Re-FREAM

Re-Thinking of Fashion in Research and Artist collaborating development for Urban Manufacturing

Working Package WP 2

Art&Tech Transfer

Deliverable 2.3

Co-Research Guidelines

Grant agreement no.:	**825647**
Call identifier:	**H2020-ICT-2018-2 – ICT-32-2018 – STARTS**
Objective:	**The Arts stimulating innovation**
Start date of the project:	**01.12.2018**
Duration	**36 month**

Due date of deliverable: 30.09.2019

Actual submission date: 30.09.2019

Lead Beneficiary for this deliverable: Consorzio ARCA

Contributions by:

Project co-funded by the European Commission within H2020 Framework Programme		
Dissemination Level		
PU	Public	X
CO	Confidential, only for members of the consortium (including the Commission Services)	
Type		
R	Document, report (excluding the periodic and final reports)	X
DEM	Demonstrator, pilot, prototype, plan designs	
DEC	Websites, patents filing, press & media actions, videos, etc.	

Contents

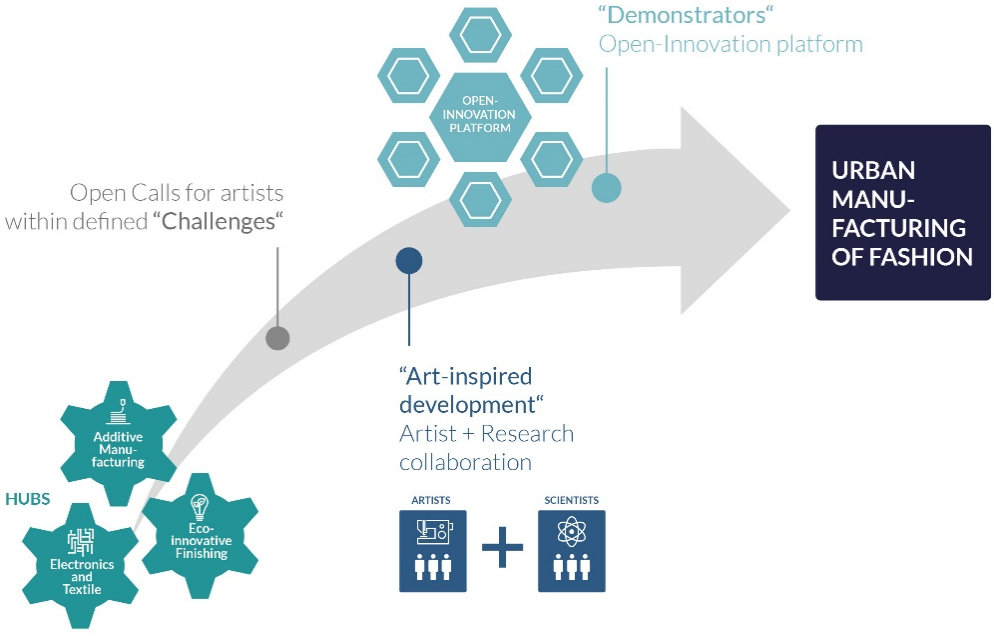
Annex I

Suggested Tools

0 Context Information

0.1 The Re-FREAM Project

Re-FREAM will support **art-driven innovation** in European R&I projects by inclusion of artists in research consortia via linked third-parties. The artistic community receives a strong support from art-related partners like the Art University of Linz (UFG) and the European Institute of Design (IED), creative hubs and facilitators like Wear-IT Berlin (FashionTech), AITEX, ARCA and Creative Region combined with remarkable technology from IZM Fraunhofer (E-textiles), Stratasys, Haratech (3D-printing), EMPA (3D body simulation), Care applications (Garement nebulization) and Profactor (Additive manufacturing).



Re-FREAM boosts **art-inspired urban manufacturing**, where the city becomes a new production space. Especially for **creative fashion**, urban manufacturing offers a great opportunity to create an alternative to the much criticized production in low-wage countries.

Three technologies (additive manufacturing, electronics on textiles and eco-innovative finishing of fashion) will be explored together. **In co-creation** 20 awarded Artist / Researcher teams, digitalized manufacturing of fashion will be developed up to TRL 5 to enable small-scale production of fashion in urban environment. An **Open-Innovation Platform** will finally link the know-how and the communities of the hubs, will offer access to relevant facilities and make the Re-FREAM art-inspired urban manufacturing working model sustainable.

0.2 Description of the Work Package concerned

Work package number	2		Start Date or Starting Event									01.12.2018
Work package title	Art & Tech Transfer											
Participant number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Short name of participant	CRE	PRO	AIT	WIB	CAR	IED	ARC	HAR	UFG	STR	IZM	EMP
Person-months	2	2	1	4	1	9	4	0	0	3	0	0

Objectives

1. Development of an Art & Tech Know How Transfer toolbox

2. Development of Guidelines for training in Art Tech Collaboration

3. Development of a detailed concept of a Co. Research process

Tasks

Task 2.1: Know How Transfer Concept [ARC]
The aim of this task is to provide a sound concept for Tech / Art Transfer for Hub managements, including:

- Desktop research on relevant tech/ art transfer tools, methods and formats
- Development of Toolbox on relevant Tech/ Art transfer tools, methods and formats

Task 2.2: Collaboration Training [IED]
The aim is to provide a collaboration training concept for implementation in the hubs

- Desktop research on relevant collaboration tools, methods and formats
- Development of training concept for collaborative methods and tools

Task 2.3: Co. Research Guidelines [ARC, IED]
The aim is to provide a guideline for hub manager on executing the Co. Research projects including templates for agreements, meetings, description of the processes and administrative guidelines (working contracts etc.).

Deliverable

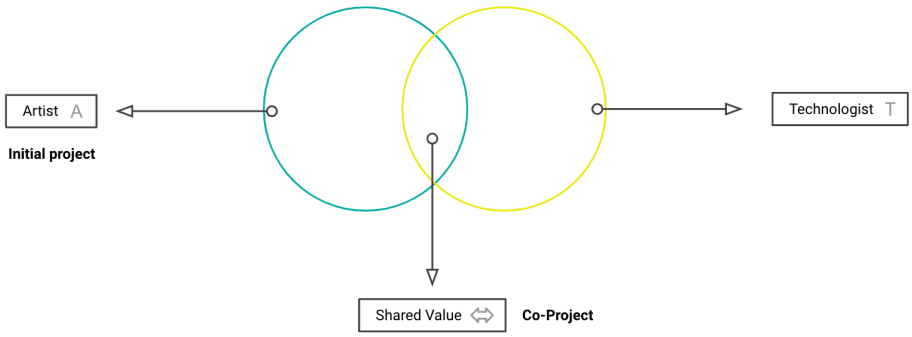
Del. No.	Deliverable name	Lead benefi-ciary	Type	Diss. level	Delivery date from Annex 1 (proj. month)	Delivered Yes/No	Actual / Forecast delivery date
D2.1	Tech/ Art Transfer Toolbox	ARC	R	PU	3	YES	14.03.2019
D2.2	Training Concept	IED	R	PU	6	YES	19.07.2019
D2.3	**Co. Research Guidelines**	**ARC**	**R**	**PU**	**34**	**No**	**30.09.2021**

0.3 Purpose and Scope of Deliverable Report D2.3

The aim is to provide a guideline for hub manager on executing the Co. Research projects including templates for agreements, meetings, description of the processes and administrative guidelines (working contracts etc.).

1 Introduction

Co-create is an approach in which, researchers, technicians and artists work together, sharing power and responsibility from the start to the end of the project, including the generation of knowledge. This guide is a first step in moving toward clarity about what we mean by co-producing a project. It explains the key principles and features of co-producing a project and suggests ways to realise the principles and key features.



The Guidelines will follow the co-research route through the path that the artists selected by the two calls will make. This document will accompany the application of the shared work methodology developed starting from deliverables 2.1 (Art Tech Toolbox) and 2.2 (that reports on the collaboration training concept for implementation in the hubs, as well as the development of methodologies, guidelines and tools for training in Art / Tech collaboration).
The Co. Research Guidelines will be released three times, alomg the whole development of the project, as they will be reviewed after the first round of art / tech collaboration, validated, and used for the second round, integrating all findings and improvements encountered.
Finally, the Guidelines will outline some of the key challenges that will need addressing by further work, to orient those intending to expand the co-producing art /tech research perspective.

1.1 Key Principles

The co-research team should approach the nine months collaboration route understanding and sharing some basic principles. When the Co-Design Team (an artist and one or more technicians) has been established, the Team should be led by the Hub Manager, who then will take the overall responsibility for carry on the design process and subsequent procurement to ensure continuity from design through to implementation. The Hub Manager should circulate the *Re-FREAM Chart of principles* to all the staff members involved and everybody should keep a copy of them.

1. **Sharing of power.** This is the key principle and the one from which all others descend. The research is jointly owned by the team, where the selected artists and the Hubs' staff work together to achieve a joint understanding Including all perspectives and skills –
2. **Clear purpose.** Art/Tech team must share who should be involved, the process of involvement, what is negotiable or not, and what resources and time are needed to make the co-design possible.

1. **Sharing of power**
2. **Clear purpose**
3. **Including all perspectives and skills**
4. **Respect**
5. **Reciprocity**
6. **Building and maintaining relationships**
7. **Data-Driven**
8. **Sustainability and Eco Design approach**

3. **Including all perspectives and skills.** Make sure the Art/Tech team includes all those who can make a contribution; Co-production requires a research team to ensure that all the necessary views, experiences, skills and knowledge are included. It also involves embracing diversity and developing structures and practices to enable the involvement of all those people required for reaching a particular goal. This includes ensuring information is accessible, for example documents are in an appropriate format and language to be accessible to everybody in the team.
4. **Respect.** Respecting and valuing the knowledge of all those working together on the project everyone is of equal importance. Co-researching requires that the different knowledge bases, experiences and perspectives of all involved in the project are afforded equal respect and value.
5. **Reciprocity.** Everybody benefits from working together. The contributions of people should be recognised. Everybody working together on a project should get something back from contributing to that project.

6. **Building and maintaining relationships.** An emphasis on relationships is key to sharing power. There needs to be joint understanding and consensus and clarity over roles and responsibilities. It is also important to value people and unlock their potential. The evolving relationships between the various people working together are key to co-researching. It is the evolution of these relationships and of trust that enable co-production to happen. In order for trust to develop individuals need to reflect on the knowledge, assumptions, preconceptions and biases that they bring to a project.
7. **Data-driven.** Co-design processes should commence with the sharing of existing data. The team should reach an agreement on project goals and outcomes before proceeding. Data sharing should be systematically pursued during the co-design project.
8. **Sustainability and eco-design approach.** Eco-design[1] is a systematic approach, which takes into account environmental aspects in the design and development process with the aim to reduce adverse environmental impacts (IEC 62430, 2009). In Re-FREAM the art-tech teams are asked not only to push the boundaries of creativity and technology but also to take into consideration the environmental sustainability perspective.

1.2 Building a research consensus

This section outlines some of the key nodes that you might expect to see in co-research. Each key node is followed by some suggestions as to how it might be achieved. These are some milestones along the path rather than an exhaustive list.

Establishing ground rules

Establishing ground rules at the beginning of the project can help create an environment where all voices can be heard and treated with respect. These ground rules, developed by the group working on the research, would set out expectations, in terms of the roles, responsibilities and behaviours of all.

> **TIPS & TOOLS**
>
> Getting consensus on the values and principles (the Team could add new principles and values) will provide guidance on behaviours expected, while the standards provide more detail on how these values and principles might find expression.

[1] The Guideline for eco-design process for the creation of environmental friendly artworks has been prepared for the art-tech teams. Several tools and methods has been identified and made available on the Art/Tech Collaboration Training Manual.

Ongoing Dialogue

Dialogue needs to be built into the governance of the project. It should continue throughout the project as project plans, ideas, research tools and knowledge that emerge from the project go through various iterations and are influenced and shaped by those involved.

> **TIPS & TOOLS**
>
> One clear necessity for successful collaboration is that of developing a common language. We do not suggest that the artist should necessarily understand scientific terminology, or that the technologist should take on the jargon of the art world, but rather that a conceptual understanding is developed between the team. Expressed in terms of goals and concepts, the collaborators' mutual understanding of what they are trying to express does not necessarily depend upon the words used, but rather on a shared understanding of the meaning and intention, or purpose, of the work.

Joint ownership of key decisions

It is the 'joint ownership of key decisions' which helps differentiate co-producing from collaborating. It is not that everyone needs to be involved in every decision or every aspect of a piece of research, but rather that the group, working together, decide and agree who should be involved and when, in terms of the management, governance and undertaking of the research.

> **TIPS & TOOLS**
>
> One approach is for everyone 'around the table' to outline, at the beginning of the project, what they do know and what they don't know about the subject (fashion world, clothing and textile production, 3D printing technologies and so on) – the intention is to pool together the collective knowledge and move artists and scientists away from the position of determining what is and isn't important knowledge. This sharing and enabling everyone a voice creates a building block from which to progress.

A commitment to relationship building

After embracing and embedding the principles in day to day work on site and at home, addressing power differences and developing relationships requires the development of open, honest, trusting and reciprocal relationships. Co-creation won't 'just happen'. Organisations and researchers need to shift from being not just 'doers' of research but to being proactive in encouraging and facilitating public involvement and developing relationships (other Hubs users and employees, the whole project consortium and beyond).

> **TIPS & TOOLS**
>
> To establish and cultivate a research reference group or an external facilitator. This reference group could meet regularly with the team and its members could undergo any necessary training and be regarded as an asset in the development of the project. To create a safe spaces to enable people working together to step outside of their official roles and develop quality and trusting relationships. These safe spaces might involve people sharing information about themselves that is not project related, for example their interests or engaging in activities away from work. The key is to change group dynamics and communicate on a more level playing field.

Opportunities for personal growth and development

There is an emphasis on supporting individuals and unlocking the potential of individuals to contribute to the project. In this way people are treated as assets with the skills, knowledge and experience to help develop solutions to issues. Hub managers should manage the flexibility and uncertainty that are often involved in such projects. This may require a cultural change in the team.

TIPS & TOOLS

An obvious mechanism is the provision of training and support Providing the training and support encourages an element of reciprocity which can ensure that people are more actively involved as they are being supported as require.
Two suggested exercise:

- Artistic Visualisation – a hands-on art activity that incorporates the themes of the event and helps to illustrate them.
- Mapping – this involves collecting information verbally from attendees on a given topic area of interest, and then recording it on a flipchart or some type of 'map' that the group can logically follow. For example, you might gather information on who is using co-creation tools and where or how they are using them. A map flows better than a standard chart (with horizontal and vertical columns) and allows you to better see linkages

Flexibility

A research project usually has a pre-determined project plan. However, a co-research project should provide opportunities for an iterative, fluid, open ended, experimental and interactive process; there should be opportunity for solutions and innovations to emerge from the relationships developed.

TIPS & TOOLS

Devolution of decision-making power is required. Co- research challenges the top down approach to research; in co- research decision-making is devolved and shared. It is important to provide opportunities for discussing ideas, assessing progress and reflecting on the research project.

Continuous reflection

Reflection is a process whereby research team members have the opportunity to look at and reflect on how they are working together, how they might be using their particular expertise and perspective in the project and how this might impact on the research process and findings/outcomes.

TIPS & TOOLS

There are many different kinds of reflective approaches. The team should think carefully before the start of the project and agree on what approach might best fit both the type of project they are doing and the way the team is structured. For example:

- One team might keep individual reflective diaries pegged to each research stage
- Another team should organize Telco meetings held every few months with a specific focus.

Using reflective approaches such as these are a helpful way for a research team to keep continually and collectively aware of how they are working together, what is working well and where there are tensions or sticking points.

2 Co-Research Guidelines tools

The Co-Research Guidelines document is not a stand-alone report but has to be seen as a part of WP2 strategy design to empower artist and technologist enabling best practices for innovation. The documents library is composed also of:

- The **Tech / Art Transfer Toolbox** that has been designed as a reference document and a possible source of inspiration, as well as a reference handbook for the selection of practical approaches. The Toolbox is divided in three main sections: The first is suggesting both general reflections on hybridization of arts and scientific research, promoting the concept of "conversation" and evidencing the possible "revolutionary" role of arts in the sci/tech framework. The second section is reporting a set of tools, to be applied in the tech /art transfer process. Finally a selection of inspiring stories, interesting places and legacy projects will help the reader to find best practices and front-running approaches.
- The **Art/Tech Collaboration Training Guidelines** that provide the Art/Tech Facilitators with a protocol for the entire duration of project development. There, specific guides and a curated selection of inspiring tools, references and documentation will be accessible sequentially, so that the Art/Tech Facilitators can learn how to expedite the development of the projects at each stage and enable best practices for innovation throughout the Art/Tech Transfer and Collaboration. It serves as an ongoing learning tool that guides and inspires the Art/Tech Facilitator within the Art/Tech Methodology.
- A set of **Training Material** that also includes the: **Art/Tech Facilitation Toolbox**: An open-source container that offers an organized database of all selected Art/Tech Collaboration tools and references; a **Collaboration Platform Guidelines**: A manual for the Art/Tech Facilitators to understand the importance and key aspects of using the Collaboration Platform; the **Art/Tech Balance Toolkit**: A digital measurement tool for collaborative project development that helps the Art/Tech Facilitators to strike a balance between artistic and technical criteria, throughout the entire evolution of the projects. Specifically designed for Re-FREAM.

This Co-Research Guidelines are suggesting additional, already available tools, such as:

To be used in Phase 2, Worksheet 1
the *Causes Diagram from Nesta's DIY Toolkit*, that will help the Art/Tech team with separating and prioritising issues related to the topic they are addressing;
Co-Define phase

To be used in Phase 2, Worksheet 2
Mapping people and connections Nesta's DIY Toolkit, will help Art/Tech team to get a clear overview of their target audience and the relationship between stakeholders.

To be used in Phase 2, Worksheet 3
Reframing 1/2; Problem Definition will help Art/Tech team refine the problem definition by looking at it from different perspectives.
Reframing 2/2. Worksheet 3 will take Art/Tech team through the process of rethinking the problem definition and reframing the supporting beliefs step by step. This will help the team to challenge their initial assumptions and find the 'right' frame for the challenge they are working on.

To be used in Phase 2, Worksheet 4
De Bono's *Thinking Hats* will help to look at the project through a magnifying glass. The exercise will guide the team in allowing for a range of different viewpoints and perspectives to be brought into a discussion, whilst still keeping the focus on the issue at hand.

To be used in Phase 2, Worksheet 5
With Worksheet 5, the Art/Tech team will create the first prototypes based on the IDEO method. The IDEO method on 'Determining what to prototype' helps to decide on how to isolate and test parts of the innovative idea.

3 Summary and Outlook

The Training Concept as well as the Co. Research Guidelines should be reviewed after the first round of projects, validated, and used for the second round, integrating all findings and improvements encountered.

This guidance identifies some key principles and features involved in co-research project. These principles and features are just the beginning of a pathway for art / tech team taking a journey on the co-research route. They are the first steps from which we can go on to develop further tools and techniques to enable co-creation.

The extent to which research projects and individuals embrace all of the principles and the depth to which they go in embedding the principles will vary. The more principles that are adopted and embedded the stronger will be the co-production of the research.

The intention is that artists and technologists can use these principles to critique their own practices and further evolve and improve in their day to day practice offering a best practice for their peers.

Co-creation requires a shift in how we approach and think about research.

Along the drafting process of the Co.Research Guidelines, many challenges have been raising, which will need to be addressed to really exploit the opportunity of co-researching. Though by no means an exhaustive list, below are some of the key ones:

1. How can we ensure that power is shared in a research project (given how the call is currently funded and organised)?

2. How can we allow for the greater flexibility often required in a co-research project ?

3. Can we develop criteria that would enable the Consortium to determine if a project has been co-produced?

4. Can we develop tools or guidance on how to co-produce knowledge?

5. How do we assess and evaluate co-produced research? And how do we ensure that it is regarded as 'credible'?

In short, the Guidelines is the beginning of our work on art / tech co- research. It is not the final word. The guidelines and tools described within are to be applied in Work Packages 4,5 and 6 in the Hubs. The content generated during these stages and stored on the Collaboration Platform can provide an important point of reference and an abundant source for storytelling in Work Packages 7 and 8, which will be a relevant background for the final review of the Guidelines.

Re-FREAM

Re-Thinking of Fashion in Research and Artist collaborating development for Urban Manufacturing

Annex I Suggested Tools

I want to clarify my priorities by breaking down a complex issue

CAUSES DIAGRAM

INSPIRED BY
Namahn and Yellow Window Service Design, Design Flanders (2012) Cause Diagram. In: Service design toolkit.

LEVEL OF INVOLVEMENT

FAIRLY SIMPLE, SELF ADMINISTERED TOOL
needs relatively less time

What is it & why should I do it?

What is the root cause of a problem? Often there isn't one simple answer. The bigger the problem, the more likely it is that the roots will be widespread, and mapping out the causes can quickly get out of hand, making the problem seem overwhelming.

The **Causes Diagram** helps you think of a problem in a thorough manner and provides a structured way to analyse it. It pushes you to deconstruct all possible causes for the problem rather than the obvious ones. You can use it both to analyse a new problem and as a tool to highlight the gaps in an existing problem.

It also helps to differentiate causes from effects or symptoms, giving you a better idea of the solutions needed to solve a problem permanently, and it helps to build a shared understanding of what it is you're working on.

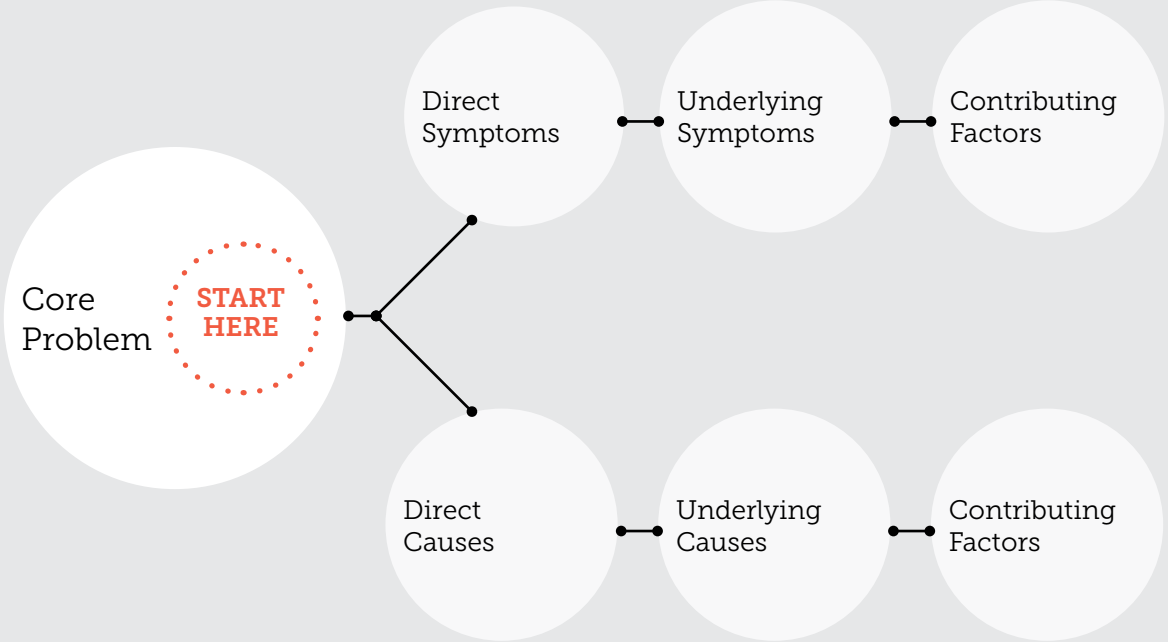
? HOW TO USE IT

First, identify and write down the core problem you are trying to resolve.

Working your way from this starting point, write down the direct, underlying and contributing symptoms you see as a result of it. These may be people involved with the problem, systems, equipment, materials, external forces, etc. Try drawing out as many contributing factors as possible.

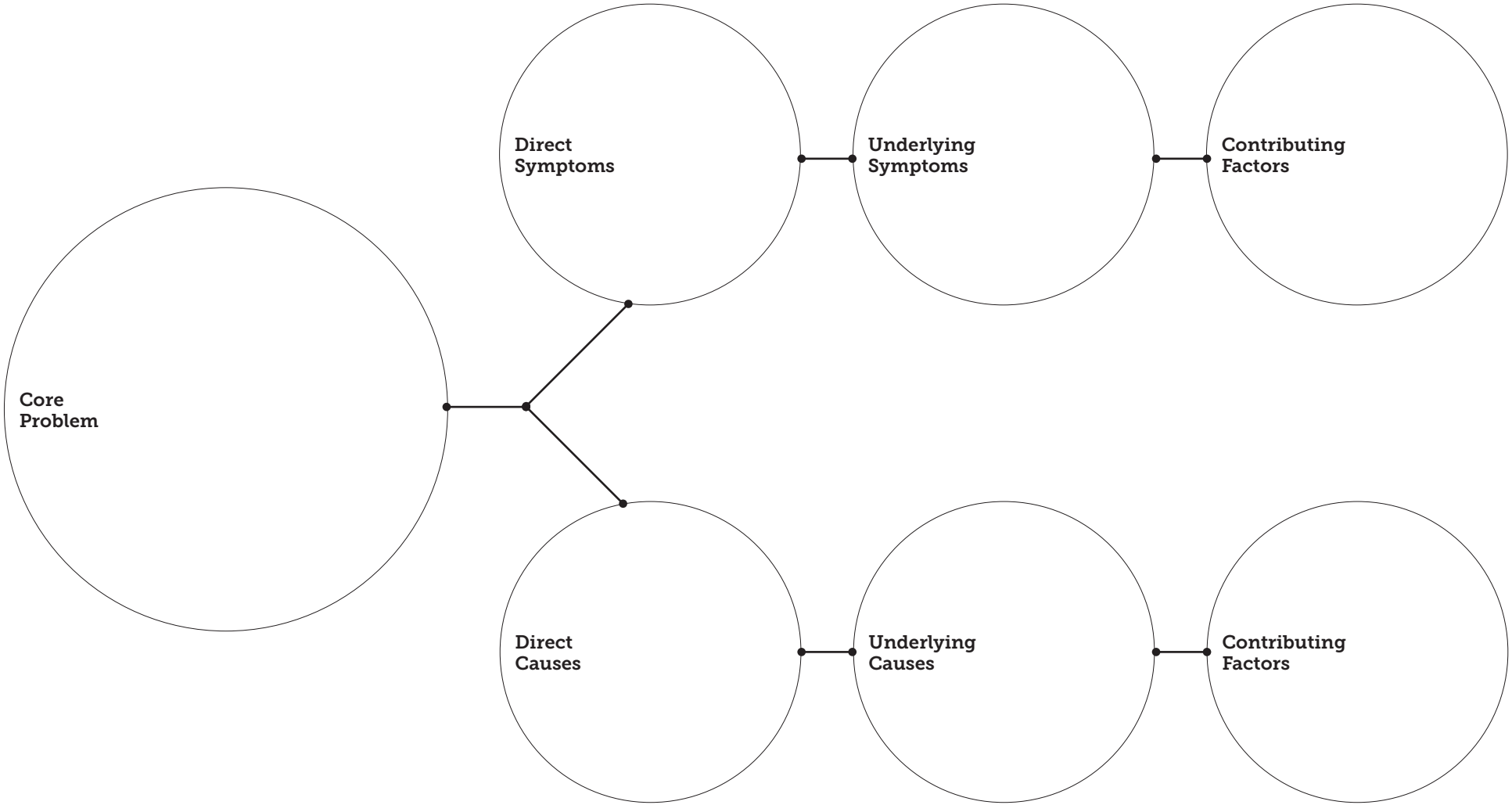
Now fill out the causes that correspond to these symptoms. Once the worksheet has been filled out, go through each symptom and cause with your team and consider if they are correctly placed, and discuss what you can learn from this in terms of clarifying your aims.

Be careful to not mix the causes of a problem with its symptoms as you note these down - a cause is the reason why something happens, while a symptom is usually what we see as the end result of the problem.



I want to clarify my priorities
by breaking down a complex issue

CAUSES DIAGRAM



I want to know the people I'm working with by clarifying relationships between stakeholders.

PEOPLE & CONNECTIONS MAP

INSPIRED BY

Namahn and Yellow Window Service Design, Design Flanders (2012) Stakeholder Mapping. In: Service design toolkit.

LEVEL OF INVOLVEMENT

MORE COMPLEX TOOL that should ideally be done over a few days. Given the strategic nature of the inputs/outputs, this needs consultations with seniors, peers and ideally needs to be revised after a first pass.

What is it & why should I do it?

The **People & Connections Map** is a quick and simple way to visualise exactly who you are trying to reach and how. It gives you an overview of all the different individuals and organisations involved in what you do. It allows you to develop a clearer picture of how all the different people and organisations relate both to your work and each other. These might include the people or communities you work directly with; the various bodies from which you receive (or are seeking) funding; or your own peers, local communities and even international support networks.

The People & Connections Map can be a great resource when sharing what you do and how it links together within the community of stakeholders that surround you. This tool is based on the orginal Stakeholder Spidergram developed by the Helsinki Design Lab, and further inspired by the Stakeholder Mapping tool by Namahn and Yellow Window.

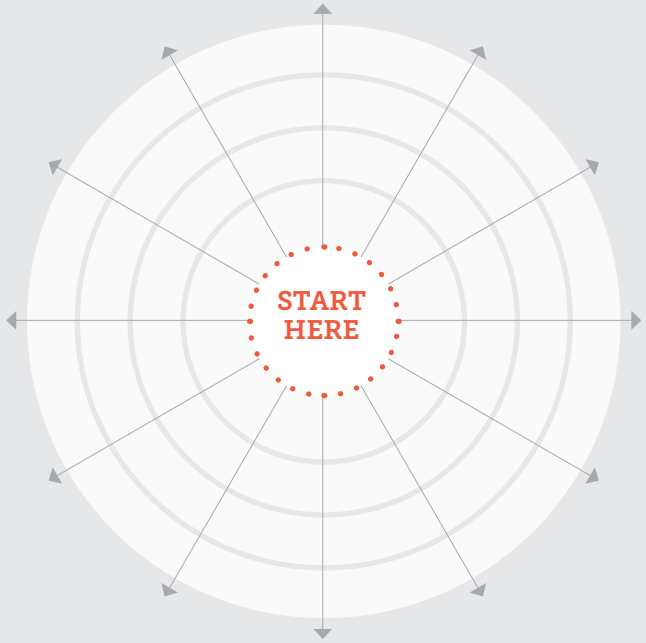
? HOW TO USE IT

Start by noting down your target audience, including beneficiaries, users or customers who would benefit from your work, in the centre of the worksheet. Then work your way from the centre towards the outer layers, mapping other people and organisations that are related to the work you do. These could be people and organisations that are responsible alongside you for implementing or delivering your work.

By organising the people and organisations that are related to your work across the concentric circles, you can indicate who of them are closer or farther away from the target audience. The closer to the core, the more influential they are. The closer to the outside, the farther away they are.

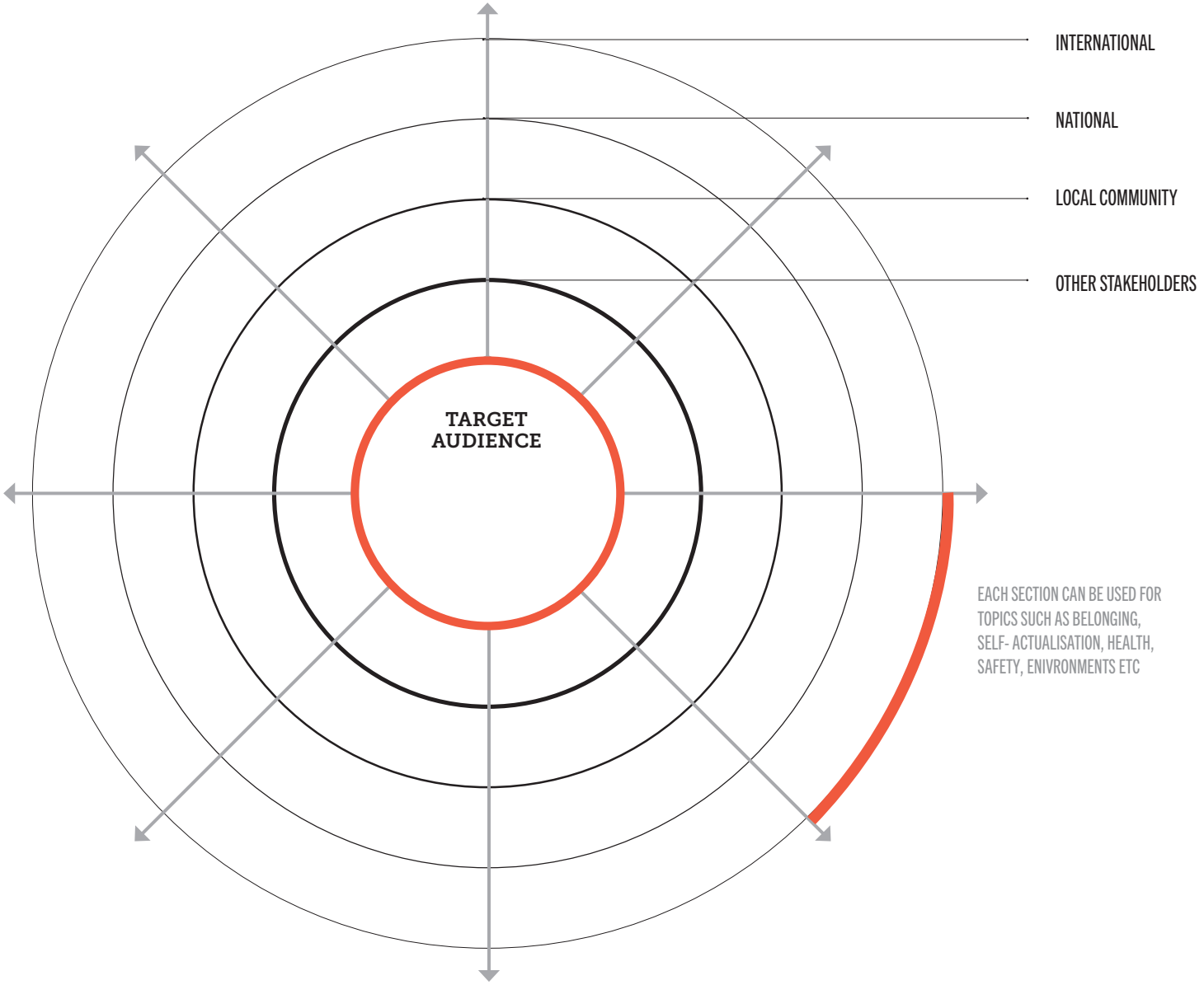
In addition it helps to further organise the people and organisations on the map by clustering them in sections that express specific networks, sectors or interest areas. For instance a section with all the people and organisations involved with health, safety, environment, or education. Choose sections that are relevant to your situation.

Once the worksheet has been filled, go through each person and organisation on the map with your team and, if necessary, reposition them into the circle and section that the team agrees fits most. This review will give you a useful starting point to discuss which relationships or connections are key, and which may need extra attention. By clearly marking out these fields in the map you can highlight and communicate the main focus for your work.



I want to know the people I'm working with
by clarifying relationships between stakeholders

PEOPLE & CONNECTIONS MAP



Worksheet 3: Reframing (1/2)

We use the Reframing Tool by THNK which helps you to generate creative approaches for issues you are dealing with in your work. You can use a 'living version' of this tool at https://reframe.thnk.org/tool/step/1/and take a look at the 'hall of reframes' from other changemakers. Fill out the Step-by-Step Reframing Tool below.

Step 1: What is the situation you would like to change? This is your core belief. Check if it's impactful, strong. Does this situation really bother you? For example: 'Consumers will not pay a premium for fair trade products' or 'Traffic jams are a waste of time'...

Step 2: What are your supporting beliefs? Write down at least four of them. For example: 'Traffic jams make me miss appointments' or 'I can't do any useful work in a traffic jam'...

Step 3: Now that you've made your train of thought clear, you can start reframing. Write down the opposite of your first supporting belief. First focus on the grammatical opposite, and then try a different variation. For example: 'I can do useful work in a traffic jam' and then 'I can do my best work in a traffic jam'...

Can you make it extreme? For example: 'I can only be really creative in traffic jams'...

Tool by Playbook for Social Innovation. An initiative of the European Social Innovation Competition 2019.

Worksheet 3: Reframing (2/2)

Step 4: Choose the most important (or most remarkable) opposite belief for every one of your supporting beliefs.
My most important 'opposite' beliefs are...

Step 5: If all the opposite beliefs you just chose were true, what would the core belief they support be? You'll find that your new core belief is not necessarily the exact opposite of your initial core belief. It's a different perspective on the situation.

What are these new supporting beliefs leading you to think? What conclusion did you arrive at? If the world was really like this, then what would follow from it?

You don't have to agree with these beliefs, or believe they are true, but just imagine: what if these things were true?
My 'new' core belief is...

Have you got a new perspective on the initial situation? Is this an inspiring reframe? Is it extreme enough to lead change?
My thoughts after this exercise are...

Tool by Playbook for Social Innovation. An initiative of the European Social Innovation Competition 2019.

I want to generate new ideas by framing a constructive discussion with my team.

THINKING HATS

INSPIRED BY

de Bono, E. (1985) Six Thinking Hats. USA: Little, Brown and Company.

LEVEL OF INVOLVEMENT

REQUIRES SOME DIALOGUE with colleagues/peers. Plan for some time to interact and fill out in collaboration over a day maybe.

What is it & why should I do it?

Thinking Hats allow a range of different viewpoints and perspectives to be brought into a discussion, whilst still keeping the focus on the issue at hand. It's a technique which can be used to encourage people to look at a topic from a number of different perspectives, making what might be a very complex issue a stimulating focus point for conversation. The team learns how to separate thinking into six clear functions and roles, getting them to look at all sides of an issue. Structuring the conversation around these different viewpoints helps avoid endless, free flowing debates around topics, and instead helps create a meaningful, focused discussion. This technique was popularised in the book Six Thinking Hats (De Bono E. 1985).

Each hat is a different theme, which indicates a particular viewpoint. In a group setting all team members think about a topic using the range of hats, helping them focus on the topic from each viewpoint at a time. This also helps getting contributions from all team members. This range of viewpoints can uncover new ways to address a particularly difficult problem, for instance by making an overly familiar issue feel 'strange' again, and it helps teams to develop a shared understanding.

? HOW TO USE IT

There are two ways of using the Thinking Hats:

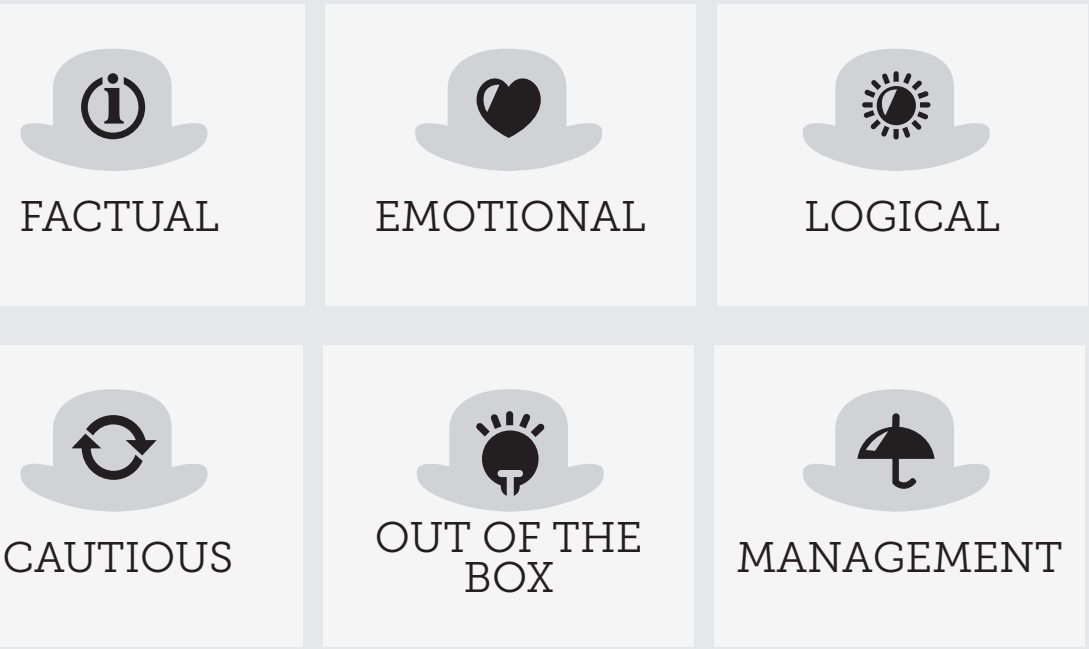
1.Everyone 'wears' the same hat at the same time. Choose one of the hats and ask everyone to contribute to the discussion from that hat's point of view. Each of the six hats is used to discuss an issue.

2.Everyone 'wears' a different hat and the topic is discussed from multiple points of view. All hats need to contribute sufficiently to the discussion. Hats can be switched around during the discussion, forcing people to look at the issue differently.

Both approaches help teams to engage in critical discussions. The hats break up the conversation into focused parts that can be conducted one after the other, instead of simultaneously. There is no correct order for which hat comes first or last, but for the first few times, it may be easiest to use the sequence as indicated on the worksheet (from factual to management).

The use of these hats may seem artificial at first, but once you go through the exercise a few times, the advantage becomes evident.

If 'hats' are not appropriate for the situation just use T-shirts, badges, or cards with the themes of the hats on them.



DIY 21

I want to generate new ideas
by framing a constructive discussion with my team

THINKING HATS

FACTUAL

EMOTIONAL

LOGICAL

CAUTIOUS

OUT OF THE BOX

MANAGEMENT

Worksheet 5: First prototypes

Step 1: Key elements of your idea
As a first step, write down the key elements of your idea. Think practically about what needs to be tested, write down your primary questions for each component, and think about what your hypothesis is. What I (we) want to test... / Our primary question is... / Our hypothesis is... (repeat for multiple prototypes)

Step 2: Choosing your kind of prototype
There are many different kinds of prototypes. A scale model could be a great prototype if the lay-out of a workspace is important to you and your users. However, when your idea is a service or interaction, a physical prototype might not be the best option for you. Please take a look at the following examples, and maybe look up some online inspiration as well:

- Mock-up: a model of a design or product. For example: a small-scale model of a 3D-printed chair, a paper model of a website design, or even a model of a (postal) letter.
- Walkthrough: a digital or physical version of a step-by-step process. For example: a YouTube video of the steps in a (serious) game, or a city plan with movable figures in preparation for a parade.
- Storyboard: a paper representation (similar to a comic strip) of a linear sequence. A storyboard (as opposed to a walkthrough) often reflects the user's imagined state and interaction with the product or service. For example: a storyboard on how your solution addresses a particular problem.
- Role play: a 'theatre' version of an experience. For example: to test the experience of sharing or receiving information at a new type of information desk, you can act it out.
- Simulation: a digital prototype of a physical model. For example: to test a 3D printer, simulation modelling can help create the optimal geometry or predict fluid flow.

The prototype that is easiest and most fitting to test my (our) idea is...

Step 3: Create your prototype
Remember, a prototype is the simplest possible version of your idea, and should be ready to use in very little time! Use whatever materials you need, depending on the type of prototype you have chosen.

Step 4: Test your prototype
Collect stories and insights from your target user group by testing your prototype with them. Think about how to engage people, what you want them to do and how you want to receive their feedback. This '**Mainstreams and Extremes' tool** by IDEO will help you think about all the different people that might use your product or service.

These links to doing a **group interview**, or just **interviewing** random people on the street will help you go outside and ask the right questions. Don't forget that there is also the option to find an **expert** to give you feedback. There will be plenty of experts at the Academy, but maybe you already know some local experts to connect with!
It is crucial to capture honest feedback from your audience, so it helps to assure people that your prototype is only a tool by which to learn and that you welcome honest, and even negative feedback. Sharing it with lots of people helps you get a variety of reactions.
Write down the feedback you hear immediately and use this opportunity with the people you're designing for to ask more questions and push your idea further.

The feedback that people have given me (us) on the prototype is...

Step 5: Integrate feedback
Create a framework of the feedback you have received by sharing the stories with your team, and looking for (recurring) emerging patterns in the stories. You could, for example, draw the patterns in a simple framework like a Venn diagram or a 2x2 matrix, or draw a more complicated pattern in a **Journey Map**.

These frameworks help to visualise patterns and the perspectives of both individuals and groups.
The most important patterns I (we) have found in the feedback are...

Step 6: Iterate your prototype
Be tangible and build the next iteration of your prototype based on the feedback and patterns you have identified. Don't take too long, once you've determined how your prototype should change to reflect the feedback you got, get building!

Step 7: Test again (and repeat) to refine your idea until it's something that's bound to be adopted and embraced.

Tool by Playbook for Social Innovation. An initiative of the European Social Innovation Competition 2019.