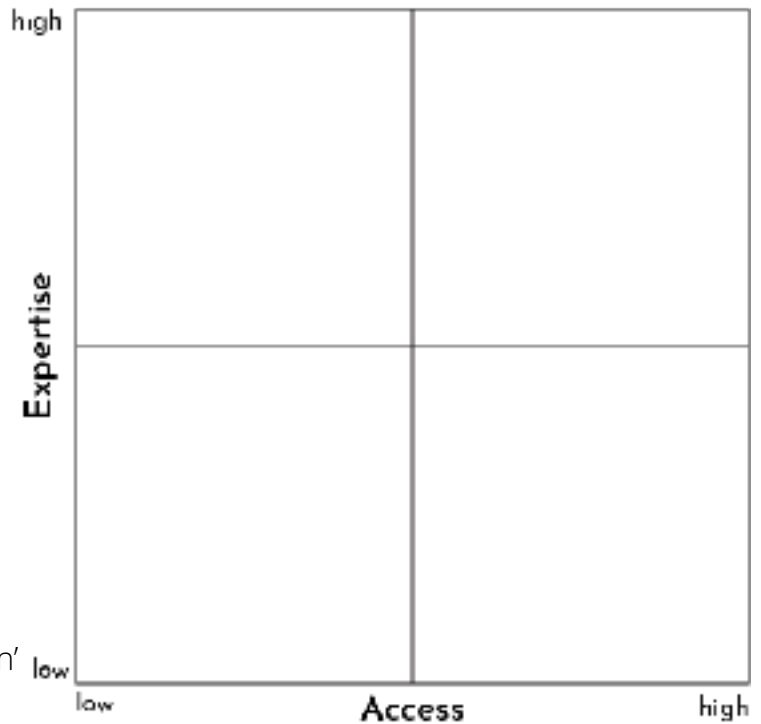




photo safari

Purpose

Photo safari is a research method to help you immerse yourselves in the lives of the people you are going to work with or who you are designing for. Insights can form the basis for many project ideas.

The photo safari is based on the principle of 'shadowing'. Shadowing means just that: becoming someone's shadow for a while. Following someone, or a group of people, as they live their everyday life, or go about their daily work helps to understand the environment they are part of. It also allows you to observe for yourself the contextual details that can influence a person's behaviour and motivations.

timeframe:

day or half day

materials:

**camera, pens,
notebook,
camera**

Select a (type of) person or group that you would like to shadow. Then determine when and how you are going to be actively involved with this person or group.

Determine beforehand what kind of things you are looking for, and in what ways you would like to record this. The key is preparation: balancing the need to structure what you find while staying open to the unexpected. Use a worksheet or canvas if needed, and start by trying to answer the following question:

What is the most important thing you want to learn from your safari?

A worksheet could cover:

- the people you want to shadow
- the places you want to learn more about
- the things you'd like to see people do
- your assumptions on what you will learn

While on safari take photos, and make notes of observations. Things you can look for are: likes, dislikes, activities, objects, habits and spaces.

Finish your safari by gathering and organizing all your interesting insights.



coaster picture story

| | |
|---------------------|---|
| timeframe: | 2 half days |
| facilitator: | min. 1 |
| group-size: | 4 - 10 experts |
| materials: | big paper 'coaster'-cards post-it notes pens / markers |
| Optional: | polaroid camera |

Instruction

In this first stage we try to understand what a craft entails. To help streamline this process we identified 5 different aspects of the craft:

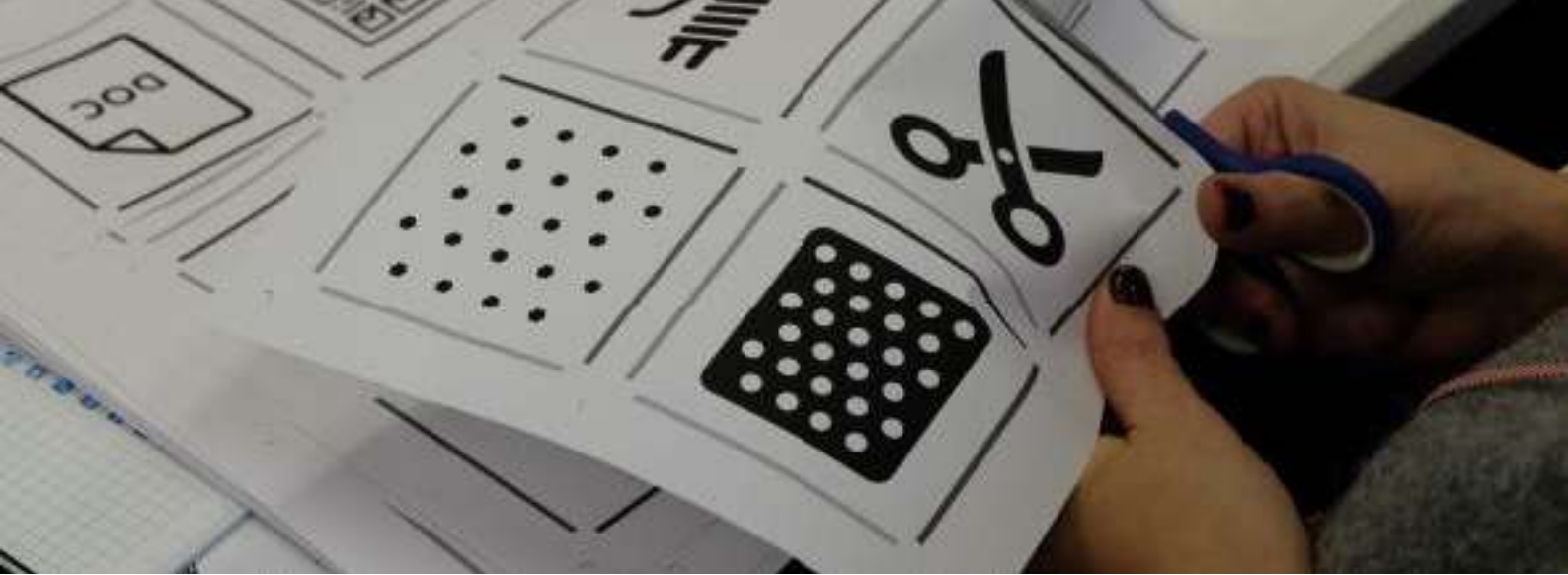
1. **Technique:** what are the associated actions / techniques / tools?
2. **Products:** what (type of) products are the results of the craft?
3. **Art:** what are the artistic elements?
4. **Tradition:** what is the role of tradition and (local) heritage?
5. **Instruction:** How is knowledge transferred?

Consider these aspects the starting points for conversations. In the process you might be able to identify even more aspects.

The 'coaster'-cards are cards with different visual representations of elements to the craft; some visuals are more general, others are more directly connected to a specific craft. There are also some empty cards so that new visuals can be created on the fly. It is also possible to use Polaroid photos to create visuals on the spot. The visuals should make it easier to get a conversation started, especially when there are many technical or jargon terms involved in the craft.

To start the activity, you ask the participating experts to create a 'story' using the visuals based on the first aspect of the craft: Technique. This could be on a small part of the process, or a visualization of the entire craft. Leave that up to the participants. This will lead to a somewhat linear process description. This will also showcase a possible difference in approach between experts.

Once there is an outline of process, try to enrich the visualization focussing on the other 4 aspects of the craft. This will give a better insight in the context of the craft, for this particular pilot.



guideline reporting on coasters

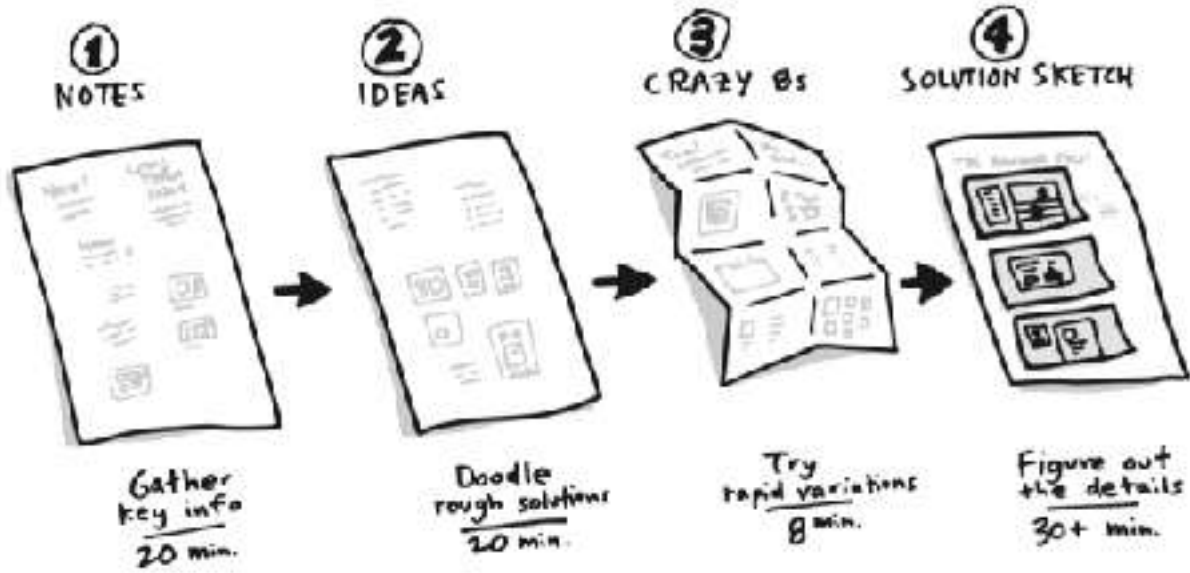
Take pictures of all the 'picture stories' and write a short supportive description of what has been depicted with the 'coasters'.

Highlight the storylines that are related to **tools / instruments / technique**, to **products**, to **tradition / heritage**, to **art / skill** or to **education / training**. If possible, include leads to specific sources so these can be further explored in the knowledge collection tasks in WP2.

Update your list of **stakeholders**, based on the results of the session. Who did you overlook? What type of knowledge would this person bring to the table?

Give an overview of general (interpersonal) **observations**: which people were talking a lot? Who provided unique insights? What methods did work best for which people? Who worked well together?

Consider the image about 'generative techniques' on page 6 - what latent knowledge has been triggered during the session? How would you use that knowledge as a lead for the next session?



crazy 8's

Crazy 8 is a method that pushes you to think beyond your first idea and generate a wide variety of ideas or solutions in a short timeframe. It is a sketching exercise that challenges people to sketch 8 ideas in 8 minutes.

Instruction

Some participants who do not draw on a daily basis, might find the idea of having to draw intimidating at first. It is therefore helpful to reassure everyone that these are rough sketches. You don't need to be precise or make things beautiful. The main goal is to communicate an idea.

It is also important to convey that the ideas don't have to be great. The focus is on the quantity of ideas (diverging), not the quality. You need to think beyond your first idea and push yourself to think of more ideas or solutions. Once you collected all the ideas it is time to start converging on some winning ideas with the group.

1. Give each person an A4/A3 sheet of paper and let them fold the sheet of paper into 8 sections.
2. Set a timer for 40 seconds.
3. Ask the group to sketch a quick idea in those 40 seconds.
4. When time is over, everyone stops sketching. Give a 20 seconds break.
5. Repeat the process 8 times, until everyone has created 8 drawings in 8 minutes.
6. Ask people to present their ideas to the group.
7. Give everyone sticky dots and ask people to vote on their favorite ideas out of the group. Alternatively, you can let people vote on the best idea per person first, and then vote for the best idea of the group.
8. The follow up can be to take about 30 minutes to work out the details of that idea, with the group.



paint a picture

Creating a visual will help make an idea a lot more tangible. And there are several way to visualize.

It is always difficult to draw out one story with multiple people. Storyboarding for example, seems like a solo-exercise. But it can be a very useful exercise for small groups as well, as long as you assign clear roles amongst each other.

Not everybody is skilled in the same way, so find a role that is most fitting to your skill-set: one person is better in writing a story, others have drawing skills, others focus on scope, etc.

There are multiple formats for visualizations. A storyboard is the representation of a case through a series of drawings or pictures, put together in a narrative sequence. The aim is to gain insights into the experience of a user, citizen or other person being depicted. This can help to create a clear understanding of the situation.

It can also be a set of screens for an app. Or parts of a map, that together form one big picture. It can be 2D or 3D, you can use Lego, or other construction materials. The point is: 'paint a picture' of what your idea entails.

So find a format that is most fitting to your case, and either find a template or create your own framework.

Before you start creating your picture, set up the scope of the concept you would like to work on. You might have a written-down description, this could work, as long as all participants have a good idea of what they are working on. Take about 5 to 10 minutes to go over your idea or concept, and maybe write down a few requirements and/or limitations. It is totally fine if you still have gaps or no concrete ideas for certain aspects. This exercise is going to help fill these gaps.

Select a type of visual you would like to make together (a painting, a storyboard, a map, a landscape, etc.) and assign the roles accordingly. Think about the perspective of your picture; is it a user's experience? Is it the story of the designers? Be concrete about what and who it is about, and who is it for.



Photo: Waag.

make a machine

This machine making exercise is a challenge that taps into people's motivations, references and imagination.

This exercise allows ideas that we have not yet fully imagined, to come to the surface and to take concrete physical form. The objects created serve as a prop that help people to improve an idea or concept.

rules and instructions

Create your own machine based on an idea or concept that you already have. This could be any machine and you can use any type of material. Consider this a paper prototype; the machine does not have to work for real, but it should be able to convey the conceptual idea, and ambitions.

You can create mechanisms, reference existing machines or appliances, build, etc. The sky is the limit.

End the exercise by giving your machine a name.

In a more elaborate version of this exercise you can incorporate a specific 'Basic Human Desire' into the function of your machine.

The list is as follows:

acceptance: the need to be appreciated;

curiosity: the need to gain knowledge;

eating: the need for food;

family: the need to take care of one's offspring;

honour: the need to be faithful to customary values of an individual's ethnic group, family or clan;

idealism: the need for social justice;

independence: the need to be distinct and self-reliant;

order: the need for prepared, established, and conventional environments;

physical activity; the need to work out the body;

power: the need for control of will;

romance: the need for mating or sex;

saving: the need to accumulate something;

social contact: the need for relationship with others;

tranquillity: the need to be secure and protected;

vengeance: the need to strike back against another person.

This workshop has been adapted from the original workshop by Kristina Andersen (tinything.com).



board games

purpose:

This is an exercise to come up with concepts and story lines by framing the issue at hand into a physical game-concept.

What could be a solution if you would approach the issue with the rules and regulations that you would face in a board game?

timeframe: 60 - 90 minutes

group-size: 4 - 5 people.

materials:

paper, pens, post-it notes, templates for boardgames on paper, miscellaneous materials that can serve as play pieces, pawns, cards, etc.

optional: lasercut template of boardgames

instructions

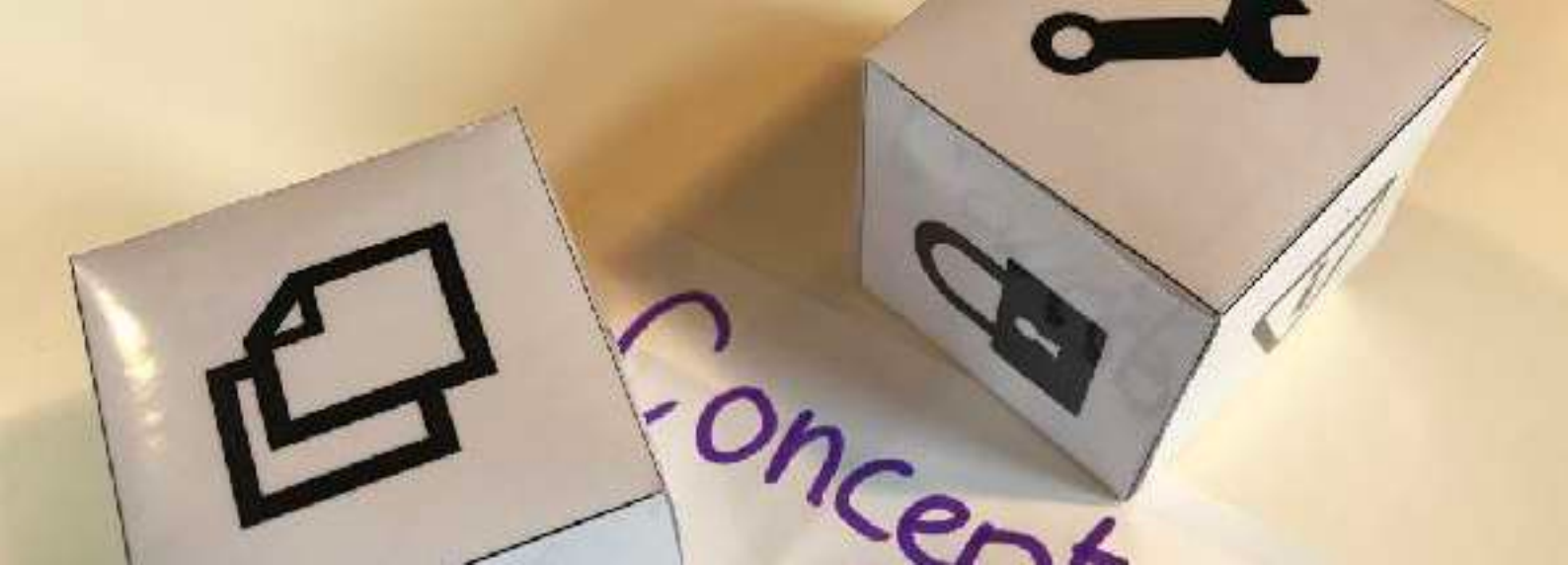
Have people work in small groups and give them access to all construction materials. Each team assigns roles. One person is in charge of the rules of the game, and at least one person is in charge of the physical construction of the game.

Each team will go through the following steps:

- Identify the design question / topic at hand.
- Identify a theme of the game and write it down.
- Select a base for the board game (either an existing one, or one of the fantasy board, or a base of your own design)
- Create a game that both covers the design question / topic at hand and the selected theme.
- Have other teams try your game.
- Discuss your games and your solutions.

Tip!

Let other teams make improvements on your game in an extra design round.



2 iteration dices. Photo: Waag.

iteration dice

When designing in groups, locking in on a course of action can be a difficult thing. Some people are more vocal than others, or are more dominant in the design process. The iteration dice can help in this instance because it gives all people involved the same power, and it will sharpen or fine tune the concept or idea considerably.

The dice has different sides, each with a pictogram relating to a specific action. Each action will influence the concept.

rules

The person who rolls the dice is the person in charge of the change. Every person in the group has the same amount of turns to roll the dice, so everybody has the same amount of influence.

It could happen that the dice falls on the same pictogram, multiple times after another. Go with it. If you have to remove elements, continue to remove elements. If you need to tweak or lock elements, do that. The dice are law. You have to follow that rule.

The pictograms on the dice can have different meanings, leading to different actions, but in this context we will use the following legend:

LOCK:
secure the element in the concept that you are not allowed to change.

WRENCH:
tweak, improve or alter an element in the concept.

SCISSORS:
remove an element in the concept that it can do without.

EXCLAMATION POINT:
determine a pitfall for the concept: what is a blindspot, a weakness, a risk?

COPY:
copy and insert an element from another concept into your.

QUESTION MARK:
list which (additional) problems this concept will solve or create or come up with a new feature to add to the concept.

Mlinge Results

project ambitions (CM1)

During the kick-off meeting in Crete all partners participated in an 'ambition ranking' exercise for the entire project - based on personal objectives. The instructions for this exercise can be found in this booklet (page 27). The ambitions shared by most people are at the top.

personal improvement /
learning new skills

successful concepts &
implementation of tech-
niques fitting to end-users
and museums

inspire people to learn
new crafts

successful collaboration
with other partners

to be creative

successful EU project

widen collaboration
network

learn more about crafts
with new approach

keep human factor in
museum when experts
are no longer there

organisational
recognition

preserve crafts

research

help partners find new ways of
working with their
communities

produce exploitable
objects

doing anthropology of
technique in a museum

to make a small
contribution to the
museum

develop computer vision
algorithms for analysing
human activities from videos

prove that our
methodologies are useful and
tested in a new domain

project values (CM1)

During the kick-off meeting in Crete all partners also shared the values they wanted represented in the project.

Instructions for this exercise can be found on pages 28 and 29.

honesty
pleasure / fun
critical thinking
commitment
empathy
positive emotions
collective wellbeing / health
collaboration
understanding
trust
learning
innovation
international exchange (Europe)
family
respect
diversity

co-creation sl: Krefeld

In March, Waag visited the Haus der Seidenkultur, to help facilitate a first co-creation session. This session focussed on 'understanding the various aspects of the craft *silk weaving on jacquard looms*'.

The activities were split in two half day sessions. The participants of the session were practitioners of the various stages of weaving (from pattern making to fabric weaving) associated with the museum, curators, volunteers of the museum and an external expert on weaving in general (Erma Klarenberg, from Utrecht, The Netherlands). In both sessions the 'coaster-cards' were used.

During the first day session, the participants visualized the *technical process* of their craft using coaster cards, drawings, demonstrations, polaroid photos and post-it notes on a big canvas.

Once these general technical process descriptions were in place, the visualization was transferred to a fresh page (drawn by Waag). During the session on the second day, these visualizations were enriched by adding the elements related to products, art, tradition and instruction.

This proved to be an effective approach as the participants felt valued in their expertise and were able to share a lot of latent knowledge. And it gave the project some great leads to explore further in the project.

The main [general observations](#) were:

- There is a lot of latent knowledge in the heads of the craftsmen. To be able to fully extract that knowledge, it requires more interactive work sessions (co-creation).
- The main focus for documentation in this pilot would be on the **preparation** of the looms and materials for weaving - not so much on weaving itself.
- The process of jacquard weaving is not necessarily unique for Krefeld - but the fact that a large part of the production was for the Catholic church, with high-end materials like silk and gold is unique.
- Many elements of the craft take place in different locations, and are being performed by different people, using different tools (multiple 'crafts' can be defined).



co-creation sl: Krefeld

'Picture stories' with supporting description
(translated from German)



Musterzeichner (artist)

Process / technique:

The weave process starts with the pattern artist. This person needs an eye for detail, great dexterity, as well as an artistic talent.

He gets either an assignment (from a company or a studio, formerly also religious leaders of the Catholic church), or has an idea that he wants to implement himself, or has to redraw or recombine patterns (color / size / ...). For the implementation, he first of all considers which materials are used and which products have to be manufactured. He also needs an understanding of current fashion trends. Then the pattern artist starts drawing. The finished design is handed over to the 'Patroneur'.

Product:

These products (developed in Krefeld) were usually exclusive and expensive, and represented status. Typical for Krefeld were orders from Roman Catholic clerics (priests) such as 'paramente' (for example, for a wrap or a complete chasuble) made with high quality textiles (such as silk and gold thread) as well as classical liturgical colors and traditional patterns.

Heritage:

The designs were influenced by the Neo-Gothic as well as thousands of years old patterns, adapted to the wishes of the client. Not many could afford these high-quality designs, so the patterns were gradually adapted (simplified) to the possibilities of the priests.

Art / skill:

The pattern drawing was one of the most respected among the various crafts involved in weaving.

Education:

The training as a pattern artist lasted three years; usually one day per week in the school and the remaining time in the enterprise was spent ('dualen System'). It is therefore an education with a practical focus.

Input for this step: ideas, creativity and drawing skills, dye.

Decisions: pattern for which type of garment, church plays a big role in this.

Output: making the drawing, using the right colours.

co-creation sl: Krefeld

Patroneur (technical drawer)

Process / technique:

The Patroneur gets the design from the pattern artist. His customer is the weaver or a company. He has the technical data and possibilities of the loom in mind. He must first deal with the **bindings** (crossing of threads) to get the specifications corresponding pattern, colors and quality. Built on three basic bindings (basket, twill and satin weave), each pattern has a variety of bindings in a kind of catalog, and are applied according to the quality. He now has to draw in the design in combination with these bindings on grid-paper and write an instruction regarding the color and number of cards for the Kartenschläger (the punch-card maker). In addition, this instruction describes the repeating binding pattern.

Education:

A Patroneur learns (to read and apply) these types of bindings during his training. Like the pattern artist, the (future) Patroneur also has to complete a dual training system of three years.

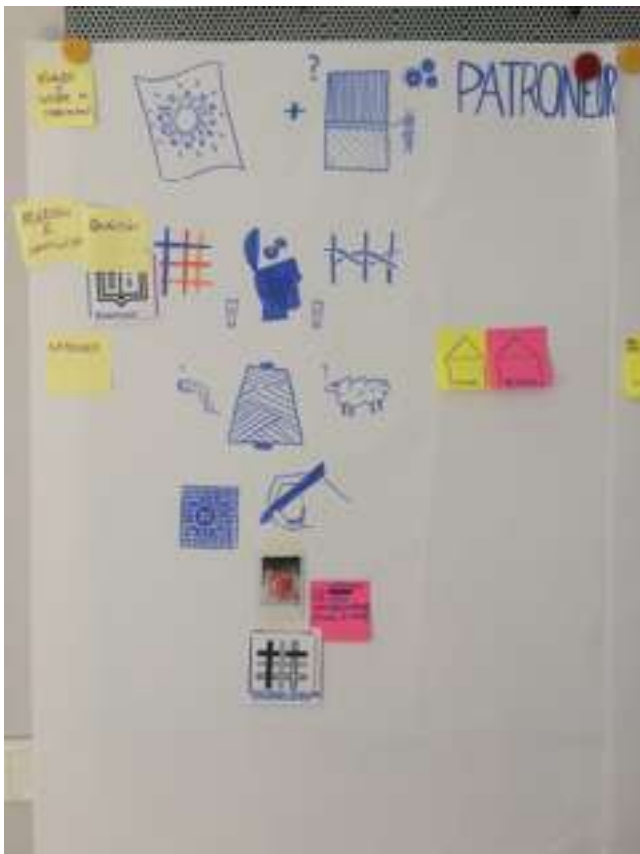
Art / skill:

These evolved bindings were sometimes created by the Patroneur – based on his basic knowledge of binding-types, but mostly there were already existing "collections". Defining a binding requires a lot of creativity and talent. In this case too, it is a rather prestigious occupation within the trade of weaving.

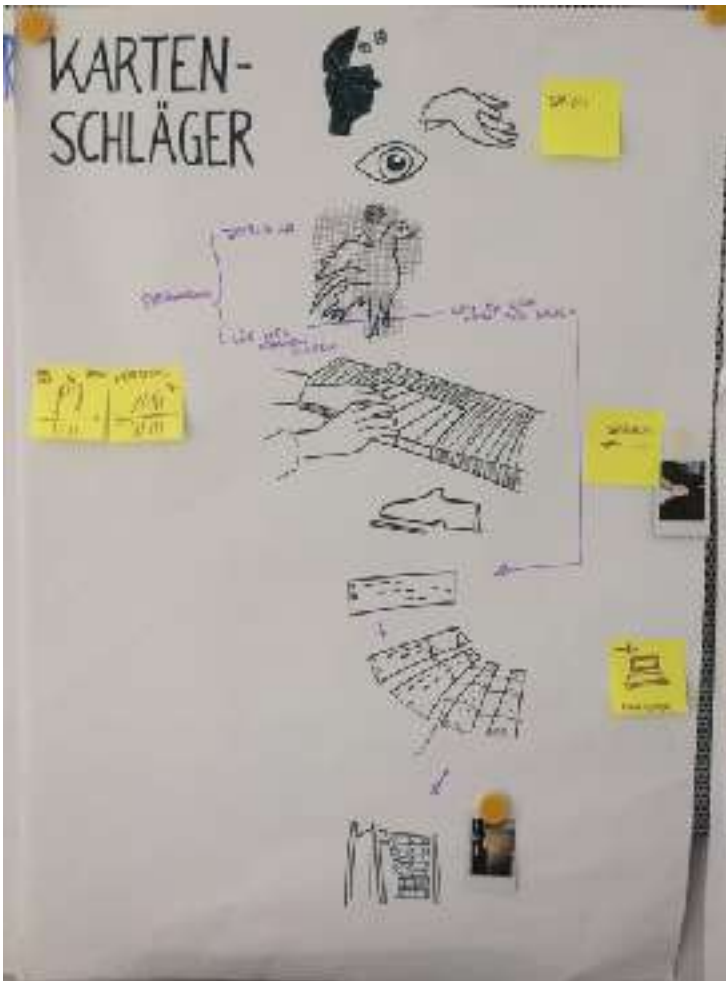
Input: drawing, ideas, experience with technical raster, knowledge of bindings.

Decisions: what bindings and what type of thread (together with design).

Output: point paper design.



co-creation sl: Krefeld



Kartenschläger (punch-card maker)

Process / technique:

The punch-card maker gets the pattern from the patroneur. He too needs to have great skill, eyesight and dexterity. The pattern contains square or rectangular adjoining boxes, each box representing a chain on the loom raising or lowering.

Each line (weft) is hit on a card. The principle here is: hole (weft thread over warp thread) or no hole (weft thread under warp thread).

A Kartenschläger works with his hands on the keyboard of the hole-punch machine to set the

pattern, and with his foot on the pedal to punch to the holes.

The cards are then numbered, tied together and hooked into the loom. If necessary, the card-maker must also correct mistakes by closing up holes or adding holes to the cards.

Education / art / skills:

Also, the card-maker was a respected craftsman, since in his work a lot of dexterity and strength are needed. Similarly, a long-term, practice-oriented education is necessary.

Input: knowledge on the machine, knowledge of the looms (what loom is used).

Output: (string of) cards

co-creation sl: Krefeld

Vorrichter (installer)

Process / technique:

The installer is responsible for setting up the loom. This is not just set up for one fabric design, but for as long as possible. Only if a warp has run out of material or another quality is required, the installer comes and moves in a new warp. This was very rarely the case because every downtime of a weaving machine meant a loss for the operation and therefore only the warp was changed when it was absolutely necessary.

If this is the case, the Harnischmacher ('harnessmaker') first attaches the card-set and sets the Platinen (wires for raising and lowering the warp threads) in the machine. In addition, the **harnesses** are reversed as necessary to mirror the patterns.

When pulling in a new warp, there are two options: If the warp is the same quality (same warp count), new material can be "knotted" or "turned on" directly to the old chain. With different quality (different warp count), it is further decided whether the old harness or a new one is used. If a new harness is used, you can thread one warp thread into each one eye (the wire is weighted with a lead weight and is pulled

down). If it is the old harness, several warp threads must be threaded into a heald. Finally, the warp threads must be pulled through the openings of the riet sheet. This happens with a 'Rietstecher' and is called among other things "Rietstechen" or "Passieren".

Education / skills:

To become an installer you go through a traineeship. It requires no special training in school. As a result, this profession was less well-regarded than that of pattern makers, patroneurs, card-makers, and weavers.

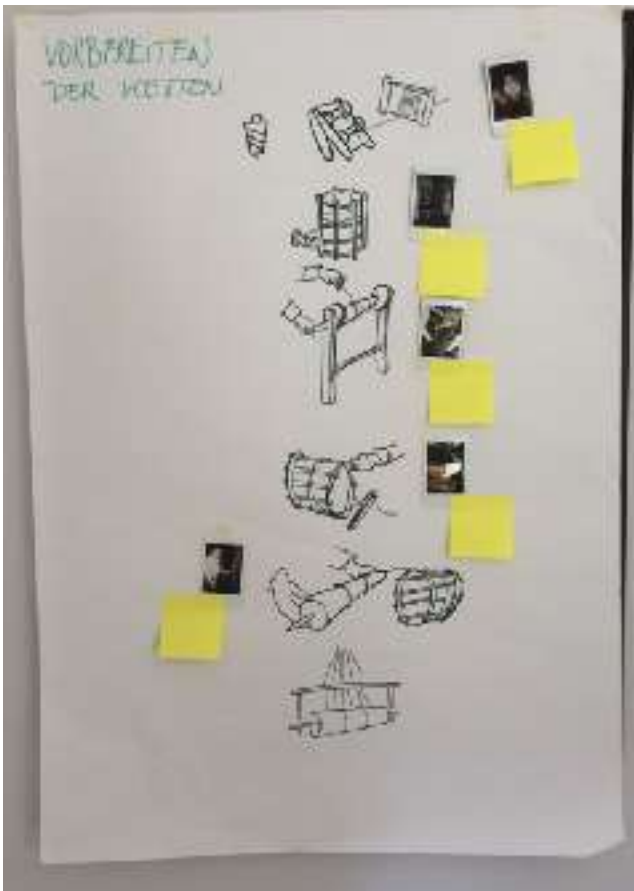
Input: threads

Decisions: how to combine the different thread 'wishes'.

Output: machine reading to weave.



co-creation sl: Krefeld



by machine. Subsequently, the warp threads of the **shear frame** on the so-called **warp beam** of a loom are folded (unwound). Sometimes the warp threads are coated with a sizing to protect the scrub.

Vorbereiten der Ketten (Scheren) (Preparing the warps)

Process / technique:

The Rietstecher is in charge of the preparation of the warps. As already mentioned, **warp threads** should be as long as possible so that the weaving loom does not stand still so often.

Warp threads are drawn from the spools and placed in parallel on a roller (the **shearwood**) in the intended number (e.g., 20 chains per cm) in the same length. For this purpose, a **shearing frame (shearing drum)** is used, which is turned by hand or

co-creation sl: Krefeld

Weber (weaver)

Skill:

The weaver is the person that needs to produce. The loom can't be out of use long, so a weaver needs to be fit and strong, as it is quite physical labour. He also needs a keen eye to spot errors, and the great dexterity to re-attach broken threads.

Process / technique:

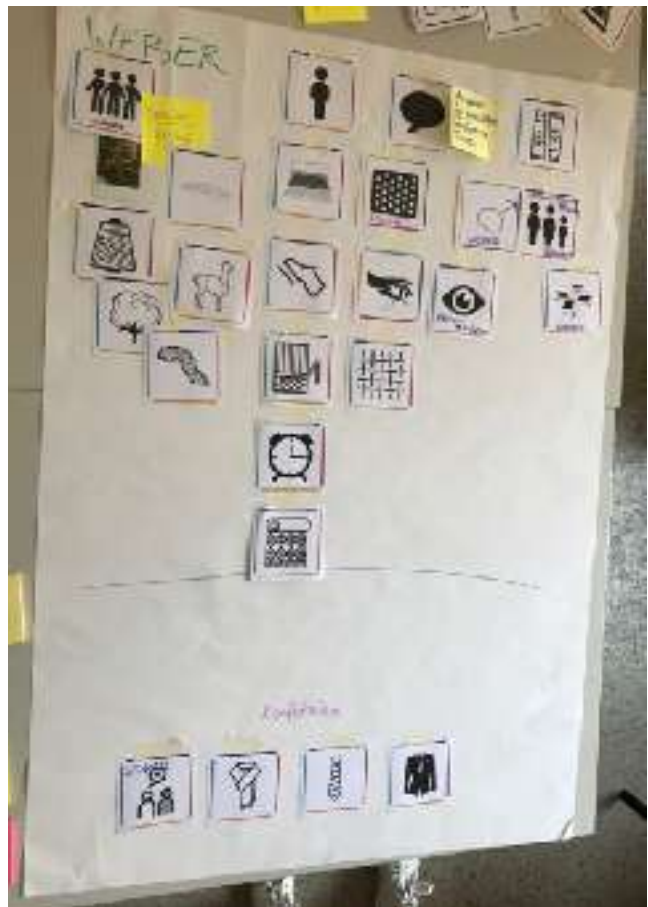
The weaver gets the instructions for the use of colours in the weft (amount of colours, width of colour bands, etc.) and materials.

It takes time to weave. The amount of material produced is depending on the thickness and fragility of the weft and warp threads.

Heritage / tradition:

Historically, the weaver is a man, who usually would employ his entire family in the enterprise, by having them prepare materials for weaving. Children would for example be making the spools using an adapted spinning wheel.

Materials used in Krefeld were often silk and goldthread, which are thin and fragile respectively. Additional to being expensive materials, the time to weave a fabric with these materials makes the end product even more pricy.



coasters on glass (CM2)

To familiarize the project partners with the methodology and approach for the first co-creation session (understanding the craft) Waag hosted 'mock' co-creation sessions with the partners present. There were two sessions: one time for the glass pilot, and one time for the mastic pilot.

For the first of the two, the partners worked in three groups. In each group at least one person with some knowledge on the craft was present. Even though the other project partners were not experts on the crafts, they were able to ask questions based on their own expertise (as a museum visitor, as a technical partners, as a parent, as historian, etc.).

By working in three different groups on the same assignment, we able to give room to different types of interpretation, which would give a richer result.

The assignment was:
Visualize the first line of development for glass blowing, based on the technical skills, tools needed and practicalities.

Group 1

Arnaud Dubois, Margherita Antona, Carlo Meghini, Dick van Dijk

joined later: Xenophon Zabulis, Nikos Partarakis

This group identified three clusters of activity in the development process:

Preparations

In the workshop, the materials are prepared using sand. It is also the place where the artifacts are coated. The equipment in this workshop are an oven, fire, and temperature control measures. Glass blowing is all about controlling the temperature.

Activity of glass blowing

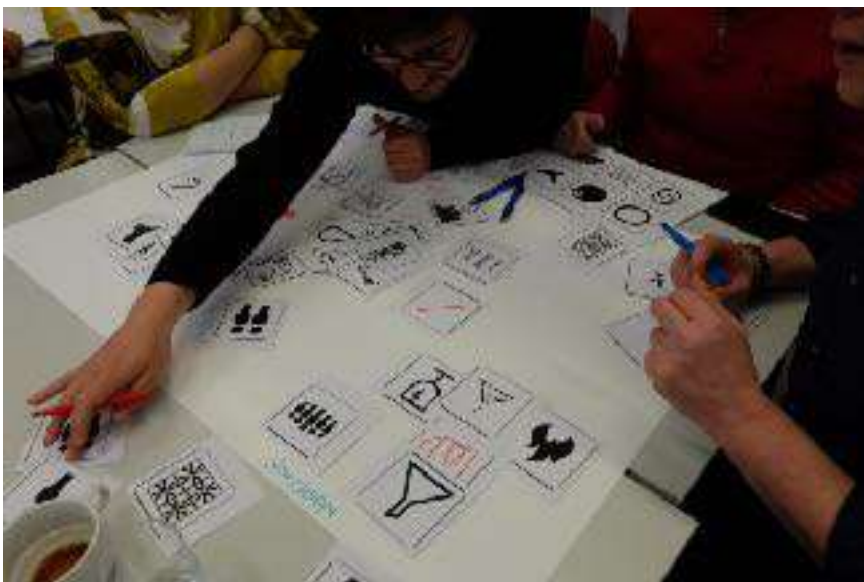
The blowing is the activity that gives shape to the material. For this activity, you need two persons: a master and a blower. To make specific shapes, the master needs to know the possibilities and limitations of the equipment and the production process. Tools are extremely important in producing a certain outcome. The people involved in the production consider these tools an extension of themselves. Language is also important in this process. During the production process the craftsmen use specific terminology. You need to know this to represent knowledge. In addition, movement is a vital part of the process. Distances between the machines for example are essential for time and efficiency. In other words, a specific space time set-up is needed. This set-up depends on what you have to produce.

Decoration phase

When the glass is blown and cooled down, the glass can be decorated with specific colours or other decorations.

coasters on glass (CM2)

Group 1 visualization



coasters on glass (CM2)

Group 2

Alina Glushkova, Eva Baka, Maria Fasoula, Eleana Tasiopoulou

This group focused more on the industrial process of glass. In addition, they focused on a specific item in the CNAM museum: the carafe.

Start in the workshop. Temperature is important. This needs to be very high. Two people work on one carafe: master and assistant. They do not talk a lot. They follow a precise and strict procedure. They use specific tools (tube that the master roles). There is a lot of repetition in the process (back and forth to the oven). After blowing the glass, they cut the item. It then goes into an oven with a lower temperature. To make the glass more durable, you need a controlled cooling down process. This procedure is very costly.



coasters on glass (CM2)

Group 3

Anne-Laure Carre, Vito Nitti, Merel van der Vaart, Brenda Olivas-Padilla, Julia ... (HdS), 2 curators from HdS

This group tried to define the design process from production to packaging.

First, for the making of glass material, you need different chemical components. You can add colour if needed. It takes a lot of people to put this together. temperature needs to be taken constantly. A lot of energy. Vernis never stops. The vernis workshop is a noisy place.

When the material is amorphous solid (no more crystals), producing the item starts. For this phase, you need two people that need to be very careful in motions, tools and time. The whole process is guided by the artisan that

knows what to do. They use their skills and creativity to adapt the process if necessary.

Next controlled cool down. Check if it turned out to be 'good enough' and then it can be packaged.

This group also found that the traditional 18th century production process used other raw materials. Nowadays, we can't recreate these materials. Another insight: glass blowing is often seen as an industrial process and not as a heritage craft.



coasters on glass (CM2)



Group 3 visualization



coasters on mastic (CM2)

For the second session the participants were split into two groups, with in each group an 'expert' (Maria and Eleana).

The assignment was the same as for the glass pilot: visualize the first line of development for mastic harvesting, based on the technical skills, tools needed and practicalities.

Group 1

Eleana Tasiopoulou, Vera Lentjes, Anne-Laure Carre, Vito Nitti, Eva Baka, Nikos Partarakis, Merel van der Vaart, curator HdS

There are a few very specific features of the mastic craft.

- Firstly, it is only grown in a specific place in Chios. The weather conditions are extremely important for these trees. It needs to be dry and a lot of sun.

- The craft has a very long tradition. Since antique times, mastic trees grow on Chios.
- The trees are actually more bushes. They are harvested from May to September. To get to the raison of the bush, you need special tools. The rest of the year (October to May), the bushes are prepared for the year after.
- There are different farmers that own a part of the land. There is a clear distinction between men and women in the harvesting process. These farmers are obligated to sell there produce to the local association.
- The production process is a closed business (a monopoly). Workers can only sell products through the association. The association owns the factories that use the mastic to produce products.
- The products vary from medicine to food and cosmetics. With the export of these products, the association generates a lot of money. Also, the mastic area is an important touristic location.



coasters on mastic (CM2)



coasters on mastic (CM2)

Group 2

Maria Fasoula, Dick van Dijk, Margherita Antona, Xenophon Zabulis, Arnaud Dubois, Carlo Meghini

An important aspect of this craft is its very long tradition. During the Ottoman era, the workers/farmers of Chios received preferential treatment over other Christians. All production was directly shipped to the Sultans harem. Later, the Italians took over production and exported the products out of the island.

Growers have around 200 trees per farmer. Due to scarcity, the product is quite expensive. There are only small quantities of mastic in products.

An important skill is to know how to cut the three. The growers try to avoid damaging the trees.

There is also an important social dimension to the process. For example, there are cultural events after collection of products in August and September. Whole families are involved in the harvesting process.

The role of the association is important. They process the raw material and create new products (product development – R&D).



crazy 8 exercise (CM2)

To finish up the co-creation workshop, and as a transition towards the activity hosted by IMA Waag hosted a quick brainstorming exercise using the Crazy 8's method (see page 38 for instruction). It is a fast sketching exercise that challenges people to sketch eight distinct ideas in eight minutes. The goal is to push beyond your first idea, frequently the least innovative, and to generate a wide variety of solutions to your challenge.

The participants were challenged to come up with ideas for one of the three pilots, using the knowledge they gained during the consortium meeting on both the crafts and the technologies available. Taking into

account to long day, it was decided to do a crazy 6's instead of crazy 8's.

Participants worked in three groups. After the brainstorming, which was done individual, each group voted for the best idea per person, and after that per group.

A few of the ideas:

- A collaborative game of glass blowing.
- The story of the mastic drop. How does it feel? - fairytale
- Simulate glass blowing. Effort of glassblowing in VR.
- Create a game of rasters of the pattern.
- Game (depending target group): pirates that want to steal the mastic. Societal and power.

