Deliverable 6.7

BLUEPRINTS & POLICY DEVELOPMENT GUIDELINES FOR REPLICABILITY & WIDER USER

CENTRINNO

CENTRINNO

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BLUEPRINTS AND POLICY DEVELOPMENT GUIDELINES FOR REPLICABILITY AND WIDER USER

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Abstract (for public dissemination only)

This report, featuring two levels of blueprints, provides actionable insights for implementing the CENTRINNO framework and best practices across European cities. Emphasizing circular economy, heritage preservation, vocational training, innovation spaces, and social inclusion, the blueprints showcase CENTRINNO's evolution and key outcomes from pilot cities. The report details the creation of platforms fostering regenerative neighborhoods, drawing from experiences in cities with different contexts, sizes and local challenges. The knowledge shared serves as a foundation for advocating policy development guidelines for more livable, productive, and inclusive cities.

Keywords Regenerative, neighborhoods, circular, urban environment, advocacy, heritage, inclusivity

Statement of Originality

This deliverable contains original unpublished work except where clearly indicated otherwise.

Previously published materials and the work of others have been acknowledged through appropriate citations, quotations or both

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EXECUTIVE SUMMARY

CENTRINNO is an European Union funded project whose objective is to recover the heritage value of industrial sites in Europe to foster a more inclusive and sustainable productive model in cities' neighbourhoods.

Consisting of two levels of blueprints, this report offers comprehensive insights and actionable recommendations for the widespread adoption of the CENTRINNO framework and tools across European cities and beyond. Focused on the principles of circular economy, heritage preservation, vocational training, innovation spaces, and social inclusion, the blueprints present the evolution of CENTRINNO's core platforms and key outcomes from pilot cities, including Amsterdam, Barcelona, Blönduós, Copenhagen, Geneva, Milan, Paris, Tallinn, and Zagreb.

The document starts with an overview of CENTRINNO and the report's scope, outlining its contributions to other CENTRINNO's deliverables and work packages. It follows by tracing Europe's industrial past to current challenges, introducing Fab Cities as a solution to reinvigorate local production and creative spaces in urban settings. The main chapters of this report present the blueprints of CENTRINNO in two levels: the initial focus lies on the project's platforms, exploring the concept of Fab City Hubs and the framework's five key concepts for local transformation. Simultaneously, it details the blueprints of CENTRINNO pilot cities, exploring their journeys, micro-missions, and practical tools inspiring policy recommendations. As part of its conclusion, the report issues an advocacy call, crafted by diverse CENTRINNO pilot voices, urging support from the EU, local policy makers and Fab City Hubs for cities transitioning towards regenerative urban models. The report ends by presenting lessons learned and prospects for the next steps in the regenerative development of cities and neighborhoods.

Designed with a graphical format for ease of understanding, the report serves as a user-friendly documentation facilitating the replicability of methodologies, tools, and best practices in various contexts. The goal is to facilitate necessary systemic change not only across the European Union but also beyond, ultimately realizing the vision of CENTRINNO in fostering inclusive, sustainable, and innovative urban environments.

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
CENTRINNO	New CENTRalities in INdustrial areas as engines for inNOvation and urban transformation
CE	Circular Economy
EC	European Commission
EN	Emotion Networking
FCHs	Fab City Hub
GA	Grant Agreement
KER	Key exploitable results
KIPs	Key performance indicators
VT	Vocational Training

GLOSSARY

Term	Definition
Emotion Networking	Emotion Networking is an exercise that provides insights into complicated interplays between emotions, interests and different sorts of knowledge, and between items of heritage and people. The aim is for participants to notice changes in these relationships and to become (more) aware of the complex dynamics surrounding heritage. In this way, they develop "heritage wit", a set of competencies that enable people to relate critically to processes of heritage making and enter dialogue, with due attention to heritage dynamics and other people's position. These skills can help us, as society, deal with the past in the present, which is often emotionally charged. In CENTRINNO, the approach is used as a method to develop heritage as a key concept in the creation of Fab City Hubs.
Fab City Hubs	Fab City Hubs are open spaces for city making. They work as a physical interface to connect actors within a Fab City Prototype (usually a neighbourhood) and foster collaboration and exchange of skills and knowledge between local communities in a given territory. (FCHs Toolkit, GitBook)
Sprint	The CENTRINNO project ran over three consecutive years. During this time, the pilot work was structured in three sprints of a 6-month long period (high intensity action phase) in which pilots ran the majority of their local activities. Between sprints, during 5 months, pilots reflected and reported on their lessons learned (low intensity action phase).
KUMU	KUMU is an open-source software, used for mapping stakeholder networks, complex systems or community assets. It is the platform that CENTRINNO pilots will use to organize, visualize and analyse data collected on the current and future CENTRINNO Network, its resources and resource flows.

1.

INTRODUCTION

PURPOSE AND SCOPE

Structure of the Document

This report focuses on the presentation of guidelines and recommendations for successful replicability of CENTRINNO framework and tools across EU cities and beyond. By exploring and assimilating how CENTRINNO resources have been developed and applied in diverse territories, the document presents two levels of blueprints derived from the main projects results: the evolution of its core platforms and the primary outcomes of each CENTRINNO pilot city.

CENTRINNO Platforms' Blueprints
Aligned with the five key concepts – circular economy, heritage, vocational training, innovation spaces and social inclusion – the document brings together the representation of the CENTRINNO platforms creation aimed at supporting a transition of bioregions, cities and neighborhoods towards regenerative, inclusive and productive territories of living and producing.

CENTRINNO Pilots' Blueprints
In a more practical level and drawing inspiration from the CENTRINNO pilot cities – Amsterdam, Barcelona, Blönduós, Copenhagen, Geneva, Milan, Paris, Tallinn, and Zagreb – the document showcases nine distinctive journeys, accompanied by their main outputs for replication alongside a selection of practical tools developed by the local teams. Based on this knowledge, the report also provides potential recommendations for policy making following a people-centred approach. The recommendations include strategies for the establishment of distributed and physical Fab City Hubs reflecting on the solution of complex urban challenges involving stakeholders at various levels in local policy decision-making, ranging from public and private actors and mature and emerging industries to cities and bioregions, Fab Labs, innovation centers and heritage-related organizations.

The recommendations include strategies for the establishment of distributed and physical Fab City Hubs reflecting on the solution of complex urban challenges involving stakeholders at various levels in local policy decision-making, ranging from public and private actors and mature and emerging industries to cities and bioregions, Fab Labs, innovation centers and heritage-related organizations.

Within this scope, this document does not intend to cover all the CENTRINNO resources and pilots' solutions as inspiration for policy recommendations, but rather highlight specific best practices connected to the CENTRINNO main areas of intervention. It endeavors to distill the knowledge obtained from the project into an advocacy call, urging for the enhancement of our cities as more livable, productive and inclusive territories.

CONNECTION WITH OTHER DELIVERABLES

This section provides an overview of the deliverables, internal platforms and online resources that contributed to the realization of D6.7 Blueprints and Policy Development: Guidelines for Replicability and Wider User:

D1.2 - CENTRINNO Framework (M12), as the deliverable is focused on presenting guidelines and recommendations for the successful replication of the CENTRINNO approach, and on the series of resources developed in the project that operationalise the framework.

D2.6 CENTRINNO Cartography (M40), D2.7 CENTRINNO Living Archive (M40), and D3.4 Fab City Hubs Toolkit (M42) as the primary sources for developing the Platforms' Blueprints. Additionally, the relevant CENTRINNO online platforms (Cartography, Living Archive, Fab City Hub Toolkit) were consulted for more detailed content.

The Pilot's Collective Results D4.2 (M16), D4.3 (M27), D4.4 (M38) as the documentation about the pilots' activities and achievements respectively for each sprint 1, 2 and 3. Data was also extracted from the internal CENTRINNO data collection platforms used to monitor events and micromissions.

The Impact Assessment Reports D5.2 (M29) and D5.3 (M40) as the source of information regarding the outcomes and impact of the pilots activities, the platform strategies and effectiveness of the project's resources, including the analysis of organizational practices.

D6.6 Exploitation and Sustainability Plan used as a source of contribution for the work done in exploitation with scenario of use and Key Exploitable Result roadmap, which helped to frame the design, from a user point of view.

Lastly, this deliverable contributes and influences the deliverables D1.3 - CENTRINNO Handbook (M42) as it presents a collection of tools and methods developed, implemented and validated inside the CENTRINNO project.

STRUCTURE OF THE DOCUMENT

Chapter 1.

Briefly introduces an overview of CENTRINNO and the purpose and scope of this report. This includes the contributions to other deliverables and work packages and how this report is structured.

Chapter 2.

Outlines the historical progression from Europe's industrial past to its current challenges, emphasizing the decline in local manufacturing and the neglect of industrial areas. As a prospective alternative to the existing urban models, the chapter introduces the concept of Fab Cities and the alignment of CENTRINNO in reintroducing local production and creative spaces in urban settings through the lens of circular economy principles.

The chapter also presents what CENTRINNO envisaged as regenerative neighborhoods, as well as what types of urban challenges can be encountered in industrial historic zones. Following a people-centred approach, alongside the current environmental barriers faced in the pilot cities, the report provides a short selection of stories from people, neighbors and local producers as protagonists in preserving the cities' heritage and cultural fabric.

Chapter 3.

Presents the blueprints of the CENTRINNO platforms, providing an overview on how it can be applied in different contexts. The chapter starts by exploring the concept of Fab City Hubs as spaces for 'city making' and fostering mutual collaboration. It then deep dives into the framework of CENTRINNO and its five key concepts for local transformation.

Chapter 4.

Provides the blueprints of the CENTRINNO pilot cities. After introducing their spreading across Europe, their scales and a brief explanation of the methodology used to support and monitor the cities' micro-missions, this chapter delves into the journeys undertaken by each city. It emphasizes their pivotal micro-missions, showcasing tools and practical cases that serve as inspiration for policy recommendations.

Chapter 5.

Presents an advocacy call, crafted from diverse CENTRINNO voices, directed towards the European Union, local policymakers, and existing or forthcoming Fab City Hubs, detailing actionable steps to support cities in transitioning towards regenerative urban models.

Chapter 6.

Finally, closes the report by acknowledging those people who supported its realization, presenting a summary of lessons learned and what could be the next steps in the regenerative development of cities and neighborhoods.

2.

BACKGROUND
FROM INDUSTRIAL HERITAGE TO REGENERATIVE NEIGHBORHOODS

PREFACE

CENTRINNO is an EU Horizon 2020 funded project. It aims to develop and demonstrate strategies, approaches and solutions for the regeneration of industrial historic neighborhoods as creative production and manufacturing hubs that stay true to the ecological challenges of our time.

Contextualizing the past: The Particularity of industrial sites

Two centuries ago, Europe ignited the Industrial Revolution, and economic benefits at regional and national scales became abundant. More recently, globalisation, which was foreseen to strengthen global markets, has led to substantial losses for the manufacturing capacity of European cities. Europe's forced transition to a knowledge economy has resulted in a decrease in manufacturing jobs, a lack of appreciation for these jobs, and the neglection of industrial areas. Subject to decay or exploitation by extractive economic activities, historic industrial areas are disconnected from local knowledge or value generation.

Cities are currently facing huge challenges that demand new solutions.
The current model of massive consumption and extraction contributes to the acceleration of the climate crisis. Automation and Industry 4.0 present great potential but also challenges, such as the loss of jobs, the polarisation of the workforce, or the social exclusion of vulnerable populations. The COVID-19 pandemic pandemic has drastically exposed the fragility of the current system and our own vulnerability in cities. We are at a moment in history in which we need to make a change.

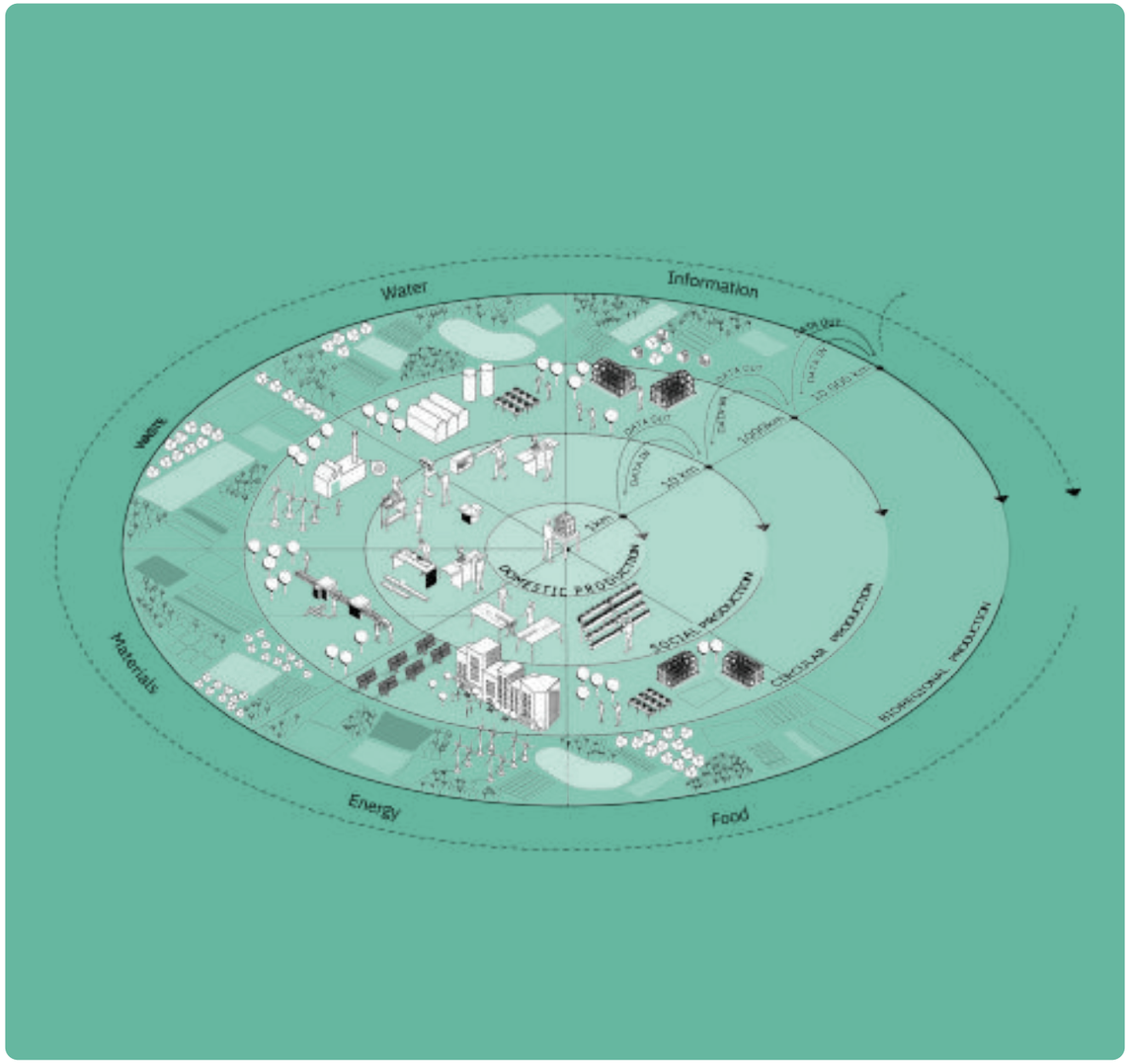

Figure 1. *Fab City multi scalar approach. Source: https://www.fabcity.hamburg/en/fabcity/fcglobal/*

Activating changes at local scale: Neighborhoods as Fab City Prototypes

The Fab City concept emerges as an alternative urban model, aiming to cultivate cities and regions that are globally connected and locally productive. Originating in 2011, the Fab City Global Initiative is built upon three key pillars: the Foundation, a Network spanning over 50 cities, and a Collective of experts. Central to Fab City's mission is the transformation of cities and their relationships with residents and the natural environment. This reinvention hinges on strategically reorienting production within cities, envisioning them as generative rather than extractive, restorative rather than destructive, and empowering rather than alienating. The ultimate aim is to nurture communities where individuals discover purpose in meaningful work aligned with their passions and skills. Drawing inspiration from the principles of Fab Labs – focusing on connectivity, culture, and creativity – Fab City aspires to extend these principles across urban landscapes , transitioning from a domestic to a bioregional production (See Figure 1). This novel urban model envisions a substantial shift in how cities source and utilize materials, energy and food: moving from the traditional 'Products In Trash Out' (PITO) to the innovative 'Data In Data Out' (DIDO) approach. This transformative shift emphasizes local production, efficient material recycling, and meeting local needs through inventive solutions.[4]

Invitation to readers

This document is addressed to all people interested in fostering regenerative practices in their neighborhoods and to policy makers at local and global levels that are weaving more sustainable and inclusive practices. It gives visual insights of the legacy of the CENTRINNO project. It consists of a series of blueprints that will help to envision the concept of regenerative neighborhoods, get a synthesis of the main platforms of CENTRINNO and to be inspired by the journeys of nine cities in Europe.

The Blueprints outline the project's findings and unpack them into policy development guidelines for their replicability through new innovation spaces in other cities. The document ends with an advocacy from CENTRINNO partners for the future of regenerative neighborhoods.

You are invited to explore this report, tailored into different readers groups:

If you are an **enabler of socio-ecological transitions**, this report offers a comprehensive understanding of the CENTRINNO framework and tools, providing insights into how these resources were developed and implemented across diverse territories.

If you are **evolving in the policy making environment**, the report provides potential policy recommendations aligned with key concepts such as circular economy, heritage, vocational training, innovation spaces, and social inclusion.

If you are **part of local community initiatives or innovation hubs**, it offers detailed accounts of distinctive journeys taken by CENTRINNO pilot cities, accompanied by their outputs and practical tools.

If you are **in or interested in the Fab City ecosystem**, the report provides glimpses into successful initiatives and advocating for more livable, productive, and inclusive cities, offering inspiration and ideas to contribute to the growth and development of fab cities.

3.

WHAT DOES A REGENERATIVE NEIGHBORHOOD LOOK LIKE?

NEIGHBORHOODS AS PLACES FOR DIALOGUING BETWEEN PEOPLE AND CITIES

Figure 2. *CENTRINNO regenerative neighborhood by Metabolic Institute.*
Source: https://www.CENTRINNO-cartography.org/

Bridging the gap between specific zones or heritage sites and the larger city area, neighborhoods have been adopted as the primary spatial scale for the CENTRINNO project. Navigating through these different levels of influences (site, neighborhood, and city), neighborhoods possess distinct characteristics and play a unique role within the urban fabric. As individual yet connected entities, each neighborhood has its own set of attributes and potential contributions to a city's transition toward a circular economy: they are ideal settings for synergizing and experimenting with changes.

CHALLENGES AND STORIES

While acknowledging the importance of identifying environmental and urban challenges encountered by cities in the regeneration of their industrial historic sites and neighborhoods, CENTRINNO also underscores the significance of valuing and embracing citizen participation. We believe in harnessing individual narratives to collectively re-imagine the future of our cities, recognizing that these personal stories are instrumental in shaping transformative solutions. As we delve into the complexities of the regeneration of urban territories as creative production and manufacturing hubs, let's explore the challenges but also the **stories** and **narratives** of people within our cities.

What challenges are we facing in our local environment?

CENTRINNO outlines key challenges to be addressed to create a thriving urban environment

Figure 3. *'Urban Challenges Map' by the Metabolic Institute team. Source: https://www.CENTRINNO-cartography.org/*

As communities, we need to find this fine balance between meeting the social needs without overshooting the planet's ecological limits. Inspired by the Doughnut Model brought to life by Kate Raworth in 2012, CENTRINNO partners have explored local challenge areas and related them to the planetary boundaries defined by Raworth [1], with the wish to guarantee a safe space for ecosystems to operate.

Environmental foundations

Materials
Most of our economy is still heavily dependent on the use of new materials. If we want to stay within planetary boundaries, it is important that we reduce our environmental footprint. Cities have an important role to play in this, since a lot of our material use is within cities. Fab Cities that reduce their material consumption and reuse available materials could significantly reduce their material costs, while also pioneering the transition towards the circular economy.

Water
Freshwater resources are critical for urban economic life, human wellbeing, and natural ecosystem health. During times of scarcity, cities often compete with the industries and surrounding agriculture for the distribution of water. At the same time, urban life often leads to the pollution of local water bodies due to road run-offs, sewage overflow, industrial waste, or the application of fertilizers on gardens, farms, and green spaces.

Biodiversity
As cities expand, the habitats for plants and animals shrink. However, biodiversity loss is not confined to the city alone. Surrounding monocultural farmlands and pesticide usage is equally responsible for declining insects and low soil organism diversity.

Climate
Cities are the main consumers of fuel, electricity and heat to drive social and economic life. Sourcing this energy from fossil fuels for industry, households and transportation leads to the emission of greenhouse gasses and air pollutants that affect the climate and our health.

Table 1. *Eight pillars description of CENTRINNO urban challenges adapted from the Metabolic Institute team*

Table 2. *Selection of stories curated by CENTRINNO Pilot cities from the CENTRINNO Living Archive*

Social foundations

Economic Inclusion
Cities are engines of economic growth. Even seen as hubs for innovation and scientific advancement that attract investments, and act as significant conduits for global financial flows, ensuring that the benefits of this growth extend to all segments of the population remains critical. Urban challenges for economic inclusion could include high unemployment, income inequality, lack of local capacity to produce own goods, lacking competitiveness or gentrification.

Culture
A vibrant cultural life in which both new and traditional expressions of culture co-exist. A cultural landscape in which many different diverse populations and communities are represented. Urban challenges for culture could include lacking access to communal cultural activities, barriers to connect to local history or lack of cultural life and events especially for different backgrounds.

Health & Wellbeing
A healthy population should be the goal for every city - including Fab Cities. Measuring community health is not always easy since there are many indicators we could use to determine the physical and mental wellbeing of citizens. Furthermore, wellbeing is not only determined by physical health - but also whether people feel socially connected, whether they have access to affordable housing, and many more.

Society
Within cities, the coexistence of people and nature shapes the dynamics of our communities. The challenge lies in cultivating a thriving society where socially engaged networks are actively fostered. Nurturing these connections becomes fundamental to building a city that prioritizes social harmony, ensuring that the various elements of our urban landscape contribute to the well-being and interconnectedness of its citizens.

Check out the CENTRINNO Cartography Urban Ecosystem Mapping Workshop "BECOME A CONTEXT DETECTIVE! A workshop guide for Fab Cities to map urban ecosystems and their challenges" to have more information.

Regeneration is all about people and stories

CENTRINNO partners give voice to people, neighbors, makers, craftspeople by collecting and sharing their stories

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Below are examples of stories that illustrate and reflect on how people connect with their neighborhoods (landscapes, buildings, tools, traditions, artworks, waste, materials), from the past to nowadays.

Crafting resilience between tradition and transformation

Barcelona
City

El Poblenou
Location

For more than 40 years, a family business has devoted its life to producing leather belts, bags, jewelry and accessories on the third floor of an industrial building in Poblenou. Feeling affected by the urban transformation underway in the neighborhood, the manufacturers are worried that at some point they will lose their permit to manufacture in the workshop, as local manufacturing permits are no longer easy to obtain.

Roland the beekeper

Tallinn
City

Kopli peninsula's
Location

In 2019 at the time just before COVID-19 crisis, at Kopli peninsula's professors village, our community member Roland took over his grandfather's apiary. He understood that he was the only one who could do it, first in the countryside, where the apiary originally was, and using the tools provided by his grandfather he learned the profession that had been his grandfather's passion. This activated memories from earlier life, things that grandfather had taught him, and in the context of a friendly bear visiting, the apiaries ended up at Kopli area, in Tallinn.

Design as it should be

Milan
City

Tortona District
Location

A long time ago, wandering around Milan's design week, a young designer was captivated by the grandeur of a building unlike any other. It was BASE (ex Ansaldo rail factory). From that moment on, she realised that there can be a design that does not produce things but designs projects that can breathe new life into neighbourhoods.

An alternative pathway to feed us is possible

Paris
City

Paris
Location

Since the middle of the 19th century, in a moment of massive rural exodus, driving farmers into Paris and in every available urban open spaces, using walls, horse manure and food waste as tools, the market gardeners as pure craftsmen, recreated the way we farm transforming all the constraints of the urban landscape into opportunity.

Jeweler Anja Akkermans

Amsterdam
City

Amsterdam Noord
Location

After her father opened Juwelier Akkermans in 1968, Anja Akkermans and her sister Annemieke took over the shop in 1999 located in the building they were both born and raised in; here Anja has her own atelier where she makes jewellery from gold that primarily comes from existing pieces for customers mostly living in the neighbourhood.

Guilds and a long tradition for professional craftmanship

Copenhagen
City

Nordvest
Location

In 20th century, the buildings in the Rentemestervej area were built by craft guilds specialized in a certain craft resulting in classic and ornate buildings. Today, buildings are more a science than a craft which has provided improvements within isolation, light and comfort, though some still believe that they cannot keep up with their much older counterparts.

OPPORTUNITIES AND NEW NARRATIVES

We present a curated set of opportunity cases, and a brief overview of their development within the CENTRINNO project. This information was sourced from CENTRINNO Cartography interactive map, based on the Kumu platform, which encompasses potential opportunities and practical cases for a selection of challenges, including: community connection, employment, GHG emissions, housing, land use change, soil pollution, species loss, waste generation, water pollution and water stress.

Figure 4. *Adaptation of the interactive 'Explore Fab Cities Solution' Map by the Metabolic Institute team.*
Source: https://www.CENTRINNO-cartography.org/

What are the new initiatives we want to see emerging in regenerative neighborhoods?

On map	Opportunity	Practical case
	Organizing a circular makers fair	Bringing together makers, designers and producers with circular business models is a great starting point to build a circular innovation network and foster the exchange of skills, knowledge and resources. BASE, part of the Fab City Hub in Milan, organized an exhibition for local circular businesses open to the public. This event allows small makers to showcase their businesses and engage in discussion panels around the challenges and opportunities they face.
	Connecting with real estate developers to explore options for shared and flexible workspaces	The Copenhagen Fab City Hub is focusing on finding solutions to the space issues that many creatives have. Finding options to share spaces, equipment or infrastructure requires a good understanding of the needs of local creatives, as well as good connections with real estate cooperatives developing buildings in post-industrial areas. Also Amsterdam's Fab City Hub builds collaborations with other projects in the city, such as the proposed creation of a shared workshop space for professional makers that will need to abandon their current workspaces due to urban redevelopment plans.
	Creating shared waste infrastructure in maker districts	Local makers and creatives can often provide valuable resource streams through their waste materials. But even in areas with a high density or maker industries, waste management is not centralized or coordinated. For example, in the ZIC - one of Geneva's last artisanal zones - over 90 makers work under one roof but everyone disposes of their waste separately. Which is a time-intensive and costly process. By providing the opportunity for makers to centrally collect their waste, these streams could be reused by other makers in the locality, thereby increasing synergies and circular opportunities. The Geneva Fab City Hub is currently working with the ZIC to find a centralized waste collection solution.
	Building a circular innovation cluster	Great progress can be achieved when working together. For example, by bringing actors together who possess in-depth knowledge of textile innovation, research and production, different needs, developments and funds can be aligned. Take the Iceland Fab City Hub, which is building a cluster or 'Fibershed' around a textile value chain, where multiple actors can exchange knowledge and experience to innovate towards a sustainable textile industry. This can include local agricultural universities, designers working with final-product textiles, sheep and seaweed farmers, and textile producers.
	Using reed to build pollinator homes	Reed is an abundant resource in found all along the lakes and shorelines of the Baltics. While reed has been used as a sustainable construction material for centuries, reed roofs and reed insulation panels are less popular, expensive and require a lot of maintenance. Yet, Fab Cities can still use local reed to raise awareness around possible uses of excess reeds harvested during the management of local ecosystems. Kopli 93, for example, has used local reeds from the area to engage the community in a pollinator hotel workshop. The goal of the workshop was to educate around biodiversity loss in the city and provide citizens with the tools to support pollinators, using locally available biomaterials.

Table 3. *Opportunities and practical cases extracted from the CENTRINNO Cartography Interactive Map.*
Source: https://embed.kumu.io/be8f6aab5ec62493343eb9f660392234#explore-fab-city-opportunities

Crafting new narratives for regenerative neighborhoods.

Let's embark on a journey through testimonies from the CENTRINNO community

“A regenerative neighborhood, to me, **embodies a harmonious blend of ecological restoration and cultural diversity**. It is a community committed to **healing the urban landscape by revitalizing natural ecosystems** like local rivers, ponds, forests, and beaches. The neighborhood serves as a canvas where **diverse cultural voices are not only heard but celebrated**, fostering an inclusive environment that thrives on the richness of its inhabitants' experiences. In this regenerative space, local makers and repairers flourish, nurturing a culture of sustainability where the community can repair and repurpose goods and homes. Embedded in their bioregions, regenerative neighborhoods sustain themselves primarily from the natural resources within its surroundings, contributing to the regeneration of soils and lands by conscientiously managing waste, such as returning nutrients from food waste. Crucially, the community actively works to counteract the forces of gentrification, ensuring that a spectrum of income classes can coexist despite rising housing prices. This commitment extends to creating an open and welcoming environment for all ages, genders, and people from diverse socio-cultural backgrounds, fostering **a sense of unity and belonging** that defines a truly regenerative neighborhood.”

– Frenzi Ritter (Metabolic Institute)

“A regenerative neighborhood is a place that questions its own identity and co-design possible future pathways with its inhabitants. **Learning from the past, getting to know the present, thinking about the future.** It builds upon the idea that something broke, was abandoned, and that a process is needed to catalyze the energy, absorb it to rebuild, and give birth to a new landscape. It is about listening to the inner needs and aspirations of citizens and ecosystems, building upon the realm of living experiences, creating new simbiosis for more autonomy and resilience, and re-appropriating the spaces with care and trust. It is about regenerating soil, social bonds, productive capacity, re-appropriating convivial technologies.”

– Marion Real (Fab Lab Barcelona)

“If I had to imagine living in a regenerative neighborhood, I would expect to have a daily routine as such:

I will go to work within a 35/40 minute **bike** path from my apartment.
A small but important detail regarding the apartment is that I ‘m not the owner of it. Hence, it is secured for **all my life at a fair price**. This is because the land is owned by the state but the property of the building **belongs to our cooperative**, that is the entity that owns the building.

The physical spaces are designed and organized with a co-living approach: meaning we all have a small private unit of around 50 m2 as a minimum, but we share spaces such as kitchens, living rooms, gathering spaces, outdoor gardens and workshops. Such a **spatial arrangement**, co-designed with architects, allowed us to reduce costs of construction and optimize our way of living. In fact, by sharing spaces and resources with others you spend less and you will learn everyday something new with your neighborhoods. **That is not always easy but it is quite funny!**

My workplace instead is actually in the city center at the local Fab City Hub, La Nave . There, I shared a desk position in an amazing **industrial hangar** near the City Hall. The space was a former shipyard today reconverted in a FAB CITY HUB. The abandoned building is gradually being repurposed thanks to an amazing initiative led by a network of citizen associations. They started in 2020, inspired by an European project that was running in parallel at that period called CENTRINNO. Three years back Judith, a young architect active in the local neighborhood association, had an epiphany during her lunch break on how to bring back to life the abandoned building in the city center they all were dreaming about.

While she was listening to an online podcast, titled Fab cIty Hub Voices, she was highly inspired by the story of Tallinn and other pilot cities part of this so-called project CENTRINNO. She found that this Fab City Hub typology and the different initiatives mentioned by the 9 cities adapted very well to the needs and aspirations she was always discussing at the monthly meeting organized with her neighbors .

From there on, Judith and the association where she was volunteering, submitted a proposal to the local municipality to refurbish and repurpose the old shipyard building into a **cultural and productive center for citizens**, children, elderly and makers living in the area.

That’s where ‘La Nave - Fab City Hub ‘ started its journey and we are still navigating into this thrilling adventure.
Back to reality , la Nave today is my working place, but is also the place where I go shopping for my daily meals. Th**e building in fact hosts in the roof 2000 m2 of cultivated spaces of all sorts : from greenhouses to aquaponic and vertical plantations.**

In addition to that, 2 a week a **local growers market** is hosted in the main hall, where you could buy other products that are not cultivated on the rooftop. In la Nave, there is also a woodwork atelier where I go to design and realize the furniture for my apartment.

– Carlotta Fontana (Volumes)

If I imagine myself to be a resident of a regenerative neighbourhood, I would expect to live, work and make things in a place in a way that holds core **Fab City Hub values at heart, such as local productivity, inclusion and collaboration.** Moreover, I would imagine my neighbourhood to provide **spaces for cultural regeneration, of open sharing of knowledge and skills**, to occur. In a capitalist world of cut-throat competition, I would love to imagine a neighbourhood which has organised **systems of care and well being, for human and non-humans alike, where solidarity is a core ethical principle.** This imagination is enabled through the 3,5 years of collaboration in the CENTRINNO project.

When envisioning a future, in particular from the vantage point of the - messy, chaotic, uncertain, fearful - present, I feel a conflicted urge to go in two directions:

First, my mind cleans up the future; channeling hope, reason and love, and I imagine a scene of a regenerative neighbourhood which sort of blends together **1980's techno-optimism with post-apocalyptic local, decentralized, recovery enclaves**. Everybody is happy; there is a small human community which thrives on full re-use of materials with zero impact on the environment.

Then, however, I try to think, who are those people who live in this utopia? If these are real people, carrying with them notions of **identity, belonging, experienced or perceived trauma**, political ideas and ideologies, and indeed, lived as well as transmitted histories, then how do they relate to one another? How do they relate to their environment? These relationships hold within them values which stem from the past. This makes me realise that the envisioned **regenerative neighbourhood can not be a blank-slate utopian place. There is no reset button. It can only emerge from the existing - often conflicted - context of the present. Enter heritage.**"

– *Jonathan Even-Zohar (Reinwardt Academy)*

"Over the past years, my understanding of the concept of a regenerative neighborhood has transformed from a vague notion into a clear vision, driving tangible efforts to influence the urban landscape of Geneva. Recently, I participated in a working group facilitated by a local forum focused on planning the transformation of a sizable district (PAV). This discussion highlighted several crucial points aligned with the Cantonal Plan for Climate. Key aspects were identified, emphasizing the need to **establish inclusive governance, develop sustainable infrastructure, plan communal spaces that are inclusive, promote energy efficiency, facilitate shared mobility, preserve biodiversity, and foster activities supporting economic diversity, resilience, local manufacturing, and a circular economy.** Notably, the experience of la MACO, stands as an example to how grassroots initiatives can focus on manufacturing while embracing social, sustainable, and innovative ambitions. Our work showcased that a **regenerative neighborhood necessitates dedicated open spaces conducive to creation, capable of fostering learning ecosystems that cater to everyone in the community—ranging from children to unemployed professionals, vocational school students to burgeoning start-ups**"

– *Cristina Olivotto (Onl'fait)*

CENTRINNO BLUEPRINTS

What is a Blueprint?

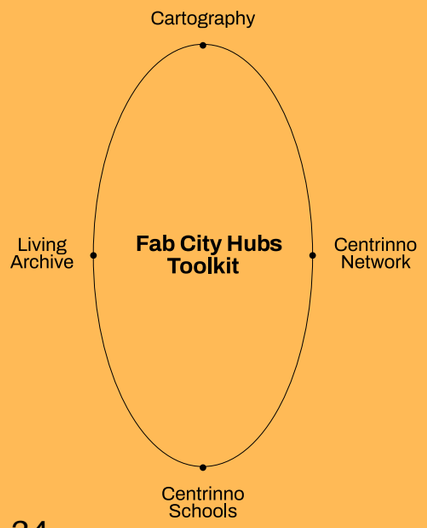
A blueprint proposes a simplified representation and clear understanding of a project's structure. It acts as a comprehensive roadmap or guide detailing the most important aspects, process and steps for successful execution.

The act of sketching out a blueprint usually creates opportunities for other ideas and connections to emerge, which can be used to develop new strategies or business propositions. Also, blueprinting can reveal critical points and help to identify possible challenges and failures to be mitigated in future interventions.

While tackling complex urban issues and working within a multistakeholder approach, in action-research projects such as CENTRINNO, this type of analysis can help to reduce complexities, by offering a complete overview and a simplified, but yet fine-grained view of the organizational processes needed to support the replication of activities, methodologies or micro missions.

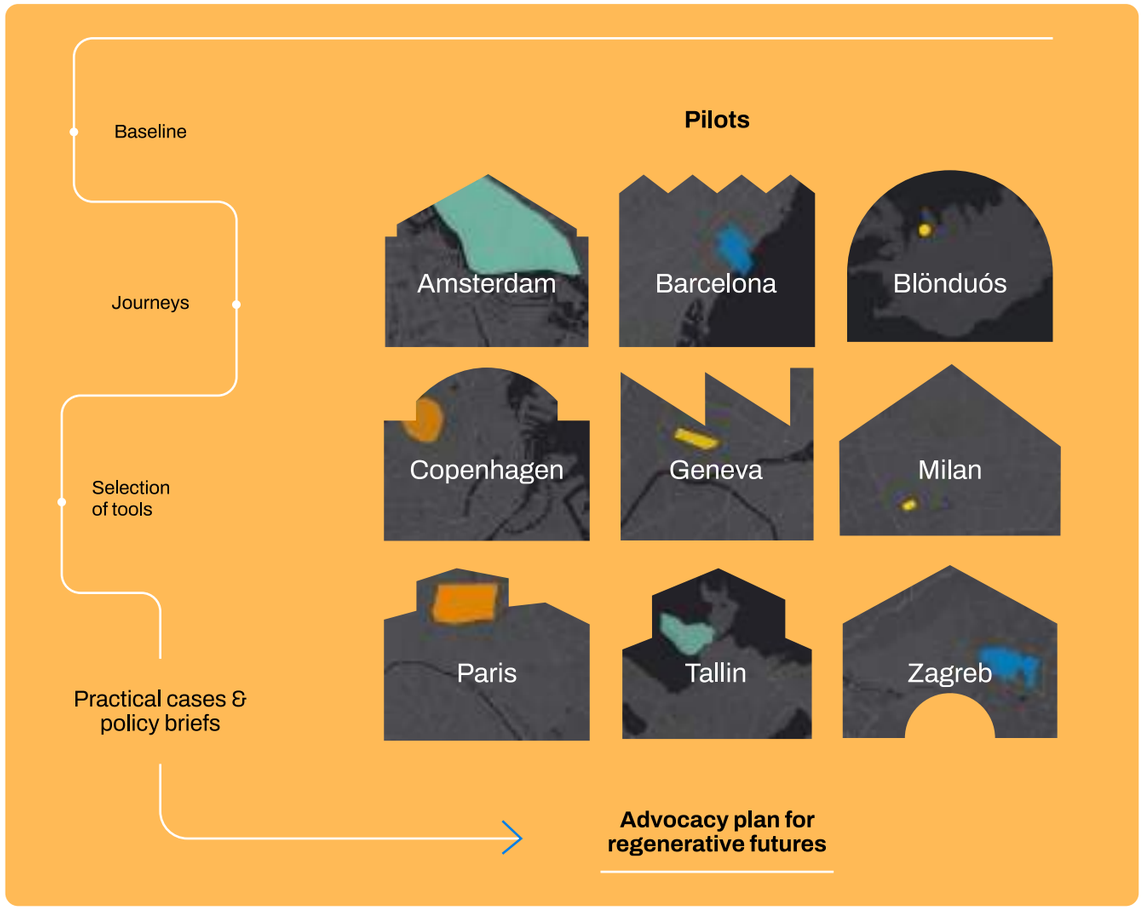
CENTRINNO Platforms' blueprints

Get into practice with the Fab City Hubs toolkit and CENTRINNO's Platforms



The CENTRINNO platforms played a crucial part in supporting pilots' micro missions, where platform owners collaborated closely with pilot teams to customize project resources according to their specific requirements and situation. Aligned with the CENTRINNO key concepts, each platform was conceived through participatory iterations and feedback, drawing from their applications within diverse pilot territories. The CENTRINNO Platforms' blueprints include an overview of the following resources:

- The **Fab City Hubs Toolkit**, designed as a dynamic resource, aiming to comprehensively capture and outline the essential steps involved in conceptualizing, establishing, and effectively managing FCHss.
- The **CENTRINNO Cartography**, deployed as a tool for visualizing both tangible and intangible resources within the sites of pilot cities, unlocking possibilities for a circular approach to urban resource management.
- The **Living Archive**, an open access platform containing stories stemming from (post-) industrial sites with the purpose of helping communities to imagine what can be broadly described as a new 'critical heritage of making', and enable the creation of inclusive Fab City Hubs.
- **CENTRINNO Schools**, dedicated to facilitating various training activities, including vocational programs, with a focus on bridging the gap between classroom learning and real-world societal challenges.
- and the **CENTRINNO Network**, aimed at exploring local collaboration to address urban challenges to global knowledge exchange within a broader community.



CENTRINNO Pilots' blueprints

Get inspired by the journeys of nine local communities

The CENTRINNO Pilots' blueprints function as a source of inspiration, aiming at supporting diverse European cities in adopting the CENTRINNO framework, its platforms and tools. Over the 3,5 years of the project, different European cities were empowered and trained to test, iterate and implement resources developed by this dynamic consortium. In parallel, the distributed local pilots, leveraging their diverse expertise, formulated bottom-up strategies, methodologies, and tools tailored to their specific needs and contextual realities

The blueprints presented in this report encapsulate a summarized version of the main micro missions, journeys and outputs achieved by the CENTRINNO pilot cities in meeting the initial challenges and established expected impacts. They finally delve into potential policy recommendations aimed at promoting regenerative practices, steering cities towards more regenerative and productive urban development.

4.

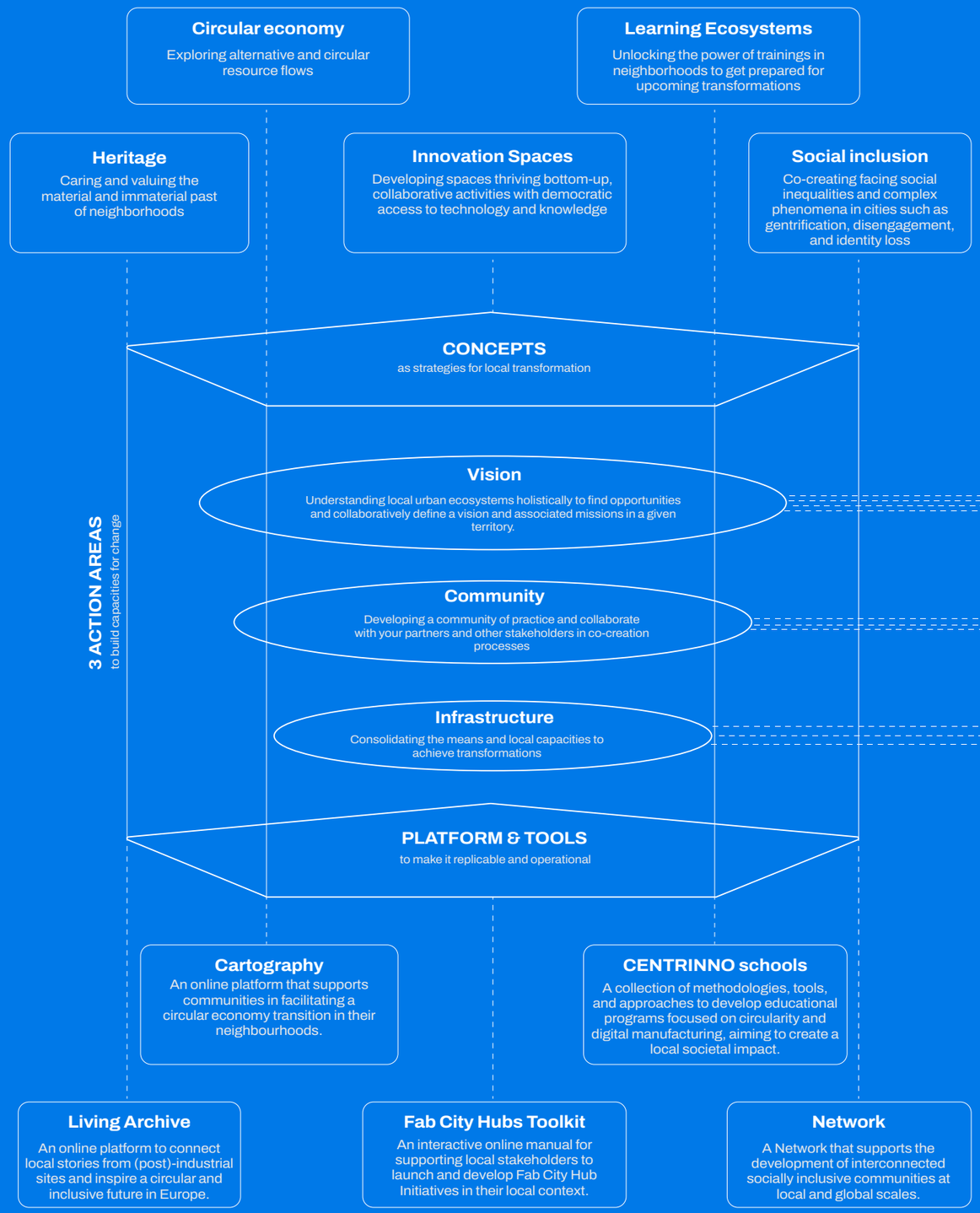
DISCOVER THE FAB CITY HUB TOOLKIT AND CENTRINNO'S PLATFORMS

CENTRINNO FRAMEWORK AS A STRATEGIC APPROACH TO ENABLE LOCAL CHANGES

The CENTRINNO Framework is an overarching common structure for experimentation that enables sharing, exchanging and discussing the project's findings. It is more a living dictionary than an instructions manual. Its two main ingredients are a common research structure and a series of resources developed in the project.

It is shaped as a spiderweb where practitioners can position themselves, weave their paths and use it to frame and analyze their strategies. The framework is composed of three action areas and five key concepts to navigate through to facilitate the development of micro-missions supporting regenerative transformations at neighborhood scale.

A STRATEGIC APPROACH TO ENABLE LOCAL CHANGES



Fab City Hubs as an emerging model of hubs to support such regenerative processes

Fab City Hubs are open spaces for city making. They work as a physical interface to connect actors within a Fab City Prototype (usually a neighborhood) and foster collaboration and exchange of skills and knowledge between local communities in a given territory. Fab City Hubs can also be considered Creative and Productive Hubs: they are third places and meeting points for neighbors, citizens, makers, organizations and businesses, connecting these different local stakeholders with the city and its political power and institutions (e.g., the City Council).

These spaces are able to integrate and orchestrate different local agendas in urban areas and regions, such as circular economy, smart cities, digital transformation, urban manufacturing and agriculture, as well as connect them with global networks of innovation in these areas. The Hubs expand the role of Fab Labs and Makerspaces, as they expand their reach, and can connect with other local manufacturers within a neighborhood, city or region.
This definition is extracted from the Fab City Hubs Toolkit

10 principles and organizational practices to define and support the development of Fab City Hubs

1.	**Local ecosystem activators**	Increasing access and connection to information related to the local distributed creative and productive ecosystems.
2.	**Physical interfaces to access local and global distributed ecosystems**	Embracing emergence of new needs, projects, and organizations through open and resilient structures
3.	**Complex organisms that foster resilience**	Engaging with and creating new institutions through experimentation and prototyping of diverse assemblages of actors
4.	**Extensions of traditional institutions**	Activating interactions and facilitating connections and collaborations among the different actors active in urban environments
5.	**Community comes first, space comes after**	Fostering bottom-up deliberation for defining the needs and conditions for a community coalescing around a physical space
6.	**Give voice to citizens**	Enabling participation in expression and debate through inclusive approaches that give space to citizens and local communities
7.	**Focus on facilitating and empowering communities**	Facilitating community action, while orchestrating a common vision
8.	**Do not replace factories**	Developing incremental design of space to create room for real and situated needs to emerge from the community
9.	**Adopt an incremental approach, and avoid over-design**	Creating awareness around convivial forms of innovation, manufacturing capabilities, creative citizenship and social connections
10.	**Multi-layered spaces, both physical and digital**	Combining physical spaces and facilities with digital communication for diverse communities

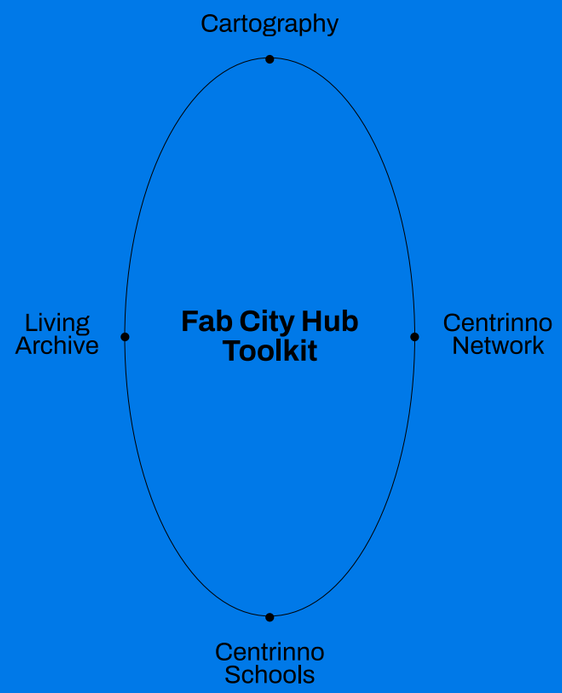
CENTRINNO Platforms

Specific platforms and resources were developed during the project to support city in implementing their own context-driven micro missions.

Aligned with the key concepts, each platform was conceived through participatory iterations and feedback, drawing from their applications within diverse pilot territories.

THE CENTRINNO PLATFORMS' BLUEPRINTS

The CENTRINNO Platforms' blueprints are intended to serve as a guide to understand what are the main toolkits and platforms created during the project to facilitate its adoption in other contexts.



How were they drafted?

1. Blueprint scoping

A phase of collective explorations on what the blueprints would look like and what they aim for. Revising collective documents, researching for other infographics and book' inspiration and collective discussions. Designs from other Europe projects (Siscode, Reflow, Foodshift), books (Fab City, Participatory Cities) and infographics (System Design Community) were collected and shared with partners for feedback on what they like or dislike about each.
Inspired by the elaboration of platform exploitation roadmaps and more classical service blueprints, partners choose to design platforms' blueprints as visual insights to support future users in understanding easily what are the platforms and in which situations they could be used.

2. Template design and development by Platform owners

To facilitate data collection, a template was shared with the platform developers (also named as "concept owners") to compile the more updated version of the platforms. They answered the following questions:

- Name of the Platforms:
- What is it aiming for?
- How is it structured? How to navigate through it?
- In which situations can it be used? By whom?
- How do you imagine this result would behave in the upcoming years?
- How does this result resonate with CENTRINNO's key concepts?
- How to access it?
- References

3. Visual design drafts

IAAC team prepared blueprint drafts from data analysis collected by developers.

4. Revision

Platform owners could access the online visualization and directly annotate feedback and suggestions. An online session was organized where feedback could be captured.

5. Final proposal and graphic edition

IAAC team finalized the platforms' blueprints and interacted with graphic designers to make the design more accessible for readers.

Platform ID

In this section, each platform is introduced with a key illustration and texts describing what is the aim, how to access the platform and how it was designed.

Platform Sketches

The sketches' ambition is to share both what platforms are and how to use them. Aligned with the service design blueprint rules, readers start by discovering the type of users. Then, they look at the physical evidence as interaction points between the platform and the users, looking at what is visible on the front-end, to slowly dive in the back-end as the platform's architecture. Starting from the top to the bottom of the sketch, readers are invited to discover the diverse situations in which the platforms can be used. On the contrary, moving from the bottom to top of the sketches, readers will first discover what are the main components and structure of the platforms, and then think about the possible ways to use them.
To facilitate the navigation, a code color was created to make visible the various components of the blueprints: Platforms, Stakeholders and Targets, Process, Tools and Case-studies.

Platform Futures

In this section, we reflect on how the platforms will be used in the upcoming years and show the interaction of the platforms with the key concepts of CENTRINNO. Each platform is allocated with a preeminent concept that is shown with a black asterisk.

To facilitate the navigation, a color code was created to make visible the various components of the blueprints: Platforms, Stakeholders and Targets, Process, Tools and Case-studies.

■	**Platform & results**	Core resources created during the projects
■	**Stakeholders & targets**	Actors that take part of the process including users and knowledge providers
■	**Process**	Step by step activities that allow to make an operational use of the platform and reach specific outcome
■	**Tools**	Resource that could be used for a specific purpose. It relates to a process and should support arriving at a specific outcome.
■	**Case studies**	Stories or inspirations that retraces the experience of pilots during the CENTRINNO project

FAB CITY HUBS TOOLKIT

What aims for ?

The Fab City Hubs Toolkit is an interactive online manual for supporting interested organizations, municipal representatives or institutions to launch and develop Fab City Hub Initiatives in their local context. Being a very practical resource, enriched with tools, templates and practical activities, the toolkit aims at supporting the development of a shared vision, an engaged community and an adapted infrastracture for new and existing Fab City Hubs. It will inspire and share tips on the organization of workshops, activities and events to launch or strengthen specific Fab City Hub initiatives.

Where to access it?

Fab City Hub Toolkit

Link: https://volumesmedia.gitbook.io/fab-city-hub-toolkit

How was it created?

The Fab City Hubs toolkit has been conceptualized and developed by Volumes, as part of the CENTRINNO project. Volumes has worked together with the nine pilots cities and CENTRINNO partners to fine-tune the process and collect tools, stories and organizational practices.

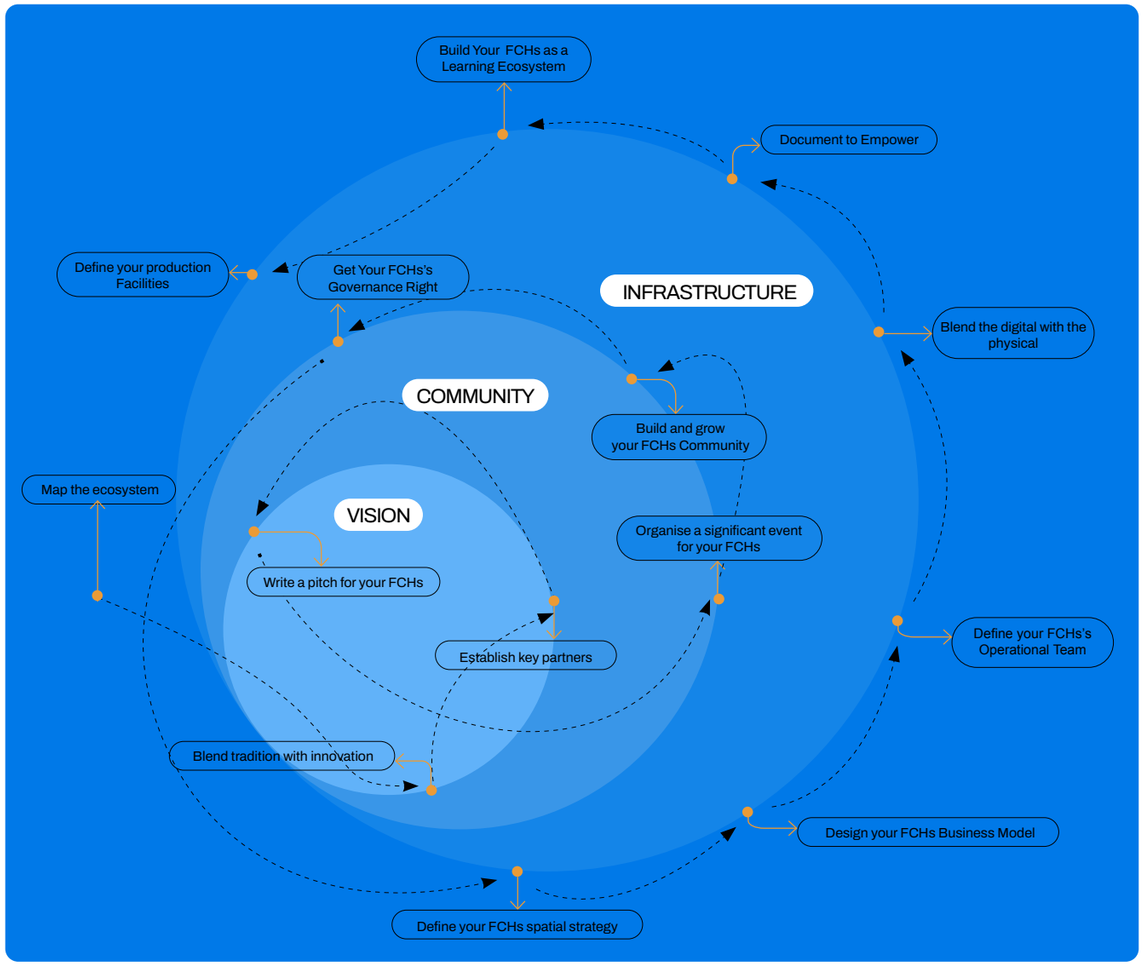


Figure 5. *Fab City Toolkit Roadmap, adapted from Volumes.*
Source: https://volumesmedia.gitbook.io/fab-city-hub-toolkit/

Stemming from the 10 principles for FCHs and feedback loops with pilots' activities, the roadmap presents fundamentals step to set up Fab City Hubs and connecting a high number of tools and methods to replicate in order to implement the roadmap and supporting the activation of Fab City Hubs in neighborhoods.
14 operational steps have been organized under three main action areas, a Fab City Hub should consider :

Action 1. Crafting the FCHs vision

Action 2. Building the FCHs Community

Action 3. Establishing the Fab City Hub infrastructure(s)

Each action presents a selection of 3⁄4 steps and connected tools. As an agile roadmap, there are infinite pathways possible according to the context of each emerging Fab City Hubs

HOW TO USE AND NAVIGATE THROUGH THE FAB CITY HUBS TOOLKIT

You are...

- **Local Neighborhood association looking for a collaborative spaces** — Check out the toolkit to find inspirations on how to develop an appropriate spatial strategy and presence so to gain visibility in the neighborhood and with the municipality
- **Innovation spaces in search for meaningful relationships** — The FCHs Toolkit suggest specific activities or methods to engage with local citizens and to establish partnerships with possible stakeholders
- **Municipality owning a abandoned building to be regenerated** — Be inspired from other cities initiatives and find examples and guidelines to draft appropriate business models and intervention processes

A gitbook

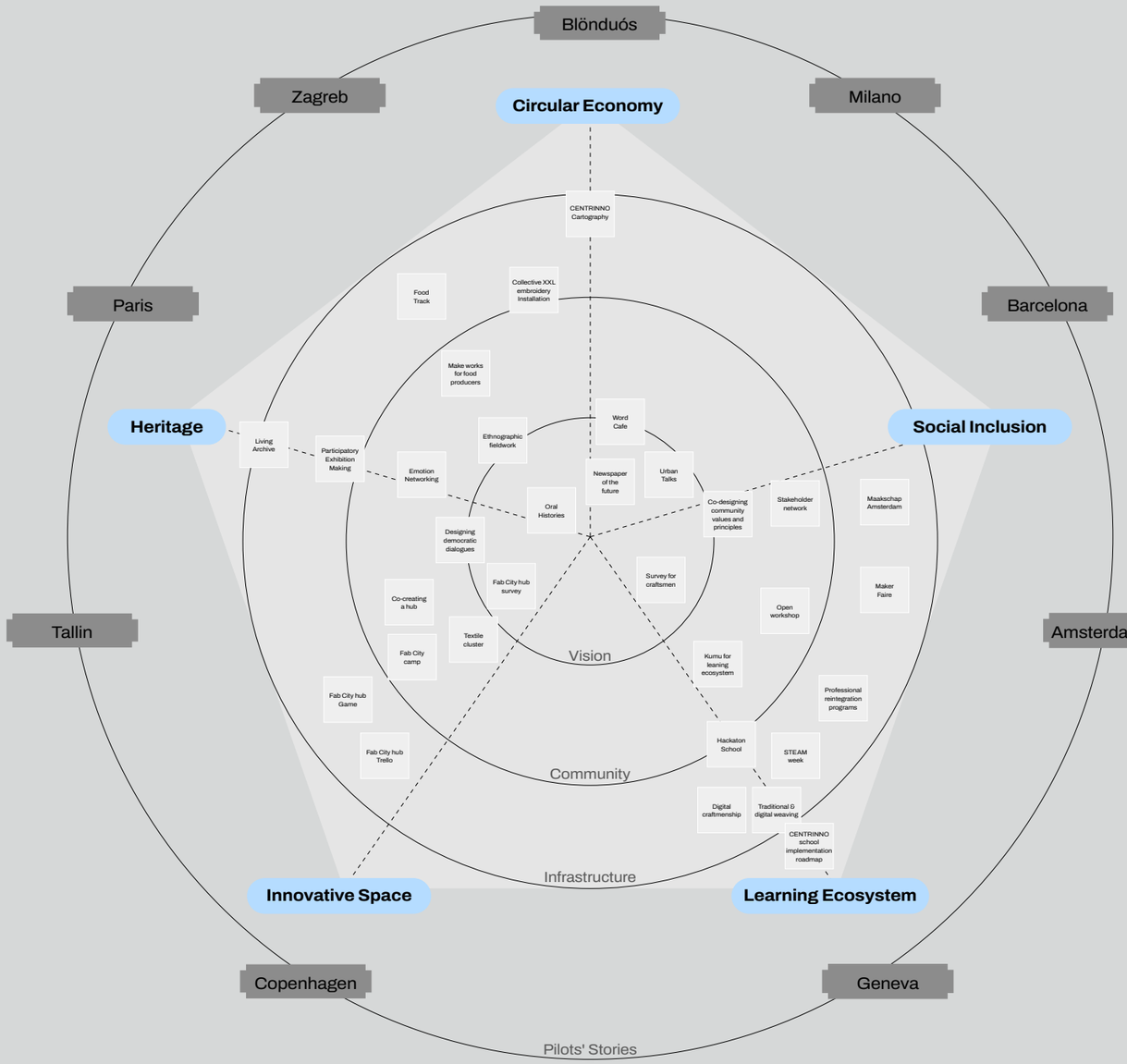
The FCHs Toolkit is configured as a non-linear set of contents, the access to which is facilitated through different entry points and different ways of navigating

- **Why a Fab City Hubs Toolkit**
- About Fab City
- Methodological Approach
- **What is a Fab City Hub**
- Discover 10 principles of FCHs
- Q&A
- **How to set up a Fab City Hub**
  - Set up a Fab City Hub from scratch
    - A roadmap of 14 steps
      - Tools
        - Tool
        - Method
        - Digital Platform
        - VT Programme
        - Event
        - Participatory Exihbition Making
        - Webinar
      - 9 pilots Journeys
  - Work on a specific challenges
    - Key Concepts
    - Tailor-Made Tagging Systems for flexible navigation
- **Open resources**

Discover the Fab City Hub Toolkit and CENTRINNO's platforms

You want to know more?

- Volumes contact
- Get in touch with Fab City Hub Networks
- Local hubs ambassadors
- Explore other opportunities



CENTRINNO framework as a strategic approach to enable local changes

HOW WILL THE RESOURCE BEHAVE IN THE UPCOMING YEARS?

Activating Fab City ecosystems

The Fab City Hubs toolkit would be adopted and promoted among their local networks first and foremost by the Fab City Hub Network members, the 9 Pilots cities involved in CENTRINNO as well as by cities already part of the Fab City Network aiming to launch a Fab City Hub initiative in their neighborhood.

Open source tool that enrich through practices

By being adopted by others, the toolkit will be enriched and updated with its own collection of tools and stories about how to launch a Fab City Hub; These contributions will help disseminate and replicate Fab City Hubs in other regions and contexts different to those studied and presented in its first version. Ideally it will also be used as a fundamental document for other research and innovation projects. This use will help to test , adapt and collect other methods and tools regarding similar initiatives.

HANDS-ON Manual for future interventions in neighborhoods

Being far to be a finished product, we really hope organizations, municipalities and innovative SME's will build upon the roadmap suggested and the tools proposed in order to improve them and transform the the FCHs Toolkit into a widespread source of inspiration and a hands-on manual for supporting the replication of Fab City Hub Models in neighborhood worldwide.

Discover the Fab City Hubs Toolkit and CENTRINNO's platforms

Photo by Fab Lab Barcelona

CENTRINNO framework as a strategic approach to enable local changes

CARTOGRAPHY

WEAVING LOCAL RESOURCES INTO REGENERATIVE URBAN ECOSYSTEMS

What aims for ?

The CENTRINNO Cartography is a platform that supports communities in facilitating a circular economy transition in their neighbourhood. It helps communities to map, build and mobilize local makers, businesses and other organizations to engage in resource exchanges and shared learning pathways towards circularity.

The Cartography is seen as a tool for **facilitators of circular economy transitions.**

What do we mean by that? Sometimes, **grassroots organizations or non-for-profits work on advocacy and community building around circularity.** Also **municipalities** often have an agenda to transition to a circular cities. These actors can use the Cartography to **help them structure the process of engaging local communities in their circular transition.** Further, **schools and universities** can profit from some of the steps of the Cartography that focus on mapping the social and ecological context of cities - for example as part of local geography classes or urban studies curricula.

Where to access it?

The cartography can be easily accessed here:
CENTRINNO Cartography website

Start mapping
Case studies

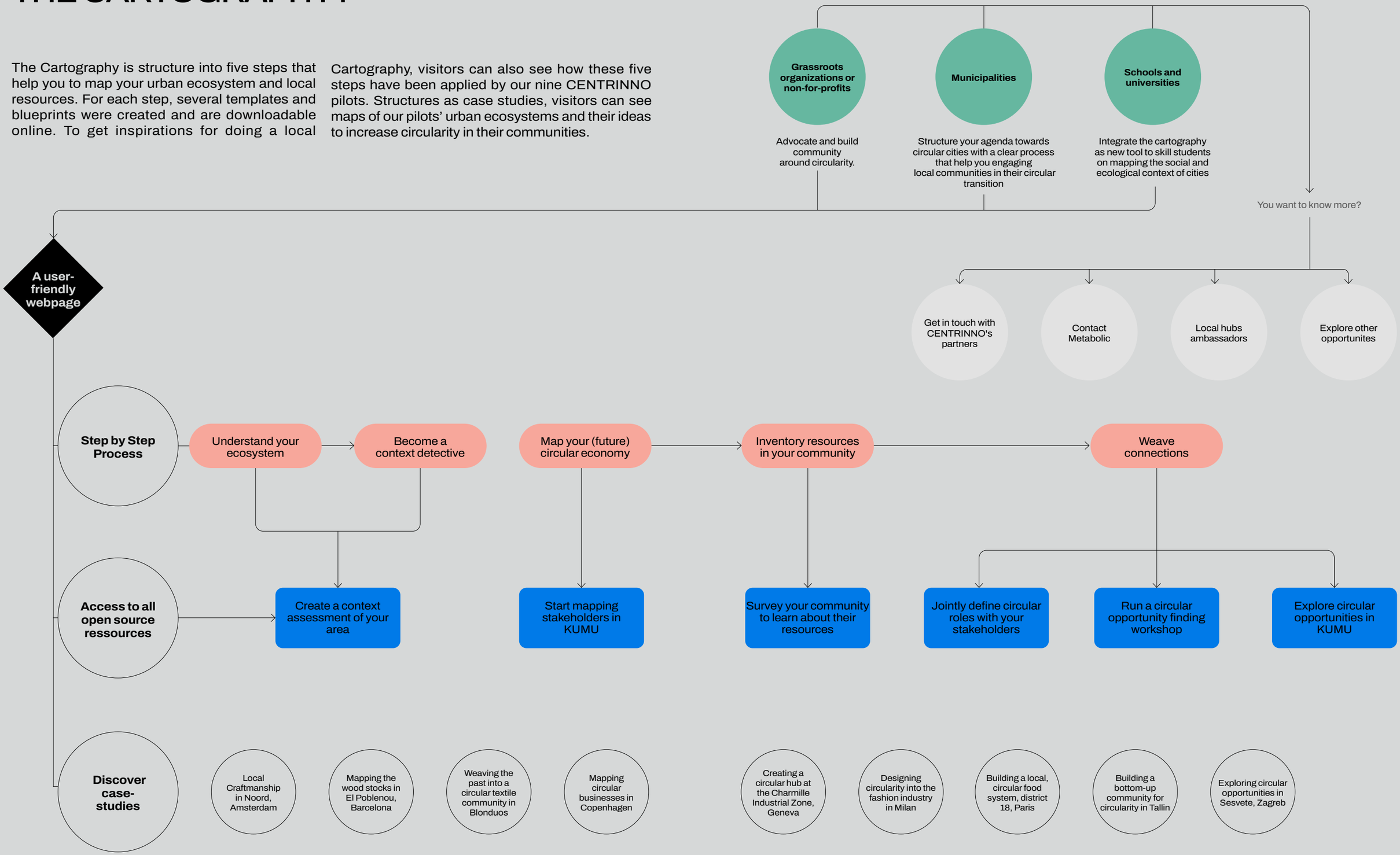
How was it created?

The Cartography has been conceptualized and developed by Metabolic Institute as part of the CENTRINNO project. Metabolic has worked together with the nine pilots cities to collect and organize their data, develop maps and identify circular opportunities. In the last part of the project, Metabolic has worked with the Fab City Foundation to make the Cartography available to other cities.

Photo by Fab Lab Barcelona

HOW TO USE AND NAVIGATE THROUGH THE CARTOGRAPHY?

The Cartography is structure into five steps that help you to map your urban ecosystem and local resources. For each step, several templates and blueprints were created and are downloadable online. To get inspirations for doing a local Cartography, visitors can also see how these five steps have been applied by our nine CENTRINNO pilots. Structures as case studies, visitors can see maps of our pilots' urban ecosystems and their ideas to increase circularity in their communities.



Discover the Fab City Hubs Toolkit and CENTRINNO's platforms

CENTRINNO framework as a strategic approach to enable local changes

THE CARTOGRAPHY IN THE UPCOMING YEARS

Activating Fab City ecosystems

The Cartography becomes a widely adopted tool within the existing **Fab City network.** As a network of cities interested in creating self-sufficient and circular economies at the local scale, the Cartography can function as an onboarding tool for new members.

Open source tool that enrich through practices

Beyond Fab Cities, many other **organizations** will pick the key steps and resources of the Cartography that inspires them and brings most use to them.

HANDS-ON Manual for future interventions in neighborhoods

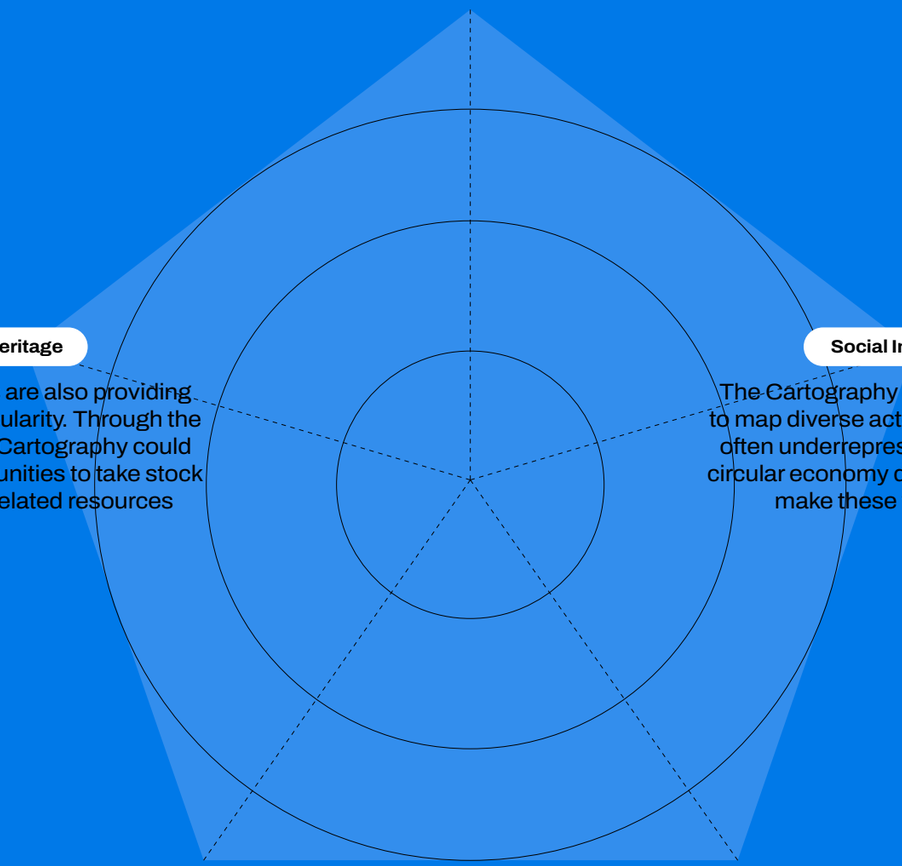
The resources in the Cartography are templates and suggestions.
Users are encouraged build on them, adapt them and improve them to suit their own needs.

Discover the Fab City Hub Toolkit and CENTRINNO's platforms

How the CENTRINNO Cartography interact with CENTRINNO's concepts?

Circular Economy

The Cartography can be used to map local resources than can be reused in a local circular ecosystem, using the mapping platform KUMU



Heritage

Heritage skills are also providing insights for circularity. Through the mapping, the Cartography could support communities to take stock of heritage-related resources

Social Inclusion

The Cartography can be used to map diverse actors which are often underrepresented in the circular economy discourse and make these visible.

Innovative Space

Make the membres of innovation spaces as ecosystem explorers

Learning Ecosystem

Integrate the cartography in your learning experiences

CENTRINNO framework as a strategic approach to enable local changes

FOSTERING LEARNING ECOSYSTEMS FOR REGENERATIVE NEIGHBOURHOODS

What aims for ?

CENTRINNO school comprises a collection of methodologies, tools, and approaches designed for any **organization seeking to develop educational programs focused on circular and digital manufacturing, aiming to create a local societal impact.** Targeting diverse groups such as **communities, formal educational institutions, and adult professionals** seeking to broaden their competencies, CENTRINNO school aims to foster learning environments where a multitude of stakeholders contribute to learners' experiences in acquiring both technical and transversal skills.

Where to access it?

All tools, approaches and frameworks developed for the CENTRINNO School are included in the Fab City Hub Toolkit.

Link to the main elements:
Key aspect of the CENTRINNO School

Open Schooling framework

How was it created?

In the context of CENTRINNO, Onl'fait coordinated the actions related to vocational schools and the establishment of learning ecosystems in urban industrial transformation contexts. Onl'fait is a Fab Lab based in Geneva that aims to transform the way we learn, consume, produce, and share by exploring the intersections of technology, society, and sustainability.

Photo by Fab Lab Barcelona

CENTRINNO's school roadmap

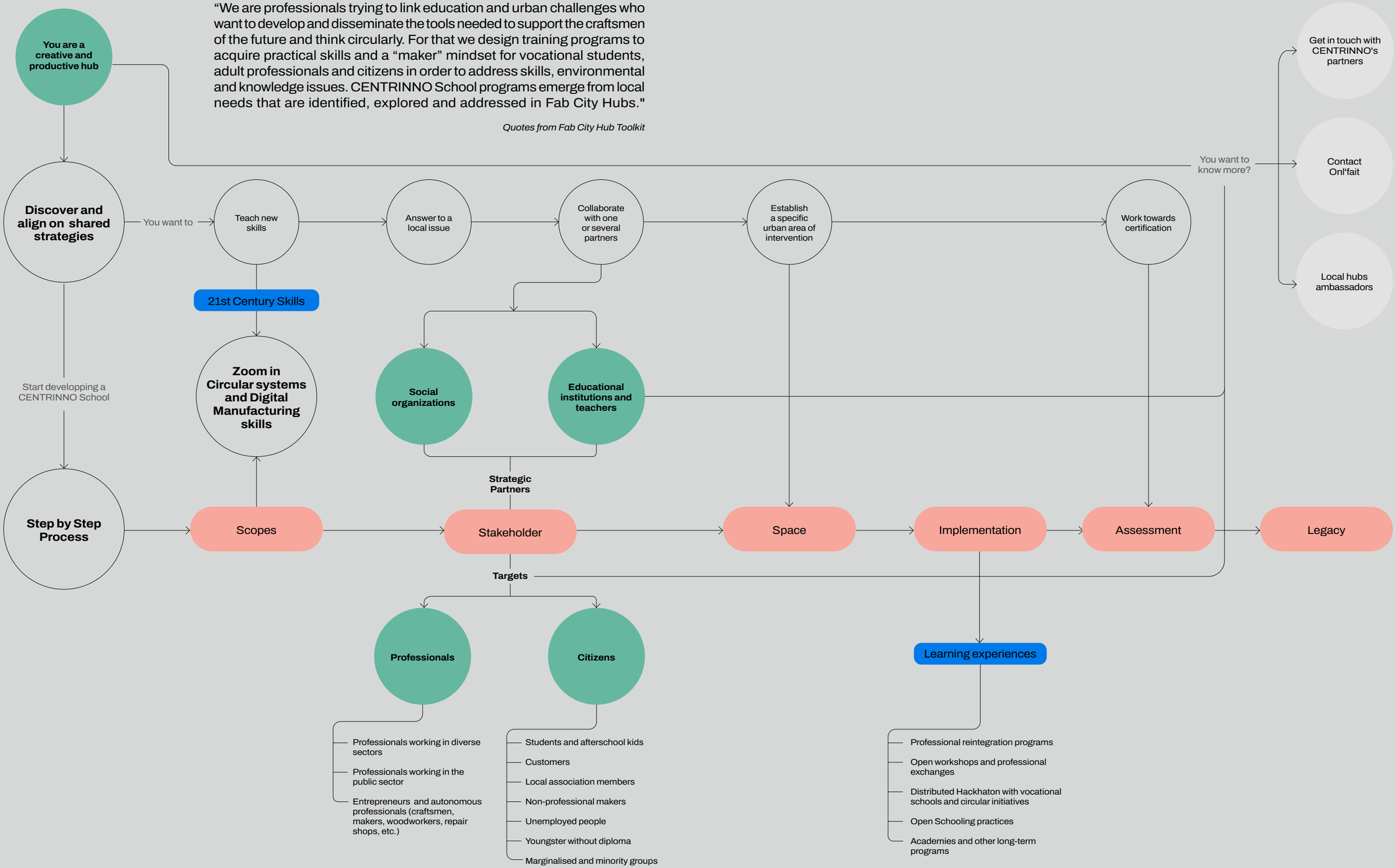
The CENTRINNO school roadmap comprises six aspects to support the development of CENTRINNO's schools: scoping training activities, mapping local stakeholders connected to them, identifying where they take place, defining how they are implemented, assessing their impact, and exploring how to disseminate and further exploit them in other cities.

Discover the Fab City Hubs Toolkit and CENTRINNO's platforms

HOW TO SET UP CENTRINNO SCHOOLS?

Onboard with a shared vision to boost learning ecosystems
“We are professionals trying to link education and urban challenges who want to develop and disseminate the tools needed to support the craftsmen of the future and think circularly. For that we design training programs to acquire practical skills and a “maker” mindset for vocational students, adult professionals and citizens in order to address skills, environmental and knowledge issues. CENTRINNO School programs emerge from local needs that are identified, explored and addressed in Fab City Hubs."

Quotes from Fab City Hub Toolkit



CENTRINNO framework as a strategic approach to enable local changes

THE CENTRINNO SCHOOLS IN THE UPCOMING YEARS

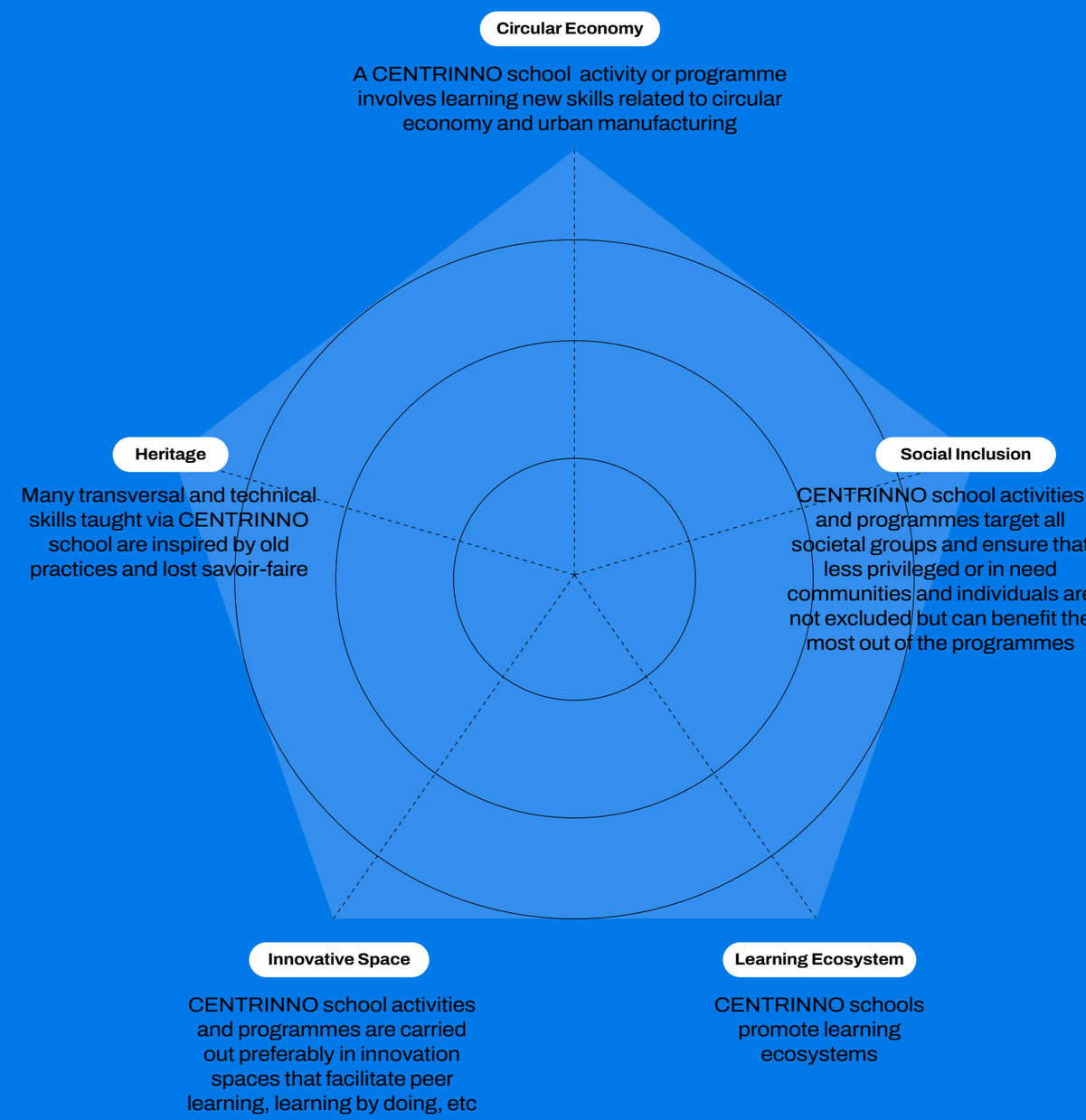
Learning plays a pivotal role addressing socio-economic challenges

Spaces and networks for development and education are closely tied to urban manufacturing strategies and the sustainable revitalization of industrial areas.
It's crucial not to overlook education in development plans, as learning plays a pivotal role, addressing various socio-economic challenges within this context.

Fostering Open schooling practices

Open schooling practices and lifelong learning are reaching diverse audiences through a collaborative, multi-stakeholder approach.

How the CENTRINNO Schools interact with CENTRINNO's concepts?



CONNECTING LOCAL STORIES FROM (POST)-INDUSTRIAL SITES TO INSPIRE A CIRCULAR AND INCLUSIVE FUTURE IN EUROPE

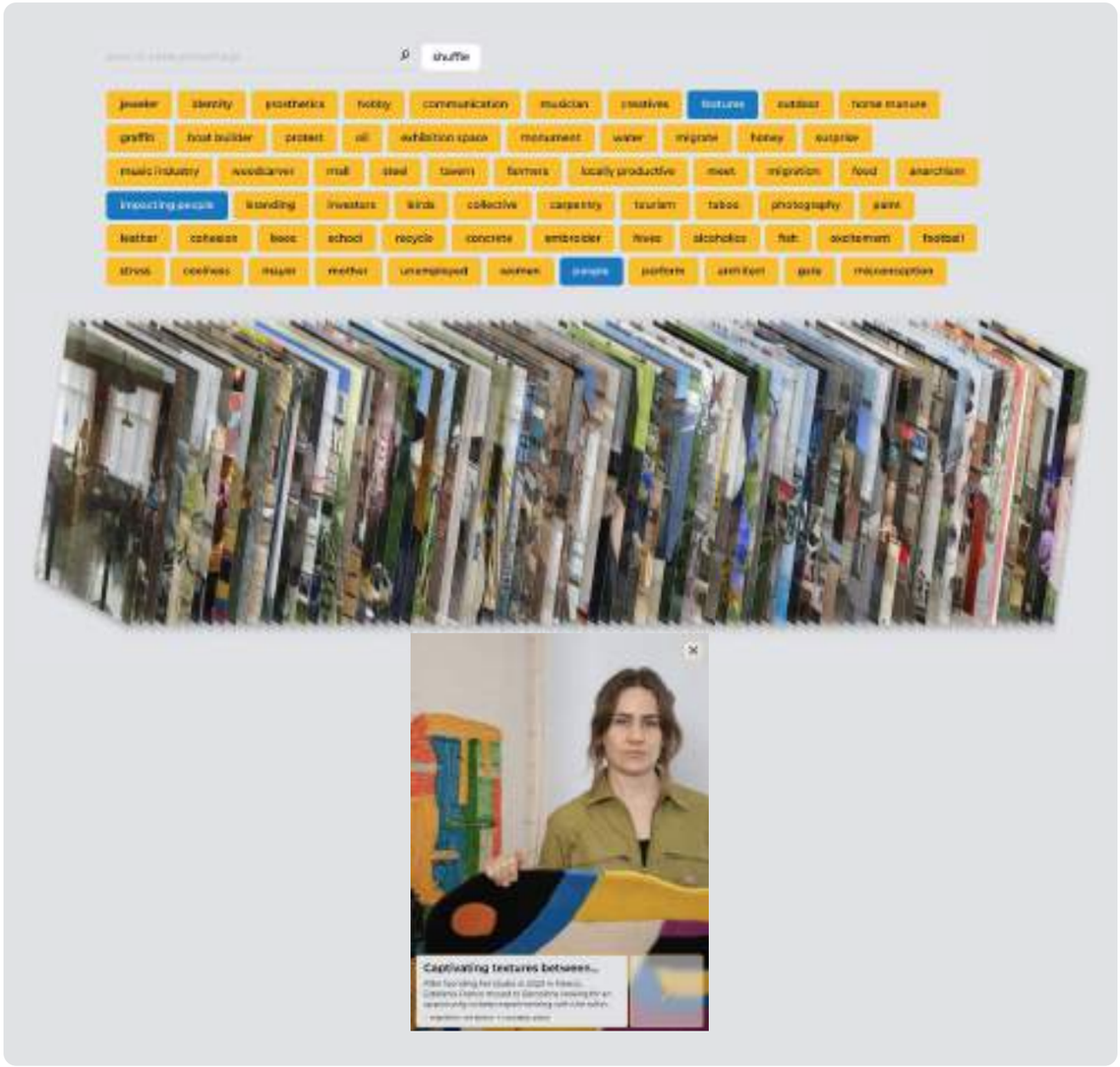


Figure 6. Components of the CENTRINNO Living Archive by Reinwardt Academy. Source: https://livingarchive.centrinno.eu/

What aims for ?

The CENTRINNO Living Archive serves as a manifestation of how the concept of heritage, and people's interactions in which it is made (or unmade) can (or cannot) function as a catalyst to accelerate and sustain the transition toward a more circular and inclusive society in European cities and beyond.

The CENTRINNO Living Archive is an open access platform containing content (e.g., stories) stemming from pilot cities' (post-) industrial sites, collected locally with participatory heritage methods. Its purpose is to help communities imagine what can be broadly described as a new 'critical heritage of making', and enable the creation of inclusive and circular hubs (Fab City Hubs).

Just like any other archive, the "Living Archive" is not to be seen as a neutral site where knowledge is just stored, but as a site of knowledge creation and knowledge management. Collecting activities play an important role here, but always as 'part of a more extensive process consisting of a range of activities, like annotating, questioning, managing, documenting, constructing and transforming, but also forgetting, abandoning, leaving unnamed and erasing' [8]

Where to access it?

The centrally co-curated stories are accessible on the CENTRINNO website. Local heritage engagements (e.g. exhibitions, podwalks, etc) have been of temporary nature and only some of them can still be accessed at the local level. In addition, reflective blogposts are accessible on the CENTRINNO website.

How was it created?

The Cultural Heritage research group is embedded in the Reinwardt Academy, a professional education school for heritage professionals. The researcher team closely worked with the nine pilots of CENTRINNO and Imagine IC to co-curate and edit the Living Archive.

How to use and navigate through the Living Archive

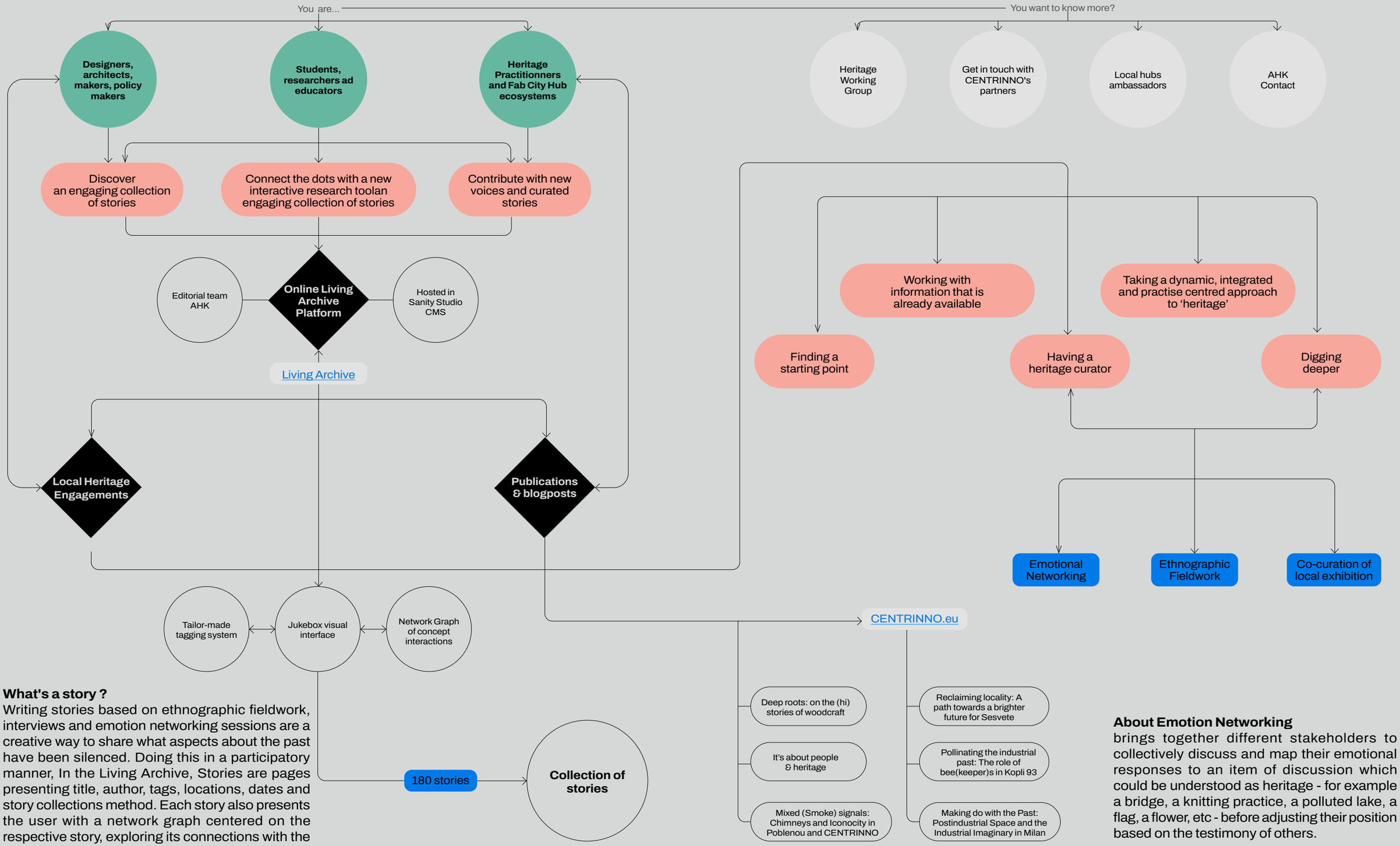
The CENTRINNO Living Archive refers to the idea of an open, collaborative and creative offline or online archive to which everyone can contribute, and which everyone can access; a flexible system in which content is constantly recontextualised. It is composed by three parts:

Step 01 Local offline co-collection efforts and the development of physical exhibitions

Step 02 An online network visualisation exploratory tool which provides access to shared and annotated/tagged local content

Step 03 A series of online publications which provide analysis and reflections on the co-collection and curation process and the emergent network of content.

HOW TO USE AND NAVIGATE THROUGH THE LIVING ARCHIVE



What's a story ?
Writing stories based on ethnographic fieldwork, interviews and emotion networking sessions are a creative way to share what aspects about the past have been silenced. Doing this in a participatory manner, In the Living Archive, Stories are pages presenting title, author, tags, locations, dates and story collections method. Each story also presents the user with a network graph centered on the respective story, exploring its connections with the rest of the Archive.

About Emotion Networking
brings together different stakeholders to collectively discuss and map their emotional responses to an item of discussion which could be understood as heritage - for example a bridge, a knitting practice, a polluted lake, a flag, a flower, etc - before adjusting their position based on the testimony of others.

THE LIVING ARCHIVE IN THE UPCOMING YEARS

Photo by Fab Lab Barcelona, TMDC working space.

A living tool for CENTRINNO pilots

The CENTRINNO Fab City Hubs continue to collect stories and will identify new themes and particular topics for which they will keep adding stories to the Living Archive.

Spreading heritage engagement in the Fab City Network

New Fab City Hubs embark on new local curation efforts, apply the heritage engagement methods and collaborate with us to co-curate new stories for the Living Archive.

An educational platform

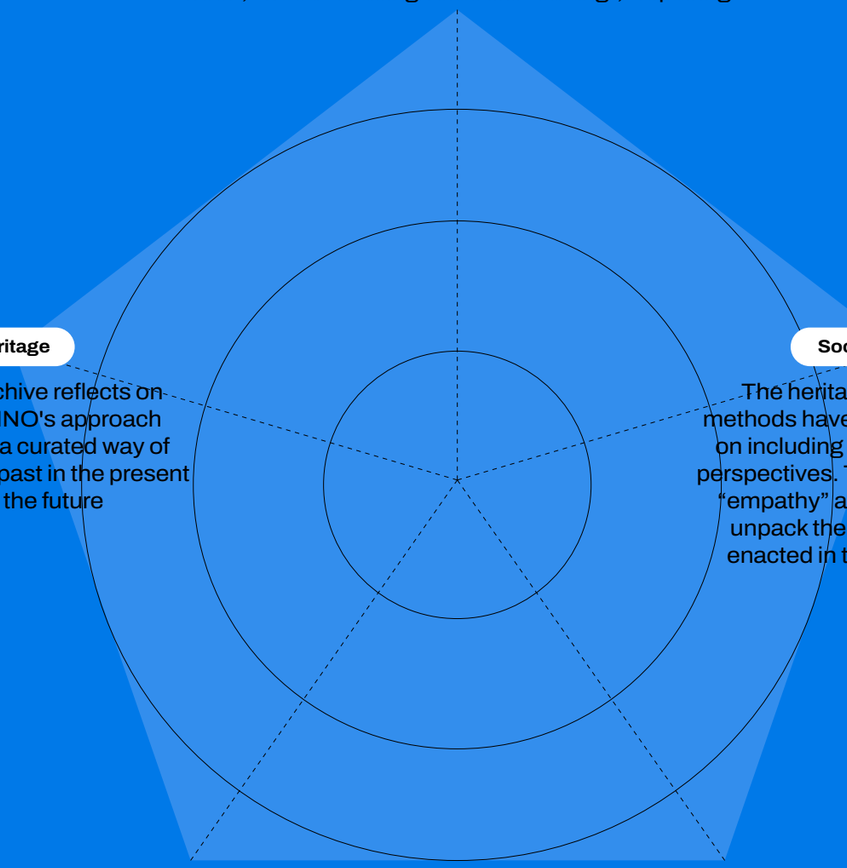
Reinwardt Academy integrated the Living Archive as a platform for critical and collaborative storytelling, placemaking and participation ethics in its BA and MA courses.

Discover the Fab City Hubs Toolkit and CENTRINNO's platforms

How The Living Archive interact with Centrinno's concepts?

Circular Economy

The Living Archive website applies many tags which are relevant when seeking to understand and/or drive forward the circular economy. The categories “make”, “materials” and “environment” in particular contains tags which provide intuitive access to stories relates to the usage of materials and the impact on the environment. Especially the exploration of the stories about makers. These are interesting to explore using materials, like “wool”, “wood” or using verbs like “cutting”, “repairing”



Heritage

The Living Archive reflects on the CENTRINNO's approach to Heritage as a curated way of dealing with the past in the present towards the future

Social Inclusion

The heritage engagement methods have had a strong focus on including unheard/forgotten perspectives. Tags like “inclusion”, “empathy” and “diversity” help unpack the multivoicedness enacted in the Living Archive

Innovative Space

There are various tags which directly relate to the innovative character of Fab City Hubs, including “innovation”, “collaboration” and “creativity”, among others

Learning Ecosystem

As many of the stories co-curated for the Living Archive deal with the transfer of knowledge and skills quite a number of tags are related to “learning”, “teaching” as well as “skills”. These stories can be explored to inspire students and educators at vocational education to get engaged with stories worth sharing from the vantage points of Fab City Hubs

CENTRINNO framework as a strategic approach to enable local changes

BOTTOM-UP LOCAL, EU AND GLOBAL NETWORK, ORGANIZED THROUGH “COMMONING” OF RESOURCES AND NETWORKING EVENTS, CREATING SUSTAINABLE LOCAL DYNAMICS

What aims for ?

The Network supports the development of interconnected socially inclusive communities. It has two different scales where interactions take place: The **local hubs' networks** where different actors will collaborate to tackle urban challenges, and the **global knowledge-exchange network** across the nine CENTRINNO cities and beyond.

Where to access it?

CENTRINNO Network doesn't use a specific platform or resource to support pilot cities on building their socially inclusive communities. Nevertheless, all tools, approaches and frameworks developed for the CENTRINNO Network are included in CENTRINNO Website and the Fab City Hub Toolkit

Discover the CENTRINNO’s project
Be onboard in the Fab City Network
Discover the Slack Channel

How was it created?

The Network is the result of 4 years of CENTRINNO project.

The Blueprint was co-created in cooperation with IAAC, ECHN, FAB CITY and VOLUMES

Photo by Fab Lab Barcelona

How to foster distributed networks ?

Acting as distributed exchange knowlegde platform, the Network support distributed communities, connecting both on the local scale to collaborate and address the city's challenges, and on the global scale to exchange knowledge with the wider community.

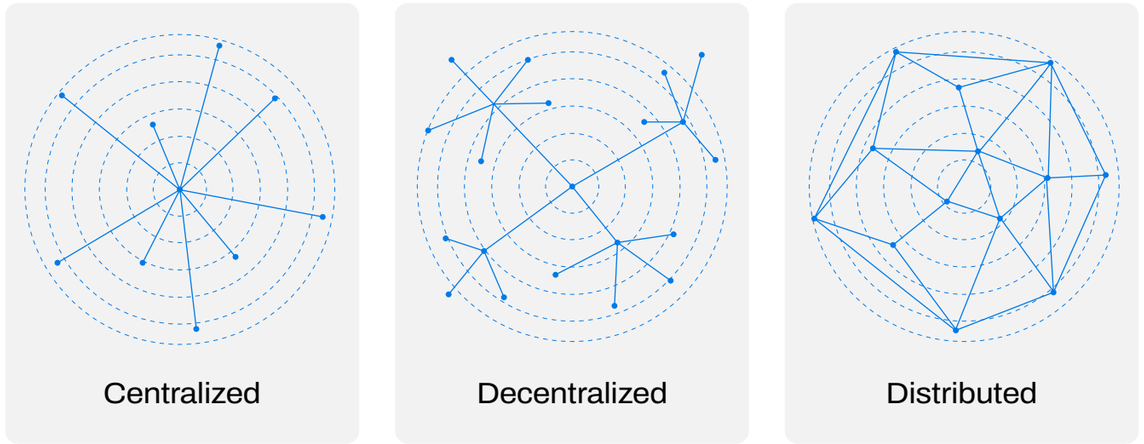
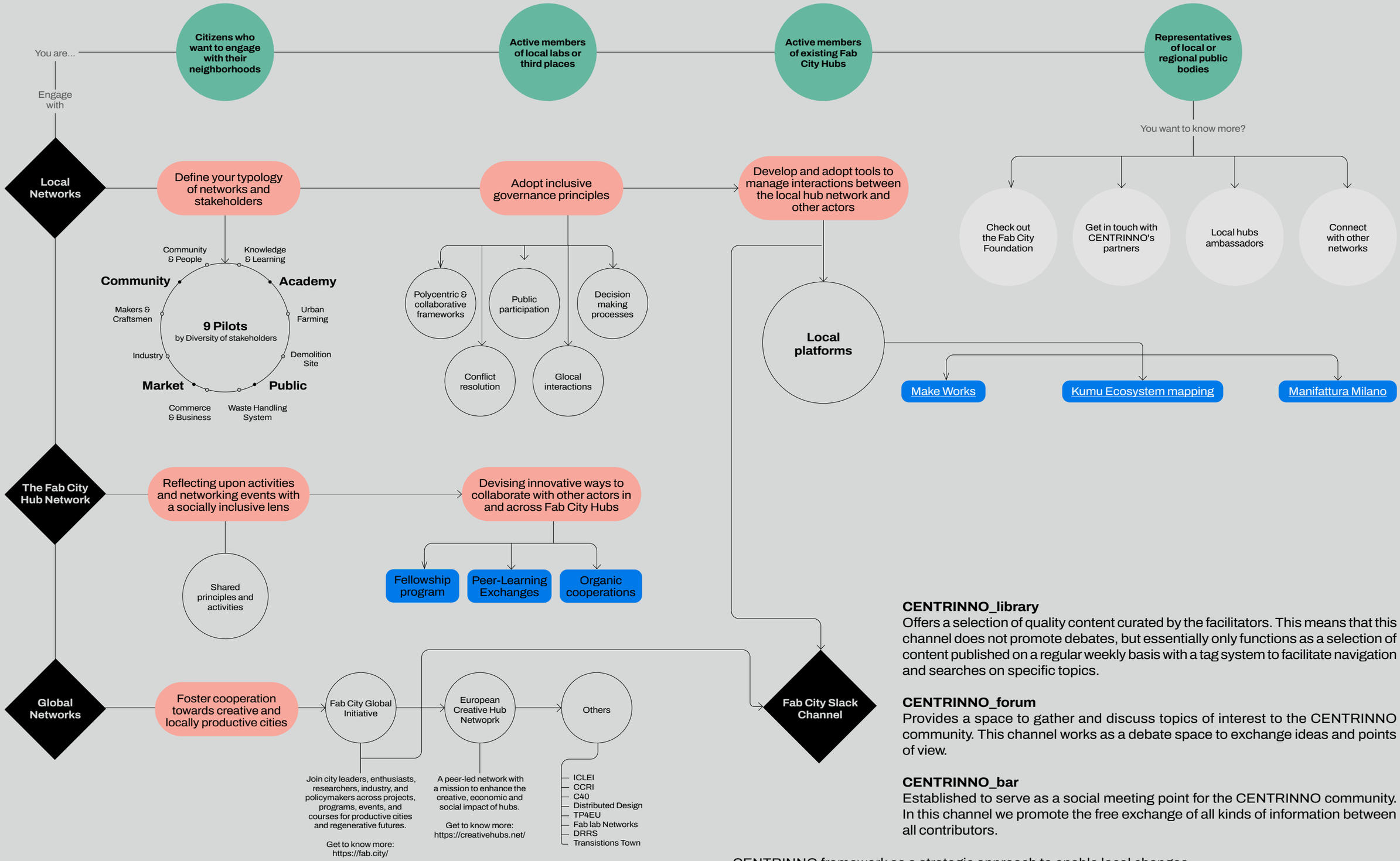


Figure 7. *Models of connection inspired on Distributed Design EU Project.*

HOW TO FOSTER DISTRIBUTED NETWORKS ?



CENTRINNO_library
Offers a selection of quality content curated by the facilitators. This means that this channel does not promote debates, but essentially only functions as a selection of content published on a regular weekly basis with a tag system to facilitate navigation and searches on specific topics.

CENTRINNO_forum
Provides a space to gather and discuss topics of interest to the CENTRINNO community. This channel works as a debate space to exchange ideas and points of view.

CENTRINNO_bar
Established to serve as a social meeting point for the CENTRINNO community. In this channel we promote the free exchange of all kinds of information between all contributors.

CENTRINNO framework as a strategic approach to enable local changes

THE CENTRINNO NETWORK IN THE UPCOMING YEARS

Catalyst to enact societal changes

The membres of the network will share their experiences and inspire new practices in neighborhoods and cities. They will continue to meet and interact online to expand current knowledge and exchange about concerns and opportunities to better foster societal challenges

Care for inclusivity and diversity

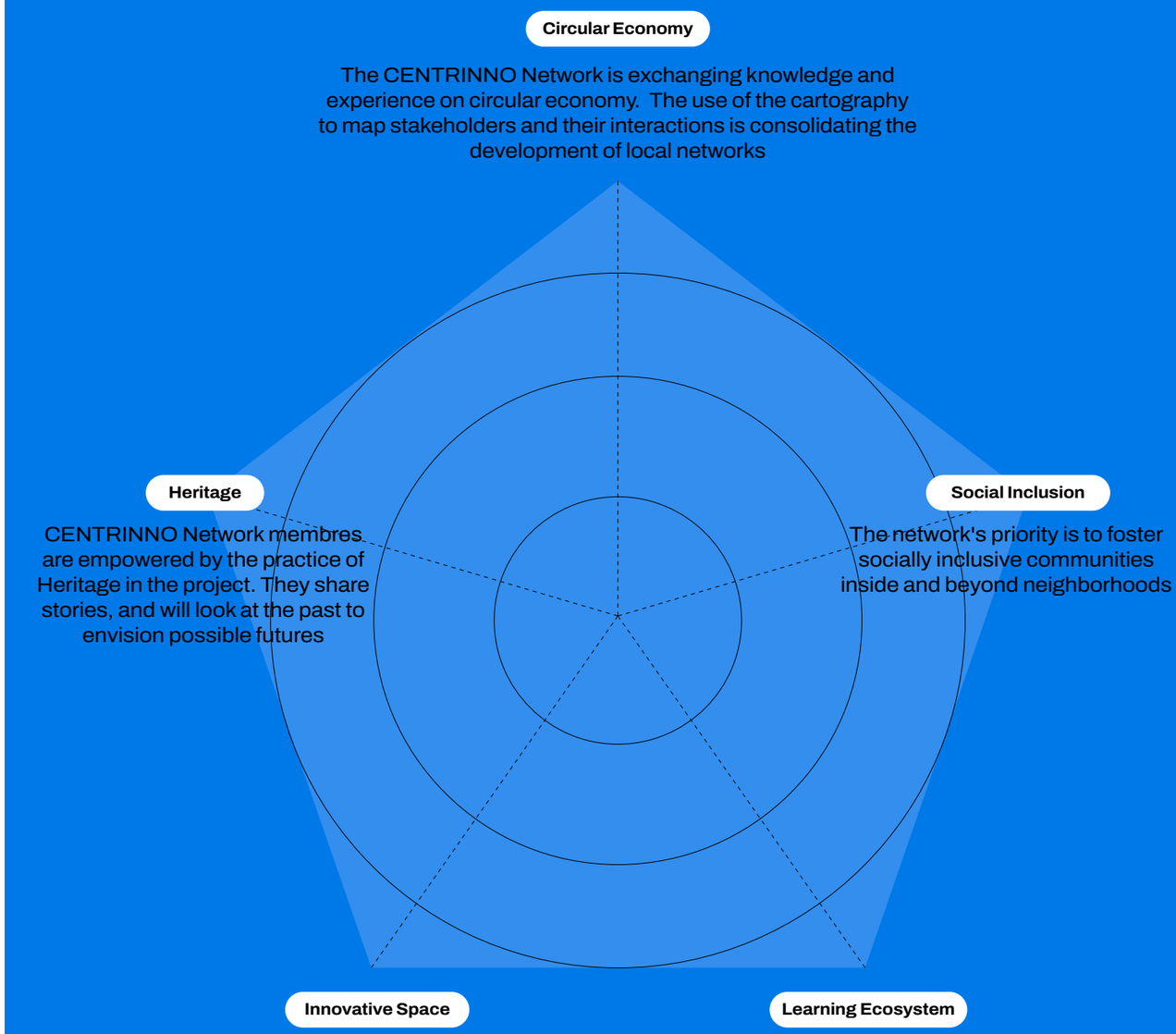
A specific focus will be adressed to tackle social issues on the long term. The network will research, experiment and share good practices so Fab City Hubs are enabling environment, inclusive, open to all and valueing diversity.

Embedded in other networks

On the long-term, CENTRINNO will be remembered as an experience that let emerge many other projects and networks. Membres consolidated their partnerships and feel part of a sustainable community of hubs. Locally, many creative and productive places are now hosting regenerative practices. When travelling, makers and creatives access easily to hubs, through informal gathering or residencies.

Discover the Fab City Hubs Toolkit and CENTRINNO's platforms

How the Network interact with CENTRINNO's concepts?



CENTRINNO framework as a strategic approach to enable local changes

5.

WHAT ARE THE TRANSITION PATHWAYS FORESEEN BY CENTRINNO'S PILOTS IN THEIR LOCALITIES?

THE CENTRINNO PILOTS AROUND EUROPE

Figure 8. *CENTRINNO pilots distributed around Europe. Source: CENTRINNO, 2020.*

In the exploration of the above-mentioned CENTRINNO platforms, a comprehensive approach was undertaken, tested, and refined across a diverse array of nine pilot cities situated across Europe. These cities, namely Amsterdam, Barcelona, Milan, Geneva, Copenhagen, Paris, Blönduós, Tallinn, and Zagreb, were meticulously selected based on various criteria, including population size, global innovation index rankings, and specific productive focus. This deliberate selection process ensured a broad geographical representation and encompassed varied cultural realities within the pilot cities.

Figure 9. *CENTRINNO pilots cities sizes according to number of inhabitants and spatial scales adapted for CENTRINNO's mapping process. Source: CENTRINNO, 2020, updated in 2024*

Each pilot city selected a former industrial territory connected to different working scales to implement methodologies, tools and activities, either provided by the CENTRINNO consortium, such as Materials Flow Analysis or Emotion Networking, or developed by the local partners.

The definition of the different scales in each Pilot city, these being Bioregion, City (urban or rural), Neighbourhood, or Site supported the implementation and testing of the pilot specific CENTRINNO approach. While each city primarily adhered to a territorial scale for implementing their micro missions towards different maker industries, there were instances where a multiscalar approach was adopted. Some actions, for example, initially prototyped in a heritage site, were later scaled up or replicated in larger areas, such as on a city scale.

THE CENTRINNO PILOTS APPROACH IN A NUTSHELL

The essence of the CENTRINNO pilots' strategy revolves around a productive 'making' approach that empowers citizens, and engages local producers, creatives, and policymakers in cultivating regenerative ecosystems. This approach, intertwined with the valorization of heritage practices, principles of circular economy, social inclusion, and the cultivation of new skills through vocational training, formed a cohesive and adaptable methodology shared across all nine cities. This ensured that diverse territories could seamlessly integrate these fundamental concepts into their respective micro-missions.
The CENTRINNO pilots' baseline: Embracing micro-missions connected to experimental 'Learning Arches' (inspired by Kaospilot)[5], structured into high and low-intensity action periods, allowed the pilots to address specific local needs, identified through a participatory process engaging citizens, stakeholders, and the local pilot partners. Each sprint of activity had a duration of six months, with a low intensity action phase lasting 5 months. The local actions were supported and monitored at a project level through regular meetings, training and coaching sessions intricately linked to the overarching objectives of CENTRINNO, ensuring alignment with the project's vision.

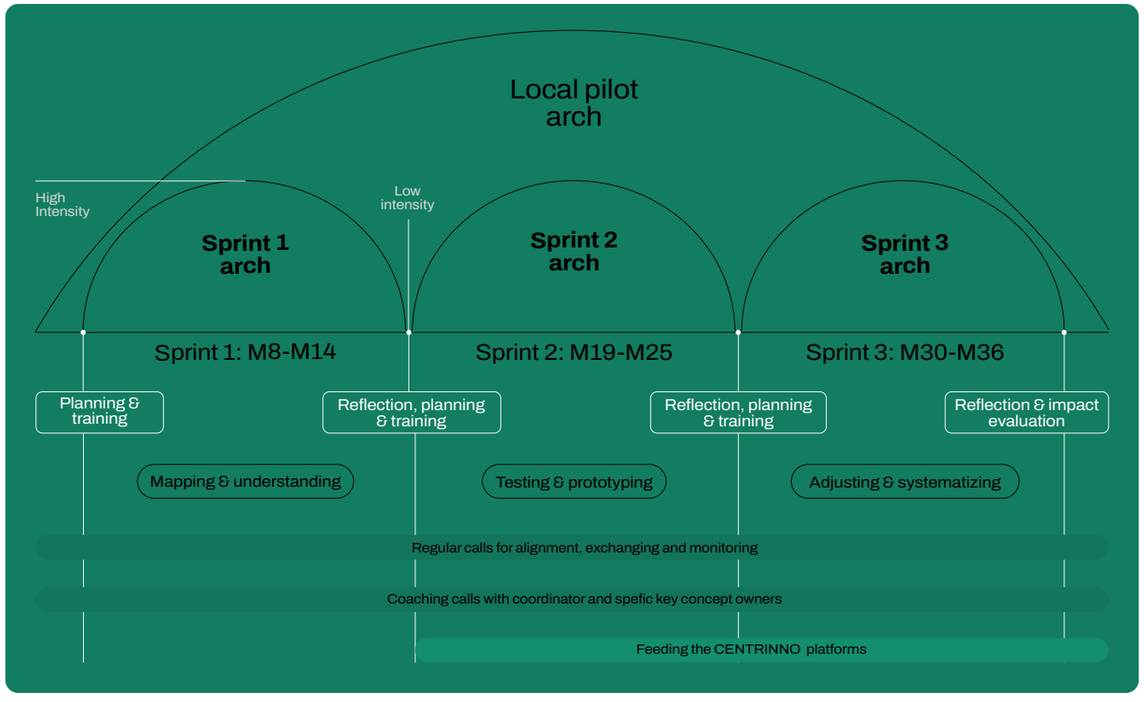


Figure 10. *Adapted exemplification of the CENTRINNO pilots' approach*

The singularity of each pilot's unique context, dynamics, composition and diversity, culminated in tangible, impactful and replicable results exemplified in the following summarized blueprints.

CENTRINNO PILOTS' BLUEPRINTS

The CENTRINNO pilots' blueprints are intended to serve as inspiration and facilitate the adoption of the CENTRINNO framework, platforms and tools by diverse European cities. Additionally, these blueprints explore potential policies for regenerative practices, steering cities towards more resilient and productive urban development.

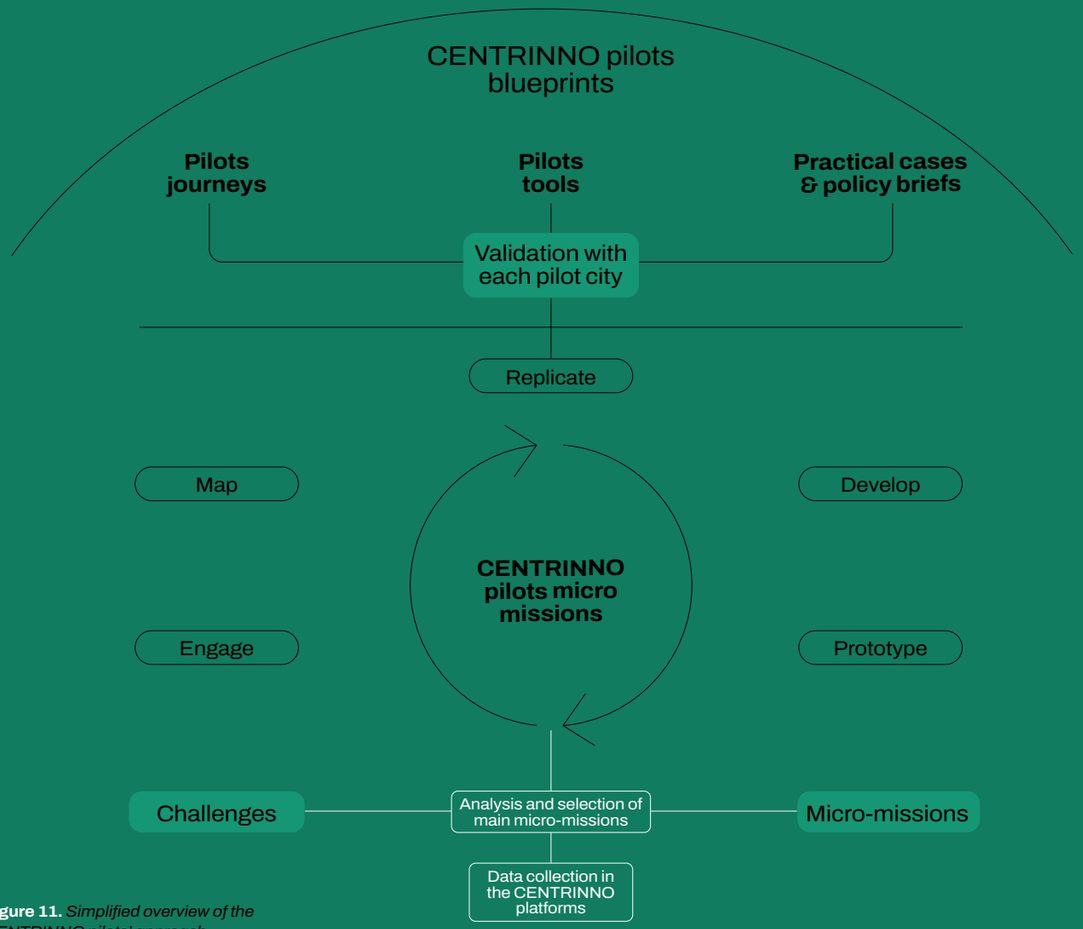


Figure 11. *Simplified overview of the CENTRINNO pilots' approach*

How were they drafted?

The CENTRINNO pilot blueprints embody possibilities and potentials for cities seeking regenerative practices. By delving into the nine pilot initial challenges and journeys, we look at tailored bottom up strategies, activities and tools applied towards innovation, creativity and sustainable local dynamics. Simultaneously, practical cases that hold the potential to inspire policy recommendations were identified together with guidelines on governance transition and circular practices towards regenerative ecosystems.

The analysis process was conducted closely with the main partners of each pilot city to ensure accuracy and consistency of the selected data. Initial drafts were shared and individual meetings were convened to reflect on the broader trajectory of the pilots journey, paying attention to necessary steps and activities to reach their main outputs able for replication, as well as reflecting on prospective tools and inspiration for shaping new policies.

How to read them?

Pilot ID

In this section, each pilot blueprint is introduced with a historical description of the pilot area, a map representing the area of the pilot and some basic information and characteristics. This serves to orient the reader, providing context of the pilot, including key performance indicators gathered throughout the entire project.

Pilots Journey

The activities and micro-missions added to each pilot journey were extracted from internal platforms used by the nine cities to feed information along the project's duration. The selected information was distributed across the three sprints of activities and prioritized according to the five CENTRINNO key concepts (Circular Economy, Heritage, Social Inclusion & Innovation Spaces, and Vocational Training). For each sprint, four primary stages of actions were selected representing activities related to mapping, engaging, prototyping and developing, culminating in a replication stage at the conclusion of the process.

Map	Mapping activities, stakeholder mapping, stories collection, research and literature review.
Engage	Engagement activities and events with local collaborators and stakeholders.
Prototype	Prototyping of ideas for new methodologies, products creation, programs and services development.
Develop	Development of methodologies, products, programs, services and other events.
Replicate	The main results developed by each pilot that can be replicated by other cities, practitioners and organizations.

CENTRINNO PILOTS' BLUEPRINTS

Pilots tools

In each pilot's blueprints, there is a section showcasing two main tools created and used by each pilot city. Nevertheless, each pilot city developed many tools during the project's development, and they are all available on the CENTRINNO Fab City Hub Toolkit (FCHs Toolkit) with full details.
Each tool is explained through different sections and accompanied by a photo:

1. A subtitle, placed below the title

2. Three categories repeated for each tool:
- Format of the tool (e.g. digital platform, VT programme, method, etc.)
- Target (type of stakeholders to apply and/or engage)
- Setting (offline, online, hybrid)

3. Main text composed by three main paragraphs:
- Story description: what is the tool about?
- Story behind and key steps
- Recommendations for future applications

In the Pilot Journey, tools are identified by a green star.

Practical cases and policy briefs

By empowering local actors in the co-design of collective action to urban challenges, bottom-up policy recommendations can be created as an effective alternative to traditional policy development approaches. Policymakers would benefit greatly from accessing easily manageable data and tools, including those yet existing barriers and successful stories, to deal with the new global landscape.

In this sense, we bring nine practical cases linked to eight primary areas of influence for policy briefs, namely Heritage value and innovation, Policy-making mindsets, Contingency and macro trends, Spatial Planning and Urban Development, Frameworks, Regulation, Funding, and Knowledge & Capacities, and Engagement (see the Policy Report - Deliverable 6.9 for reference). The results of this analysis have led to a set of policy recommendations aimed at enabling replication of successful stories ranging from private-public cooperation, the establishment of creative hubs in heritage sites and the development of collaborative platforms for local production.

In the Pilot Journey, the trigger moments for policy recommendation are identified by a star following the text underlined.

The next section presents an exploration of diverse urban landscapes and their evolution through the implementation of micro missions and activities encapsulated in the pilot's unique pathways. These blueprints serve as visual guides, intricately connecting various activities to the key concepts of CENTRINNO's project within different city contexts, providing inspiration and practical insights for cities across the European Union and beyond.

Platform ID

Pilot Journey

Practical Cases

Policy brief

AMSTERDAM

Once renowned for its shipbuilding and repair activities, the Amsterdam Noord neighborhood is currently undergoing a swift and remarkable transformation into a focal point for circular initiatives and innovation. Despite its industrial origins, the area maintains a noteworthy 7.6% green space share, sustaining a population density of 1,778 individuals per square kilometer. This blend fosters a diverse community and accommodates various industries.

Certain sections of the neighborhood, such as Buiksloterham and the NDSM-werf, carry a heritage status that effectively bridges the gap between its industrial history and aspirations for a sustainable future. Buiksloterham, positioned as one of the last industrially utilized zones in Noord, serves not only as an inner-city production center but also plays a pivotal role in closing the loop on urban waste streams through remanufacturing, recovery, and recycling practices.

However, the increasing demand for housing in the broader Amsterdam region has prompted the conversion of the remaining industrial land into residential use. This transition presents the neighborhood with significant challenges, including the termination of rental contracts for small businesses and artisans in the area.

City Population size	M	**Productive focus**	Woodwork, digital technology
Population density	Amsterdam Noord: 1,777.8 people/km2	**Partners**	Hout-en Meubileringscollege (HMC), Waag Futurelab, Pakhuis de Zwijger
Pilot scale	City	**Website**	Cartography web

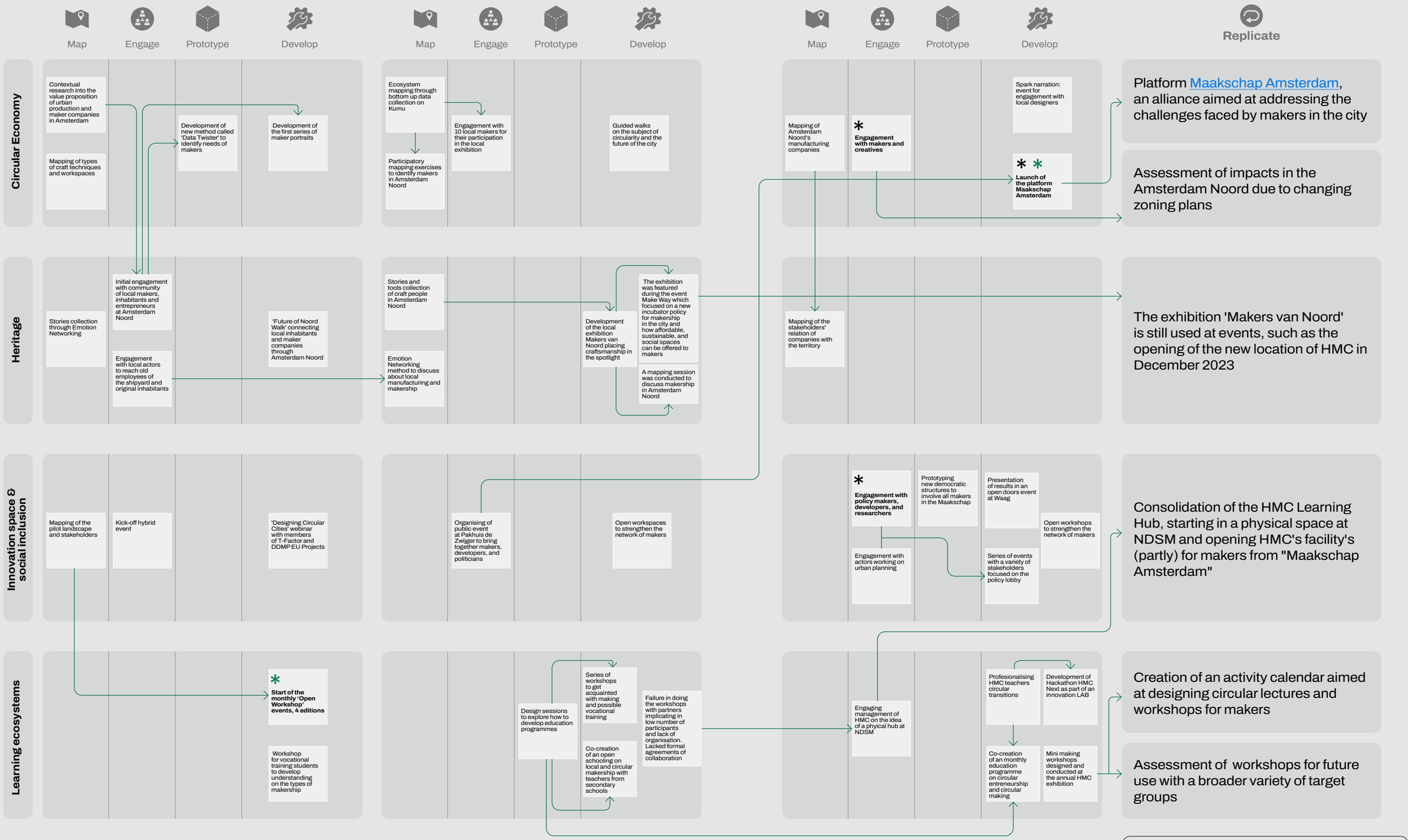
Figure 12. *Map of the Amsterdam pilot area by Metabolic Institute.*

Vision

The vision of the Fab City Hub in Amsterdam Noord was centered around furthering circularity for local makers. The goal was to integrate the area's industrial heritage into urban renewal by establishing affordable workshops with a long-term perspective.

+170	+1060	30	+6190	+90
Cartography resources	Participants in CENTRINNO Schools	Living archive stories	Participants in public events	Active stakeholders in the community

Figure 13. *Amsterdam Pilot Key Performance Indicators*



SPRINT 1: M8-M14

'Making acquaintance': Getting to know the pilot area, its dynamics and its old and new residents.

SPRINT 2: M19-M25

"Pop-up": Focusing on getting together the practical elements needed to prototype and try out the first ideas of the maker collective.

SPRINT 3: M30-M36

Sprint 3: "Take Root": Launching Maakschap Amsterdam - A maker collective focusing on the organisational sustainability of the hub.

Legend for acronyms

NDSM: Nederlandsche Dok en Scheepsbouw Maatschappij, a former shipyard and neighbourhood in the Amsterdam-Noord area

* Trigger moment for policy recommendation

* Tool development and application

OPEN WORKSHOP

An event format to connect makers and places

Offline
Setting

Makerspaces
Target

Event
Format

Photo by Amsterdam pilot

What is it about?

The Open Workshop is an event format that has been designed and implemented by the CENTRINNO Pilot team in Amsterdam. It consists of organising a series of monthly events, each hosted at a different makerspace location. In addition to supporting the identification of better design for local hubs, it can also be used as a tool to engage and involve new communities. If repeated regularly, it helps to better know and understand local communities' needs and the type of productive and creative spaces that are available in different neighbourhoods.

Story behind

The Open Workshops' goal is to give voice to pressing issues regarding maker communities, enabling partnerships among makers and fostering stronger connection and knowledge sharing. Through the different editions, a better understanding of makerspaces' conditions and needs were identified in order to design a local model of Fab City Hub (FCHs).

Key steps

- Finding a makerspace
- Choosing a topic of interests for the maker community
- Sending invitations to the target audience
- Making good communication assets and sharing it online and offline
- Bringing food and drinks and supporting the maker to prepare the space
- Thanking everyone for coming, and opening the invitation for the next to host.

Recommendations for future applications

- Assuring a constant physical presence of the local team in the neighbourhood can help to give visibility to their works and actions
- Better understanding makers' and makerspaces' conditions and needs allows to design a local model of FCHs that will respond to this need
- Monthly events of the maker community, where is given voice to pressing issues regarding maker communities are voiced, help to enable partnerships among makers, foster stronger connections and knowledge sharing among them

MAAKSCHAP AMSTERDAM PLATFORM AND ONLINE MANIFESTO

Empowering makers through community engagement and policy advocacy

Hybrid
Setting

Makerspaces
Target

Platform
Format

Photo by Amsterdam pilot

What is it about?

Maakschap Amsterdam is an alliance of makers aimed at sharing knowledge and collectively advocating for better maker policies. It organises events such as the Open Workshop (informal gatherings at various workshops in Amsterdam), roundtable discussions, and focuses on circular craftsmanship.

Story behind

The Amsterdam pilot launched a website with a manifesto to advocate for makership in the city. To ensure this tool met the needs of makers, the Amsterdam pilot prioritised getting to know the community as well as possible and finding out what drives it and to determine common needs, which were later illustrated within the manifesto.

Key steps

- Prioritize understanding the needs and motivations of the maker community.
- Illustrate common needs within a manifesto based on insights gathered during participatory research
- Emphasize and share the importance of the alliance being led by makers through different events' format.
- Use the manifesto as a centering point from which to discuss and address the needs, challenges and opportunities of the maker community.

Recommendations for future applications

- Creating a Manifesto gives more visibility for makers in the city to both the general public and policy makers
- Possibility of engaging the local policy makers can keep the topic of makership and makerspaces on the local agenda
- Creating alliances with diverse stakeholders can help to improve knowledge sharing, explore lobby activities, and create educational programmes
- The alliance needs to follow a bottom-down approach and be led by makers themselves, so the strategy becomes more effective and inclusive and consistent.
- Create spaces for sharing of knowledge and tools can lead to a higher support between makers

ADVOCATING FOR AFFORDABLE MAKER WORKSPACES AND THE IMPORTANCE OF URBAN MANUFACTURING IN AMSTERDAM

Related key concepts	Areas of influence
	Heritage value and innovation
	Policy-making mindsets
Circular Economy	Contingency and macro trends
Heritage	**Spatial Planning and Urban Development Frameworks**
Vocational Training	Regulation
Innovation Spaces	Funding
Social Inclusion	**Knowledge and Capacities**

Recommendations

- Developing policies that incentivize the repurposing of existing spaces into affordable workshops or studios for makers and craftspeople.
- Creating guidelines that facilitate the adaptive and flexible reuse of underutilized or vacant buildings to accommodate maker spaces.
- Establishing mechanisms for community involvement in shaping policies that directly impact the maker community.
- Promotingpartnerships between public, private, and nonprofit sectors to create a supportive ecosystem for local manufacturers.
- Developing funding opportunities, mentorship programs, and networking events that strengthen the connections between makers and various industries.

Practical case

In Amsterdam Noord, the CENTRINNO local pilot sparked a new initiative—an alliance geared towards sharing knowledge and unified advocacy for improved bottom up policies. Maakschap Amsterdam serves as a pivotal platform fostering collaboration among makers, influencing policy, and addressing key challenges in the city. These challenges encompass a scarcity of affordable workspaces, evolving functions of existing workshops, and the necessity for clear policies ensuring enabling conditions for innovative business models and spaces for local makers.

Despite its high aspirations, the Amsterdam pilot concentrated on mobilizing a broad network of makers and organizations to bolster the platform's foundation. While a mission statement was established, the challenge of crystallizing a definitive future plan emerged. Diverse opinions and input from new contributors raised queries about ownership and direction. To address this, the pilot team advocates community-led decisions, assuming a role as unifying facilitators. Transparent meetings with members were planned to collectively shape the platform's future, redefining the team's role as organizers while empowering the community to steer goals and missions.

In its practical functionality, the platform operates through three core strategies: primarily, it facilitates gatherings to unite makers, establishing a robust network crucial for advocating city-wide. Secondly, it fosters an educational environment for mutual learning among makers, organizing workshops centered around circular practices. Lastly, it engages in dialogues and lobbying efforts with the city, orchestrating events and roundtable discussions to highlight the gravity of makers' circumstances to policymakers. This last strategy connects to the acknowledgment of city councillors, representing diverse political affiliations, about the urgency for innovative solutions recognizing the societal significance of crafts.

BARCELONA

Historically known as the ‘Catalan Manchester’ for its role as the city’s industrial centre in the 19th and early 20th century, particularly in the textile sector, Poblenou has undergone a strong territorial transformation in the last years. After a period of decay, Poblenou underwent an intense transformation, with the 1992 Olympic Games being the main trigger for this change. On account of its organization and for other purposes, dozens of commercial facilities as well as streets and industrial spaces were demolished. Since then, Poblenou has been a testbed for different urban visions, such as the “Forum de las Culturas” in 2004, the BIT Habitat (Barcelona Institute of Technology for the Habitat) agency, opened in 2015, the first Barcelona superblock implemented in 2016, or the initiative 22@District, which was approved in 2000 and more active in its implementation since the end of 2020.

As a consequence of its historical past and transformations, nowadays the share of green space in the neighborhood is 11.6%, amidst a population density of 20,466 people per square kilometer. Presently, El Poblenou embodies a crucial part of Barcelona's industrial heritage, continually attracting new technological companies to the district, while artists, local makers, manufacturers, and artisans fight to keep its productive identity towards more socially-engaged and circular practices.

City Population size	L	**Productive focus**	Woodwork, textile, digital technology
Population density	Barcelona El Poblenou: 20,465.5 people/km2	**Partners**	Fab Lab Barcelona, Catalunya FP, Poblenou Urban District
Pilot scale	Neighborhood	**Website**	Cartography web: https://www.CENTRINNO-cartography.org/barcelona

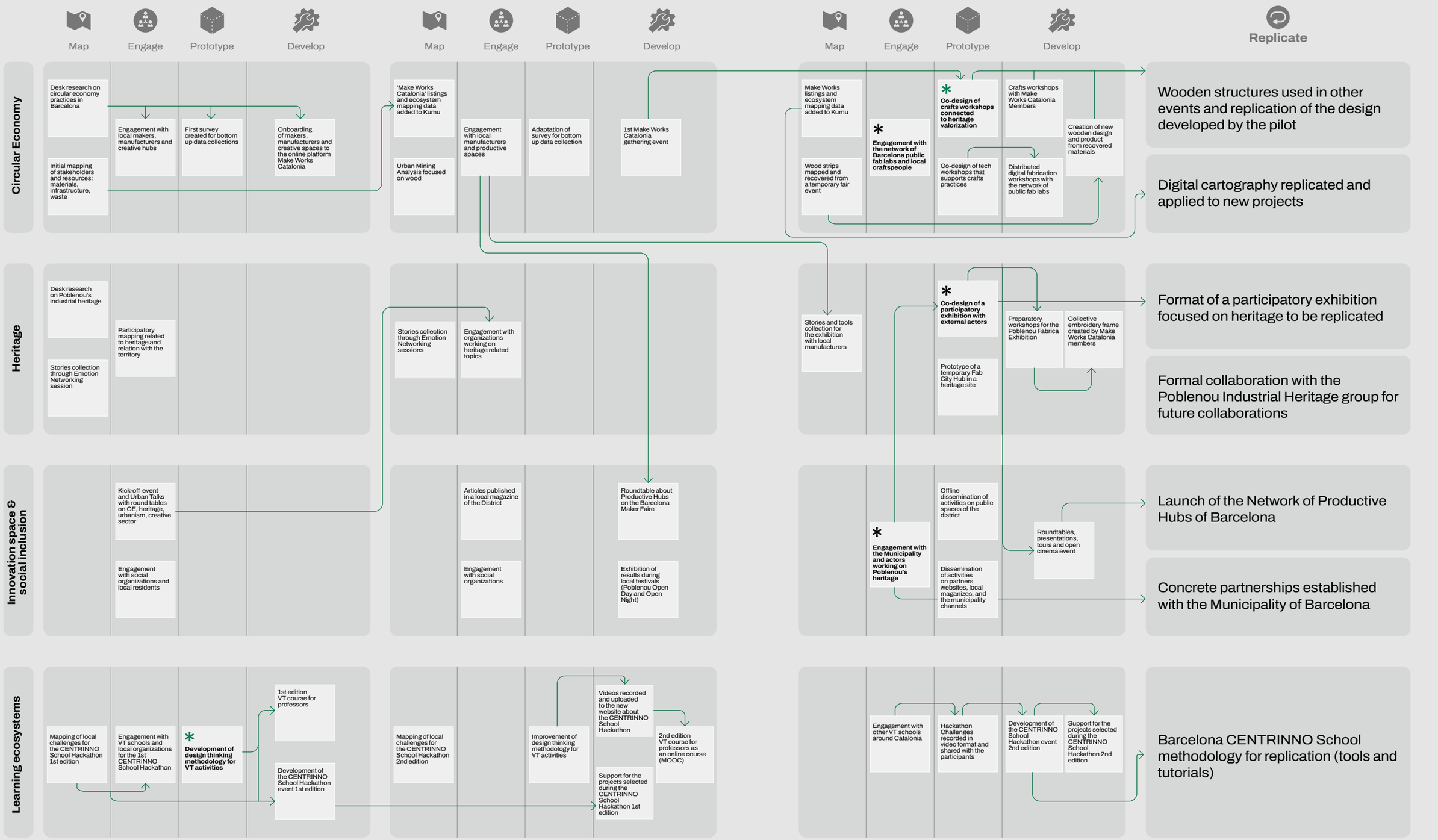
Figure 14. *Map of the Barcelona pilot area by Metabolic Institute*

Vision

To test and implement collaborative activities involving citizens and local organizations in Poblenou in order to valorize industrial heritage and foster circularity through a network of local makers and manufacturers. It involves the exploration of traditional artisanship with digital fabrication and the promotion of new ways of learning.

+460	+1700	+10	+6990	+230
Cartography resources	Participants in CENTRINNO Schools	Living archive stories	Participants in public events	Active stakeholders in the community

Figure 15. *Barcelona Pilot Key Performance Indicators*



SPRINT 1: M8-M14

Understanding the context of Poblenou industrial heritage transformation and its circularity of knowledge and resources.

SPRINT 2: M19-M25

Linking circular economy skills, manufacturing traditions, and community-based urban regeneration

SPRINT 3: M30-M36

Unlocking the productivity potential of Sant Martí through local manufacturing, circular economy practices and skill building programs

Legend for acronyms

MOOC: Massive Open Online Courses

* Trigger moment for policy recommendation
* Tool development and application

SCHOOL HACKATHON

"Get out of the classroom!". An innovative programme to make education respond to real needs

Hybrid
Setting

Vocational training students and professors, local organisations
Target

VT Programme
Format

Photo by Fab Lab Barcelona

What is it about?

The CENTRINNO School Hackathon in Barcelona is a programme that tries to connect local and global challenges with formal vocational training programs to foster local innovation. Initially prototyped in the neighborhood of Poblenou, this short-term event uses design thinking and a human-centered approach to solve complex problems through multi-actors cooperation.

Story behind

The main goal of the Hackathon is to fill the gap between the theory, taught in the classroom, and the practice, requested in the job market, by facilitating collaboration among students, teachers and local organizations. The result was connecting students with real-life scenarios for product and services creation and job opportunities.

Key steps

- Local challenges mapped as source of inspirations for students
- Creation of a core group with local organisations
- Meetings with teachers and development of a specific training session
- Co-definition of challenges with partners and students based on previous research and data collection
- Organization of a distributed event by:

- Identifying the location
- Inviting vocational training schools
- Promoting the event through communication campaigns

- Development of the event and celebration of the winners of each challenge
- Facilitation of follow-up meetings, logistics support and connections between businesses and winners to ensure the new solutions will be implemented

Check some of the students' solutions here.

Recommendations for future applications

- The creation of a dedicated Massive Open Online Course (MOOC), offering a comprehensive guide delineating each step of the methodology allows educators, mentors, and practitioners to effectively apply and replicate the tool
- The mapping and co-creation of challenges with potential stakeholders, ensures that the participating organisations will be attracted and benefited by the experience
- Follow-up and connection between students and the organisations helps to provide the necessary infrastructure in terms of logistics, materials and necessary contacts
- The collaboration with public education departments can help to integrate the Hackathon format into an official methodology forto be implemented by educational departments in vocational training institutions

COLLECTIVE XXL EMBROIDERY INSTALLATION

A collaborative 2x2m embroidery panel to valorize women's rights while sharing handcrafts techniques

Offline
Setting

Makers, artisans, artists, citizens
Target

Participatory Exhibition Making
Format

Photo by Fab Lab Barcelona

What is it about?

This tool by the Barcelona pilot is a collaborative 2x2m embroidery panel created to foster community involvement and the exchange of traditional skills, all while reclaiming spaces for women across various fields of labour.
The large feminine embroidery panel was a tool designed and created by a collective of women initiated under the scope of the Poblenou Fàbrica/ Fabrica Exhibition by the Make Works members: La Clandestina Poblenou (composed by Sonia Benitez, Lara Farbe, Estefanía Franco), Un Taller para Todas (Women carpenters collective) and Fab Lab Barcelona. Check more information here.

Story behind

The main goals were to foster community engagement and create interactions between local manufacturers; to promote skills-sharing activities and traditional techniques; to vindicate the role of women in the art world; and to create awareness about women's rights and traditional manufacturing skills.

Key steps

- Engagement with organisations and definition of strategy
- Meetings with the core team to design the installation and plan the participatory workshops
- Purchase of the materials
- Open call to the community to learn woodworking skills and cross-stitch embroidery
- Dissemination of activities
- Development of the workshops
- Videos and pictures taken
- Final exhibition of the installation in a participatory exhibition

Recommendations for future applications

- Looking for common interests among the local network helps to foster a greater willingness among participants to exchange knowledge and resources
- Exploring different locations, time and strategies of communication allows to boost participation and attendance in the open workshops
- Co-creating regular meetings and a plan for the intervention helps to distribute responsibilities and outlining actionable steps
- Strengthening relations among makers and manufacturers permits to create new synergies and promote new business ventures
- Collective experiences helps to promote circular economy and new ways of doing things

TOWARDS INCLUSIVE MANUFACTURING: ENGAGING LOCAL PRODUCTION NETWORKS THROUGH COMMUNITY-DRIVEN MAKING

Circular Economy
Heritage
Vocational Training
Innovation Spaces
Social Inclusion

Related key concepts

Heritage value and innovation
Policy-making mindsets
Contingency and macro trends
Spatial Planning and Urban Development Frameworks
Regulation
Funding
Knowledge and Capacities

Areas of influence

Recommendations

- Advocating for the establishment of learning hubs or creative centers within communities, encouraging citizen engagement through workshops focusing on traditional craft practices and digital technologies.
- Valorizing local talents by encouraging collaborative initiatives between local artisans, designers, and makers to create sustainable design solutions.
- Establishing formal partnerships between local governments and relevant organizations for the temporary use of heritage sites.
- Emphasizing the importance of inclusivity by involving citizens, educational institutions, businesses, associations, and the wider community in these collaborative spaces.
- Encouraging the use of leftover materials and local resources within urban landscapes to foster a culture of locally sourced and produced materials.
- Fostering practices that minimize waste, use local resources efficiently, and emphasize sustainable production methods.

Practical case

In collaboration with the public network of fab labs of Barcelona (Ateneus de Fabricació network) and manufacturers from Make Works Catalonia, the Barcelona pilot stands as an exemplary initiative to foster community engagement, capacity building and cultural heritage preservation. In the context of the local exhibition Poblenou Fàbrica/ Fabrica, the pilot orchestrated a series of inclusive workshops across Barcelona, held with support of the public agency BIT Habitat at Ca l'Alier, an iconic heritage site in Poblenou, and five other public facilities across the city. These workshops were designed to bring together traditional craftsmanship and digital fabrication techniques, promoting a shared space for learning and creativity within the community. By integrating traditional crafts and modern technologies, the program aimed to cultivate a sense of appreciation for the act of making, fostering an understanding of circularity in materials and knowledge. By encouraging this intersection, the initiative aimed to drive a culture of local production, promoting the utilization of local resources and talent within the city. Notably, the project successfully bridged the gap between digital fabrication and traditional artisanship, creating a space where these two domains intersected harmoniously and participants could share and learn from each other.

PILOT BLUEPRINT

BLÖNDUÓS

Northwest Iceland has a long background as an agricultural region with sheep farming, fishing and tourism now forming the primary sector of industry. Presently, these industries constitute the primary sectors, yet the region faces challenges such as limited employment diversity, a trend of youth migration, and depopulation. In response, the Association of municipalities in Northwest Iceland (SSNV), including Blönduós, actively seeks innovative solutions for long-term strategic plans and the attraction of new businesses.

Blönduós, a town with fewer than 1,000 residents, houses the Icelandic Textile Centre within the heritage building Kvennaskólinn, one of Iceland's four Women's colleges founded in 1879 . The center, dedicated to promoting textile innovation, knowledge-building, and local production, plays a vital role as a makerspace and educational platform. At the Icelandic Textile Center, traditional handcrafts seamlessly blend with 21st-century skills, contributing to the region's economic development and preserving its cultural heritage.

City Population size	XS	**Productive focus**	Textile, handcrafts and digital technology
Population density	Blönduós: 4.9 people/km2	**Partners**	University of Iceland, Icelandic Textile Center
Pilot scale	Rural	**Website**	Cartography web

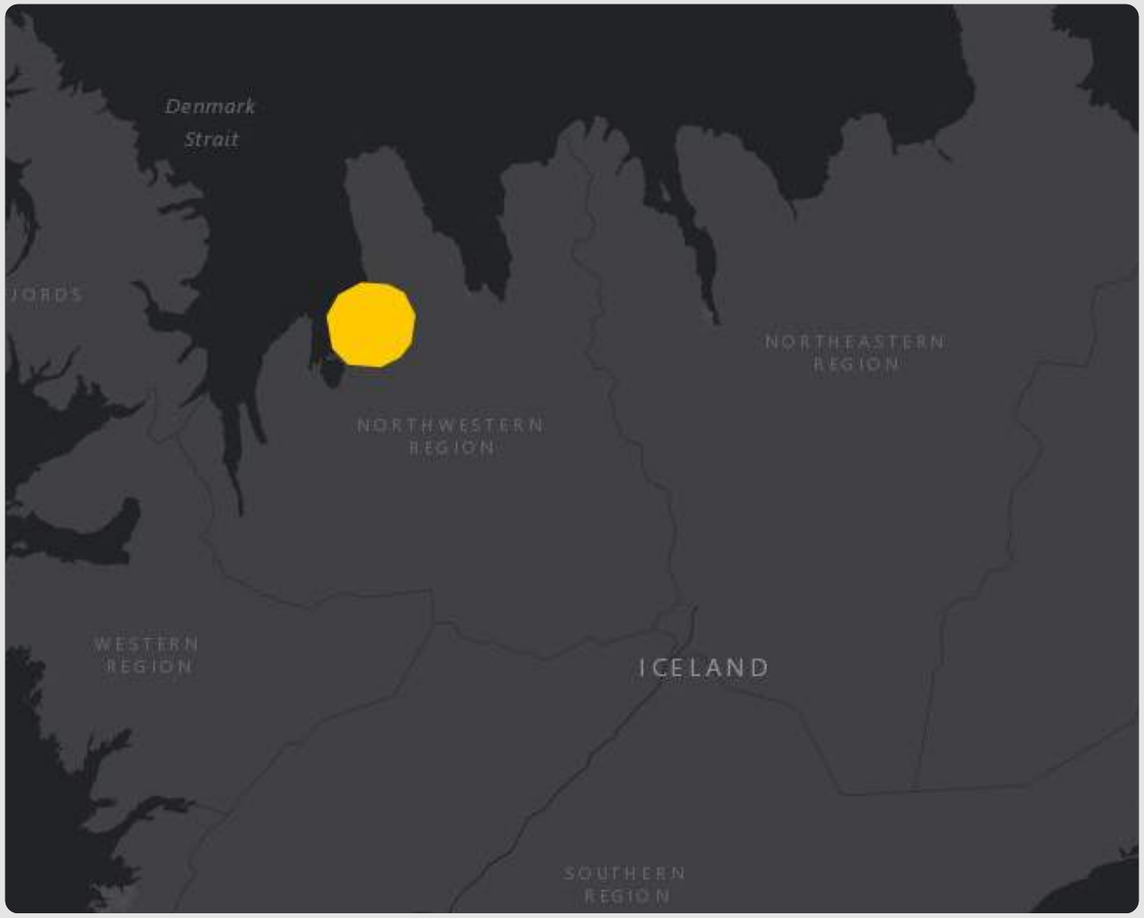


Figure 16. *Map of the Blönduós pilot area by Metabolic Insititute.*

Vision

To further develop the Icelandic Textile Center in Blönduós, strengthening it as a makerspace and center of textile innovation. This involves research, education and a wider experimentation towards circular economy while bridging traditional handcrafts with digital technology.

+130	+530	+15	+460	+120
Cartography resources	Participants in CENTRINNO Schools	Living archive stories	Participants in public events	Active stakeholders in the community

Figure 17. *Blönduós Pilot Key Performance Indicators*

Map | Engage | Prototype | Develop

Map | Engage | Prototype | Develop

Map | Engage | Prototype | Develop

Replicate

Circular Economy

- Desk Research on circular economy practice in Iceland
- Stakeholder mapping for the cartography
- Engagement with teachers, researchers and students
- Collaboration with students on projects focused on textile consumption: "Flokk til you Drop"
- Wool-themed hackathon - "Ullarthon" to support wool innovation in Iceland
- Information collection and stakeholder mapping for the cartography and blogpost on circularity
- Collaboration with students on projects focused on textile waste: Þráðhyggja// Thread Obsession
- Students and makers in the Textile Lab working with waste materials for their final projects or developing new products
- Research collaboration "Fjölublár" - developing sustainable bacteria dye methods for wool
- Students and makers in the Textile Lab working with waste materials, focusing on up- and recycling
- Exhibition of the Textile Center's and Fabricademy student final projects during DesignMarch in Reykjavik
- Ullarheimar - WoolWorlds exhibition to increase awareness regarding the Textile Lab and textile product innovation

→ Format of local exhibition to be replicated

→ Textile businesses, new products ("Cool Wool Box, "Snoðbreiða") and processes (bacteria dye), student final projects developed

Heritage

- Research on heritage and gendered dimensions of domestic crafts and textile work
- Research on heritage and gendered dimensions of domestic crafts and textile work
- Bottom up mapping through interviews with stakeholders and people connected to the former Women's College in Blönduós
- Presentation of research findings on heritage and social inclusion at the conference Íslenska þjóðfélagið 2022
- Individual interviews with stakeholders from the public sector
- The University of Iceland (HÍ) continued to collect historical material and analyse the interviews
- Emotion Networking Session on the Women College's building and its role in the future
- Survey conducted within the textile and fibre community in Iceland

→ Journal articles on women entrepreneurs in textile and stories for the Living Archive

Innovation space & social inclusion

- Planning of the opening event
- Textile Lab Open Days to engage the community
- Engagement with local municipalities and Ministries
- Renovating the new space designated for the lab
- Choosing, buying and setting up infrastructure
- ✻ **Formal opening of the TextileLab in Blönduós**
- ✻ **Series of Open House events to increase awareness, developing the lab as a makerspace**
- Engagement with ministers from the Ministry of Higher Education, Science and Innovation and the Ministry of Education and Children at the Textile Center
- Initial event for establishing the Textile cluster in Northwest Iceland
- Series of Open House events to teach new skills and engage with the local community
- ✻ **Establishment of the Textile cluster in Northwest Iceland**
- Lab assistant role created for the Textile Center

→ New innovation space established in Northwest: the Textile Lab

→ New opportunities for funding and jobs created

Learning ecosystems

- Establishment of collaboration with stakeholders in education for innovation within the field of textiles
- Fashion and product design students visiting and practicing handcraft techniques the Textile Center and Lab
- Study visits to the Textile Lab to establish collaboration with stakeholders in education
- A series of one-day workshops including collaboration with Shemakes EU Project
- 9 week program "Heldurðu Þræði" - for textile entrepreneurs
- Fabricademy implementation- Textile Academy - 6-months-program
- Series of workshop on crafts to engage the community and teach new skills
- April Month of Workshops for makers focused on the potential of textile innovation
- Second edition of the 9-week program for textile entrepreneurs "Heldurðu Þræði" - Keeping Threads

→ Opportunities in connecting training in traditional handcrafts, textile innovation, creative sustainability and business management

→ Developing a new curriculum for adult education in textiles

SPRINT 1: M8-M14

'Building foundations': Connecting with stakeholders, mapping data and preparing the Textile Lab

SPRINT 2: M19-M25

Learning How To (Textile) Lab: Developing the Textile Lab by building connections, teaching courses and doing research

SPRINT 3: M30-M36

Implementing Best Practices: Taking textile education to the next level and keep developing the Textile Lab

Legend for acronyms

HÍ: University of Iceland

✻ Trigger moment for policy recommendation

✻ Tool development and application

HOW TO SET UP A TEXTILE CLUSTER

An ecosystem of local actors creating new educational and job opportunities for textiles in Iceland

Hybrid
Setting

Government, businesses, innovation and education sectors
Target

Tool
Format

Photo by Blönduós pilot

What is it about?

The Textile Cluster is an idea developed by the Icelandic Textile Center and partners. The main aim was to use the cluster concept as defined by the Icelandic government – an ecosystem of stakeholders interested in specific topics and collaborating on various projects – for textiles.

Several benefits come from forming a textile cluster in Iceland, such as increasing knowledge, skills, stronger networks, investment opportunities and ability to innovate within the fibre community, whether within existing companies or by investing in new projects.

Story behind

The Textile Cluster helped to strengthen the role of the Textile Center, reshaping new perceptions of textiles, and creating new opportunities and jobs in the field.

Key steps

- Developing the idea and presenting it to the Association of Municipalities in Northwest Iceland (SSNV)
- Mapping stakeholders through the concepts of cluster building and participation models
- Introductory meeting to discuss the textile cluster goals and possible revenue models
- Developing a questionnaire with the University of Iceland
- Meeting representatives from government, businesses, innovation, and education to discuss next steps, financing models, and the role of the Textile Center within the cluster.

Recommendations for future applications

- The participation of as many different stakeholders within textiles as possible can increase the success of a cluster's creation and ensure a good balance between different key areas and stakeholders from the market, community, non-profit, and state
- Establishing a vivid ecosystem, including the government, can improve the communication of challenges and opportunities in the textile field with policy making representatives
- Creating a textile cluster helps to connect people, institutions, associations and makers within the textile field; it can foster a sense of belonging and connectedness, promoting collective action and shared ownership within the fibre community.

TRADITIONAL AND DIGITAL WEAVING

Weave innovation by rediscovering traditional patterns workshops

Hybrid
Setting

Students, researchers, artists and makers
Target

Workshop
Format

Photo by Blönduós pilot

What is it about?

The traditional and digital weaving workshop is a set of activities and a method used to teach students, researchers, artists, and makers practical skills around weaving. It also serves to communicate the importance of cultural heritage for craft innovation.

The activity includes:

- lectures on the history of weaving and textiles in a given context (local, national or international)
- theoretical lesson on how to weave on hand-operated looms using traditional weaving techniques and tie-up patterns
- practical lessons on (1) how to weave on hand-operated looms and (2) how to operate a digital loom (TC2), revisiting traditional patterns

Story behind

This workshop was part of the Blönduós pilot's overarching goal, which focused on contributing to the (re)creation of a new type of textile industry in Iceland with an emphasis on local production using sustainable local resources, like Icelandic wool, as well as spreading awareness and a heritage-sensitive culture around textiles and weaving.

Key steps

1. Identification and collaboration with a weaving expert
2. Development of project proposals and application for funding
3. Equipment and materials purchase
4. Definition of a suitable space
5. Creation of the weaving pattern database
6. Development of weaving workshops and lectures

Recommendations for future applications

- Encourage the rediscovery of weaving as a cultural and economic heritage exploring a diverse group of stakeholders
- Create activities that raise awareness around textile small-scale productions
- Promote collaboration with visiting scholars and agreements regarding study visits and field school programs with local and international universities
- Provide makers with a better understanding of textiles, circular economy and a broad set of skills

GIVING A NEW BREATH TO INNOVATION AND CIRCULAR TEXTILE PRODUCTION IN NORTHWEST ICELAND

Circular Economy
Heritage
Vocational Training
Innovation Spaces
Social Inclusion

Related key concepts

Heritage value and innovation
Policy-making mindsets
Contingency and macro trends
Spatial Planning and Urban Development Frameworks
Regulation
Funding
Knowledge and Capacities

Areas of influence

Recommendations

- Establishing and promoting creative labs as enabling spaces for circular transitions within the Textile and Clothing (T&C) sector, encouraging innovation and sustainable methods.
- Implementing dynamic educational programmes aimed at fostering entrepreneurship and research within the industry.
- Making accessible education to all, actively addressing and dismantling gender disparities prevalent in the industry to create a more inclusive workforce.
- Training the future trainers with international networks of practitioners.
- Strengthening the values associated with historical traditions, heritage and cultural identity and traditional craftsmanship embedded at regional sites.
- Engaging in lobbying strategies for the adoption of “true cost” business models within the textile sector.

Practical case

In the territory of Northwest Iceland, deeply rooted in sheep farming and textile heritage, a pressing need for innovation and diversified employment opportunities have been identified by the local pilot. In the face of the national textile challenges, the Blonduos pilot team, composed by representatives from the Textile Center and the University of Iceland, has initiated impactful micro missions. They've established the Textile Lab, a space which offers access to state-of-the-art textile equipment and digital technology for makers, students and artists. A dedicated program for textile entrepreneurs has been cultivated through a robust partnership with the University of Iceland, stimulating innovation and skill development. Engaging globally, they've participated in initiatives like the Shemakes EU project and the Fabricademy network, fostering skill exchanges and amplifying visibility. Further, the Textile Center and its innovative Lab have emerged as a pivotal hub, steering discussions on the future of wool with key stakeholders. Now aiming to consolidate these endeavours, the Textile Center aims to spearhead the establishment of a comprehensive Textile cluster in Iceland. This concerted effort seeks to consolidate various initiatives under a unified framework, fostering growth, innovation, and sustainability within the Icelandic textile industry—a transformative step towards addressing local challenges and propelling the region into a vibrant, forward-looking textile ecosystem.

COPENHAGEN

Copenhagen is under intense pressure for redevelopment with around 10,000 new inhabitants each year and a housing and rental market with rapidly increasing prices. This growth and the associated political demand for more housing forces low-income groups out of the city, as well as to the closure of small-scale production and craft-based businesses that offer employment to groups with lower education. This development is also currently occurring in the North-West neighbourhood (Nordvest), which is the centre for the Copenhagen pilot.

Rentemestervej, one of the roads running across the Nordvest neighborhood in Copenhagen, has been an important industrial and manufacturing center of the city for more than 100 years. Prior to a period of industrial decline in the 1970s, Rentemestervej was a hotspot for the heavily polluting production of toys, enamel, bakelite and other plastic products and chemicals. While the companies have disappeared, they left behind a legacy of factory buildings that still showcase the original architectural style of their time, like the Tekno Fabrikken, built in 1934, located at Rentemestervej 14. Today, these areas have undergone a transformation into offices and studios, illustrating the swift repurposing of available spaces in the neighborhood. The ownership of these formerly industrial sites, distinguished by their heritage status, is now distributed among small businesses, fostering the potential for a collaborative space-sharing economy.

City Population size	M	**Productive focus**	Digital technology, artisanship, creative place making
Population density	Copenhagen Bispebjerg: 7,427 people/km2	**Partners**	Municipality of Copenhagen, Danish Design Center
Pilot scale	City	**Website**	Cartography web

Figure 18. *Map of the Copenhagen pilot area by Metabolic Institute*

Vision

To strengthen the ecosystem of creative businesses and small scale manufacturers in Copenhagen Northwest by establishing a structured community for the exchange of knowledge and resources, and thereby giving local actors a unified voice in the policy discourse to make them more resilient within the undergoing urban development and gentrification process.

20	+1580	+25	+4530	+40
Cartography resources	Participants in CENTRINNO Schools	Living archive stories	Participants in public events	Active stakeholders in the community

Figure 19. *Copenhagen Pilot Key Performance Indicators*

Map | Engage | Prototype | Develop | Map | Engage | Prototype | Develop | Map | Engage | Prototype | Develop | Replicate

Circular Economy

- Analysis of existing industries and rental prices for business facilities in the area
- Mapping data on local businesses and how this can be combined with data for rental prices
- Engagement with local businesses, creatives, and craftspeople
- Networking meetings with local creatives and craft business
- Testing concepts and business models for creative m2's and urban environments
- Networking meetings with local creatives and craft business
- Crafts workshops at Maker Space NV by guest artists

→ Influence to relevant municipal strategies to maintain political focus on creative m2's and urban environments

Heritage

- Stories collection through Emotion Network Workshop on 'Preserving Zoning Plan'
- Testing Emotion Networking to be used as method for citizen involvement in city development
- Neighborhood event: Gathering local citizens for collection of local stories
- Planning a bike route in the city for exploring the industrial heritage story
- ✱ **Use of Emotion Networking tool for including local citizens when developing the area**
- Map of stories and objects for the Living Archive Exhibition
- Interviews to conduct stories for the Living Archive Platform
- Students at local vocational school NEXT making photo exhibition portraying selected students
- 3 Living Archive "exhibitions"
- Podwalk 'Byen på Bakken': 10 stories about the neighbourhood's past and present
- Living Archive Exhibition at a local library
- Photo Exhibition portraying selected students and their professional dreams at NEXT

→ Development of engagement tool and approach for involving citizens and other stakeholders in municipal processes

Innovation space & social inclusion

- Engagement with municipal representatives
- Engagement with real estate developers, urban planners and consultants
- Investigation of the potential to creating a physical hub and its potential model
- Pilot kick-off event and expert-network about creative city hubs in Copenhagen
- Map national and international best cases on creative placemaking and their business models
- Testing a distributed hub model structured as a network of existing local creative spaces
- Accessing opportunities for affordable spaces in a neighborhood challenged by increasing rental prices
- Recommendations to influence the strategy for the City of Copenhagen in 2023
- ✱ **The City Council allocated a pool in 2023 and 2024 for strategic business development in creative urban environments and support for creative industries**
- Map of stakeholder interests for the consolidation of a strong network in the pilot area
- ✱ **Network event with the Municipality, community, market and non-profit**
- Testing a distributed hub - supporting and strengthening the local, creative environment
- ✱ **Design and crafts workshops open to the community**
- Application and approval of funding for a coordinator role to drive the network

→ Creation of a joint platform/network for local stakeholders

→ The establishment of a fund by the municipality to support creative industries and urban environments

Learning ecosystems

- Engagement with educational institutions, maker spaces and fab labs
- Strategic partnership with NEXT (educational school) and local Maker Space NV
- Approval of Bridge building Project for management and secondary school teachers
- Engagement with businesses, teachers, pedagogues, students and local citizens
- Network meetings for ressource persons from schools and youth clubs
- Preparing NEXT students to teach pupils from local school
- Training of teachers and pedagogues in digital fabrication and design
- Digital fabrication workshops at Maker Space NV for kids, families, professionals
- Intense project week: Students from NEXT teaching pupils from local school (Tagensbo)

→ Intense project week model created focusing on Vocational students teaching pupils from local school

SPRINT 1: M8-M14

Analysis of the pilot area and involvement of relevant stakeholders

SPRINT 2: M19-M25

Implementation and partnerships

SPRINT 3: M30-M36

Strengthen the distributed hub, explore possible cooperation with relevant stakeholders

Legend for acronyms

NEXT = Local vocational school
NV= NordVest
LA= Living Archive

✱ Trigger moment for policy recommendation
✱ Tool development and application

DESIGNING DEMOCRATIC DIALOGUES THROUGH EMOTION NETWORKING

An approach to reveal the value of the past to shape a better future.

Hybrid
Setting

Local actors, citizens

Target

Method
Format

Photo by Copenhagen pilot

What is it about?

Within the CENTRINNO project, the method Emotion Networking (EN) is a well-known tool used as a framework to integrate the heritage perspective into developing the local pilot sites.

The example from the Copenhagen pilot exemplifies very well how the method can initiate new dialogues among different neighbourhood actors. The tool acts as a method to support a democratic process towards developing future zoning plans with a heritage sensitive approach. By enabling citizens to participate in democratic dialogues, topics such as developing local neighbourhoods and the importance of the preservation of cultural heritage were explored to collect stories and share diverse perspectives.

Story behind

The municipal department working with local zoning plans has pointed out a lack of tools to systematically involve local citizens in the development of zoning plans and general work on urban development. Having identified the demand for new tools, the Copenhagen pilot saw the potential for the Emotion Networking tool to initiate a democratic dialogue about urban development.

Key steps

- Identification of contexts in which the tool can contribute to collecting input from local actors
- Selection of relevant topics to discuss
- Identification of relevant local actors
- Preparation for the session and development
- Check out the EN methodology by Reinwardt Academy here

Recommendations for future applications

- When identifying relevant local actors for the workshop, make sure to allow a diverse representation of backgrounds and perspectives
- A proper documentation is key, including a reflection and summary of the main input of the session. It is also important to allocate time for a wrap up discussion on how the output gained through the session can be effectively applied

STAKEHOLDER NETWORK

Bringing local actors together to foster new collaborations and tackle urban challenges

Offline
Setting

Local stakeholders, makerspaces, policy makers
Target

Method
Format

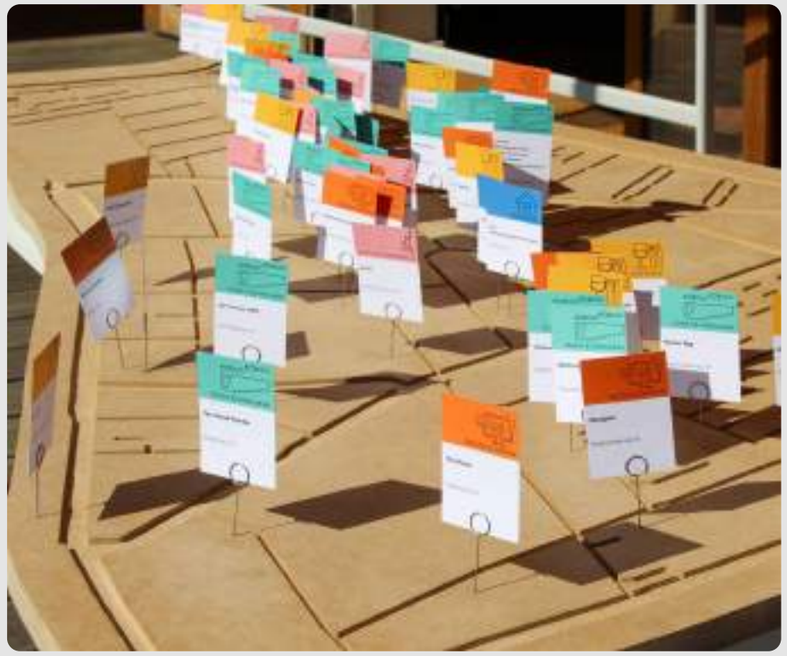


Photo by Copenhagen pilot

What is it about?

The stakeholder network by Copenhagen pilot is defined as an approach or method to establish and support further collaboration between local stakeholders and businesses.

As the Copenhagen pilot site, Nordvest, is not a classical Fab City Hub, it was important for the pilot to anchor the distributed hub in a network of local stakeholders to create and support more interaction and collaboration.
The pilot initiated the network when they had established a good connection with the local stakeholders and found there was an interest in more collaboration locally.

Story behind

The idea of the Copenhagen pilot was to bring stakeholders together to foster new collaborations and tackle relevant challenges.

Key steps

- Identification of local stakeholders
- Co-creation of what values the network can create for the people involved
- Facilitation of meetings with the purpose of identifying joint interests and initiatives to collaborate about
- Identification of key people who can (help) manage the network
- Support with fundraising in order to ensure sufficient means of coordination

Recommendations for future applications

- A stronger or more joint local voice in regards to future local (urban) development allows to be aware of each other's challenges and resources and give more visibility to the network
- Joining resources and people in addressing the most urgent challenges helps to make common events possible
- Making the participants owners of the network early in the process allows them to define the right platforms to interact with going forward
- A clear value creation process is needed for creative businesses to find the time and resources to participate

Policy briefs

PLACING CREATIVE URBAN ENVIRONMENTS ON THE POLITICAL AGENDA AND CREATING A COMMON FUND TO SUPPORT LOCAL

Circular Economy
Heritage
Vocational Training
Innovation Spaces
Social Inclusion

Related key concepts

Heritage value and innovation
Policy-making mindsets
Contingency and macro trends
Spatial Planning and Urban Development Frameworks
Regulation
Funding
Knowledge and Capacities

Areas of influence

Recommendations

- Developing a comprehensive understanding of the current creative ecosystem and implementing measures aimed at retaining and fostering the vital urban environments
- Identifying and leveraging opportune moments in policy development by staying informed about the timing and critical knowledge necessary for effective implementation.
- Building robust relations within the municipality fostering collaborations to create an unified approach towards supporting and promoting creative initiatives
- Communicating the urban planning agenda through analysis and events ensuring it resonates with stakeholders, policymakers, and the wider community.

If succeeding to affect the political agenda, the following initiatives can be proposed:
- Supporting existing and the development of new creative urban environments through incubation programs and open call for spaces.
- Establishing and sustaining a municipal fund dedicated to supporting the growth and sustainability of creative businesses in urban environments.
- Investing in educational programs that support and equip individuals with skills set required in the creative industries.

Practical case

A comprehensive survey across the Copenhagen city area was carried out by the local pilot intended to map resources, focusing on creative businesses, craft trades, and rental price trends. This analysis formed the basis of a detailed municipal report preceding the Municipal Plan Strategy, integrating these critical findings into the final strategy.
The analysis highlighted the need for policy measures, existing challenges and possible actions, which were included in the Municipal Plan Strategy as well as concrete initiatives that are expected to be included in the final Municipal Plan, such as the development of the concept of “creative zones.”

CENTRINNO's contributions supported the shaping of various initiatives, notably the upcoming Business Strategy prioritizing space for creatives and craftspeople and a new municipal fund supporting creative businesses and urban environments.

This fund allocates DKK 1.35 million (~180.000€) annually for 2023-2024, fostering strategic development in creative urban areas and supporting creative professions. It encourages partnerships for flagship projects or local activities to bolster business growth, such as the creation of partnerships on new lighthouse projects that profile the capital, or through the development of local activities that support general business development.
In summary, CENTRINNO significantly influenced the upcoming Municipal Plan Strategy and subsequent Municipal Plan, ensuring increased political attention to these matters. The work done by the pilot has also supported the establishment of a dedicated municipal fund underscoring this initiative's lasting impact.

GENEVA

The Zone Industrielle de Charmilles, known as "ZIC," was once a center for industrial activities that manufactured precision physical instruments, textiles, and watchmaking. Today, it has evolved into a hub for small and medium-sized enterprises specializing in both traditional and digital craft production, including wood- and metalworking. Situated in Saint-Jean Charmilles, the ZIC spans 22,000 square meters within a district boasting an impressive 34.7% green space, accommodating a population density of 16,852 people per square kilometer.

In Geneva, the ZIC serves various roles as a local production center, a nexus for local materials, and a hub for repair and reuse. Although not officially designated as a heritage site, community representatives, creative entities, and nearby institutions collaborate to safeguard the historical significance of this former industrial space, currently owned by the Geneva municipality.

City Population size	S	**Productive focus**	Woodwork, textile, digital technology
Population density	Geneva Saint-Jean Charmilles: 16,852 people/km2	**Partners**	Fab Lab Onl'Fait, Resources Urbaine Coopérative, Au Fil du Geste Association
Pilot scale	Site	**Website**	Cartography web

Figure 20. *Map of the Geneva pilot area by Metabolic Institute*

Vision

To enhance connectivity and act as a broker between the MACO and the productive activities of the pilot area ZIC (Zone Industrielle de Charmilles), as well as within a broader city-wide network of craftsmen, leveraging circular economy principles to reinforce a short local supply chain in Geneva for a more sustainable crafts ecosystem. This vision also encompasses the integration of the maker culture into the educational and vocational systems, promoting a synergistic blend of formal and informal learning ecosystem.

50	+320	+10	1670	+10
Cartography resources	Participants in CENTRINNO Schools	Living archive stories	Participants in public events	Active stakeholders in the community

Figure 21. *Geneva Pilot Key Performance Indicators*

Map Engage Prototype Develop | Map Engage Prototype Develop | Map Engage Prototype Develop | Replicate

Circular Economy

- Spatial cartography of the actors and resources of the pilot area
- Start of a series of interviews with local actors to collect data around their resources
- Directly collaborated with local stakeholders to develop projects and produce objects
- Mapping of practices, materials and waste generated by ZIC craftspeople
- Engagement with small local business, creative innovators and manufacturers
- Set up all the information gathered through the interviews into the KUMU map
- Open day for wood professionals interested in digital wood manufacturing
- Mapping new stakeholders around Geneva
- Collaboration with local stakeholders in the development of strategies for circular economy
- Discussion of installation of a biochar and an eco 3D printed studios
- Green Friday event to oppose the Black Friday concept
- Organization of an event to showcase fashion designers projects and round table
- Development of workshops and the sale of local products all related to upcycling

→ The "Green Friday" event model promoting small business, local products and circular economy

Heritage

- Emotion Networking for stories collections and engagement
- Establishment of a research collaboration with an university on social innovation and heritage
- Roundtable about industrial heritage with key local actors
- Stories collections through Emotion Networking session
- Research on the industrial heritage of the ZIC and the Charmilles neighbourhood
- Engagement with Geneva Canton (Department of Heritage and economic development)
- Conference on the heritage aspect of the ZIC site
- Ethnography workshop to collect stories, photos and objects for the living archive exhibition at MACO
- Collaboration with other actors of the ZIC to organise and produce the European Heritage Weekend
- Hands-on activities at the MACO on the ZIC site in the European Heritage weekend

→ The ethnography workshop conducted with the participants of the European Heritage weekend adapted to gather stories, object and photos for the living archive

→ Set up of a temporary and movable wall exhibition of the Living Archive at the MACO as a tool to engage actors on the future of the ZIC

Innovation space & social inclusion

- ✱ **Engagement with the public sector, the municipality of Geneva. Official kick-off of CENTRINNO**
- Engagement between local actors of the ZIC and MACO
- Meetings to consolidate a governance model and improvement of MACO Maker Space
- Obtained the license to operate the MACO Maker Space
- ✱ **Official inauguration of MACO Maker Space**
- Green Friday event as a gathering to strenghten collaboration with ZIC users
- Co-creation sessions for the external area layout of ZIC with local actors of the zone
- Survey about craftsmanship and skills with local stakeholders
- Continuation of the strategic role of mediation around the organisation of the MACO
- Regular meetings with the municipality to consolidate the partnership for the MACO
- ✱ **After some setback from the engagement of the local ZIC actors, an adapted strategy was created towards a joint local but also distributed model for the Fab City**
- "Shared governance" model implemented and improved at the MACO
- Co-organisation of the ZIC open day
- Geneva Fab City Camp I, with presentations and discussion tables on economic transition, local manufacturing and circular economy
- Collaboration with NEMA and the Municipality of Milano for inspiration
- Continuation of the strategic role of mediation around the organisations of the MACO
- Maintenance of the "shared governance" model at the MACO
- Regular meal gatherings with craftspeople from ZIC and MACO
- 2nd iteration of the Geneva Fab City Camp
- Round table and presentations with relevant actors during the Consortium Meeting

→ Integration and governance efforts to consolidate the MACO Hub

↕

→ General governance model, administrative and financial management of the MACO Hub

Learning ecosystems

- Engagement with technical schools, libraries and museums
- Co-development of a program with the Geneva Canton to promote professional reintegration
- Training workshops to promote skills exchange targeting intergeneration collaboration and migrant women
- Mapping of vocational training institutions
- Participation in External Hackathon activities for VT students
- Participation in a vocational training workshop help by ForPro (vocational training foundation)
- Collaboration to set up a programme to support makers and artisans
- Development of a detailed documentation of the process of the professional reintegration program
- Implementation of the program for professional reintegration with the Canton of Geneva
- Mapping training skills
- Participation in External Hackathon activities for VT students challenge owners
- Engagement with organization working on innovation start-ups and professionals
- Publication of the toolkit for the professional reintegration program
- ✱ **Sprint vocational training ForPro to develop a coherent new site/program**
- Residency for Fashion Designers

→ Opportunities for the creation of new hubs around the city of Geneva

→ Documentation of a programme for reintegration focused on craftsmanship and digital fabrication

SPRINT 1: M8-M14

Building the community and making the MACO visible and integrated to the Pilot Area - the ZIC - and the neighborhood

SPRINT 2: M19-M25

Communicating and disseminating CENTRINNO to promote awareness and mindset shift related to circular economy

SPRINT 3: M30-M36

Reinforcing the relations with the local ZIC actors and the neighborhood and boosting collaborations for the distributed Fab City Hub model

Legend for acronyms

MACO = Manufacture Collaborative
ZIC = Zone Industrielle de Charmilles
VT= Vocational Training GVA= Geneva

✱ Trigger moment for policy recommendation

✱ Tool development and application

CO-CREATING A HUB

My hub is your hub. A co-creation process with the Municipality led by the Geneva pilot team to keep an old industrial site up and running!

Offline
Setting

Craftspeoples, local manufacturers, policy makers
Target

Method
Format

Photo by Geneva pilot

What is it about?

Co-creating a Hub refers to the co-creation of La MACO (MAnufacture COllaborative), which is a collective of several associations with a shared goal of revitalising a former industrial area owned by the local Municipality.

The co-creation strategy implemented by La MACO consists of a series of actions and workshops aimed at designing the vision and governance of the local Fab City Hub (FCHs), as well as the spaces and functions of the building, with targeted audiences aligned to the objectives of different stakeholders. This approach involves working closely with the Municipality and relevant stakeholders in the industrial area, primarily craftspeople.

Story behind

Geneva Pilot worked closely with craftspeople to gain their trust and with the Municipality, the owner of the entire zone who played a crucial role in developing the Geneva FCHs, in line with its strategic plan for climate and circular economy.

Key steps

- Definition of the organising team, including facilitators
- Identification of the location
- Agreement on the type of community and target
- Follow up and share online communication
- Selection of the facilitation tools
- Identification of key speakers and the role of facilitators
- Alignment on the final programme among partners
- Space set up and logistic
- Analysis and sharing main outputs via email

Recommendations for future applications

- Promote transparency in the discussions and negotiations about the future of the hub
- Encourage communication about decisions made to prevent conflicts
- Keep building trust after the session for a solid partnership between the Municipality and the local stakeholders
- Create networks of local actors
- Develop awareness, acquire skills, and design a governance model
- Use the results to co-design the hub space, in alignment with the city development plans, if it is owned by the Municipality

DIGITAL CRAFTSMANSHIP TRAINING PROGRAMME

Digital tools for skill acquisition and industry adaptability

Offline
Setting

Unemployed people, craftspeople and makers
Target

VT programme
Format

Photo by Geneva pilot

What is it about?

Professional training for adults in digital craftsmanship is a valuable initiative aimed at equipping craftspeople with the skills needed to thrive in today's digital-centric job market.

This tool is designed to bridge the skills gap, enhance employability and contribute to the green and digital transition at the European level. In 4 to 6 months full-time participants learn a range of practical digital skills for woodworking, tailoring and electronics, including 2D and 3D modelling software and machine operation. The training is hands-on, with a focus on real-world projects, problem-solving, and creative thinking.

Story behind

Unemployed individuals in the Geneva region can access this program to acquire valuable skills that make them more competitive in the job market. In addition to the effort led by the local pilot, the programme development was possible thanks to the Regional Office for Unemployment which funds relevant programmes to facilitate professional reinsertion.

Key steps

- Researching and developing a needs assessment
- Engaging stakeholders
- Crafting a proposal for the training programs
- Securing funding and resources
- Planning the implementation and launch
- Monitoring progress, collecting data, and providing regular updates to the government
- Customising the offer of training programs adapting to evolving workforce needs

Recommendations for future applications

- Explore digital tools to enhance the quality and creativity of local manufacturing, while also saving costs, improving efficiency, and promoting sustainability
- Promoting training of artisans in digital tools can contribute to a higher resilience in adapt to changes in their industry and foster employability
- Explore a diverse representation of stakeholders, including artisans, vocational schools, technologists, to promote a dynamic environment
- Collaborate with the responsible Municipal Unemployed People Office to test new paths
- Ensure that traditional craftspeople feel included by adapting the language and ways of working, as they may be resistant to adopting new technologies and methods

Policy briefs

RESHAPING GENEVA'S INDUSTRIAL SPACES FOR PROMOTING LOCAL MANUFACTURING AND PUBLIC-PRIVATE PARTNERSHIPS

Circular Economy
Heritage
Vocational Training
Innovation Spaces
Social Inclusion

Related key concepts

Heritage value and innovation
Policy-making mindsets
Contingency and macro trends
Spatial Planning and Urban Development Frameworks
Regulation
Funding
Knowledge and Capacities

Areas of influence

Recommendations

- Building up expertise for cooperation development and adaptive reuse in ephemeral or abandoned old buildings
- Encouraging partnerships between urban planners, policymakers, designers, and researchers to integrate the adaptive reuse of such spaces into local development plans
- Engaging with local policy environments through shared events, cooperation with urban planning designers and researchers
- Implementing strategies promoting dialogue and shared decision-making among stakeholders involved in repurposing projects by ensuring equitable participation and consensus-building.
- Strengthening programs for reskilling and attracting people towards local and circular production, encouraging the development of curriculum tailored to the needs of evolving industries.
- Offering incentives to attract individuals toward reintegration programs, emphasizing the value of local production and circular economy principles

Practical case

The Collaborative Manufacture (MACO) within the Charmilles Industrial Zone (ZIC) was created during the timeframe of CENTRINNO's project. The CENTRINNO Geneva team acting as a liaison between makers, artisans, policymakers, social associations, and vocational training centers, supported the transformation of an abandoned industrial building into a hub for learning, experimentation, and a gateway to meaningful employment opportunities. The activities encompassed open workshops, programs for professional reintegration and dialogues with vocational training schools and public actors. It also built upon the existence of previous public private collaborations and innovative cooperative model, reclaiming and managing temporary abandoned spaces for creative and artistic activities.

The journey encountered challenges as MACO partners faced resistance within the local artisanal ecosystem and neighborhood. By cultivating collaborations, fostering dialogue, and emphasizing proximity, the pilot project succeeded in highlighting the shared value of preserving local manufacturing and learnt how to deepend its connection to the community. For instance, during the Geneva Fab City Camps 1 and 2, the local initiative engaged in dialogues to align visions and situate projects within a global policy framework, showcasing a forward-thinking local strategy for sustainable development. This commitment to sustainability was exemplified through Agenda 21, the Sustainable City Agency in Geneva from which MACO initiative has emerged. After four years of planning, the collaboration underscored the commitment to innovative solutions and community engagement in advancing sustainability goals while creating connections with the Canton of Geneva in the development of policy plans for regenerative futures.

MILAN

Situated in the heart of Milan, Porta Genova is a residential neighborhood with a population density of 8,214 individuals per square kilometer and a greenspace share of 12%, slightly surpassing the city's average. This area plays a crucial role in the circular economy, functioning as a hub for repair, reuse, and innovation.

Within Porta Genova lies the repurposed Ex-Ansaldo factory, formerly an electromechanical plant and industrial railway production site, now a thriving center for cultural, artistic, and creative projects. This historically significant building of 70,700 m2, which is currently owned by the municipality of Milan, has started to undergo a process of urban regeneration aimed at reinterpreting manufacturing and opening up to new forms of production and craftsmanship. The municipality has initiated programs to encourage entrepreneurship in digital manufacturing and innovative craftsmanship, with the goal of generating employment, revitalizing the suburbs, and fostering social cohesion.

City Population size	L	**Productive focus**	Fashion, design
Population density	Milan Porta Genova: 8,214 people/km2	**Partners**	Comune di Milano, Manifattura digitale in ex-Ansaldo rete di imprese - NEMA (Cariplo Factory, Make a Cube, BASE Milano, Opendot, Wemake)
Pilot scale	Neighborhood	**Website**	Cartography web

Figure 22. *Map of the Milan pilot area by Metabolic Insititute.*

Vision

To activate a collaborative network among local artisans, SMEs, and makers promoting open innovation, cultivating productive and technological culture, creating inclusive services to businesses and citizens, and implementing a neighborhood-focused circular approach, starting from the Tortona area and BASE Milano.

+100	+280	+10	+7210	+150
Cartography resources	Participants in CENTRINNO Schools	Living archive stories	Participants in public events	Active stakeholders in the community

Figure 23. *Milan Pilot Key Performance Indicators*

Map Engage Prototype Develop | Map Engage Prototype Develop | Map Engage Prototype Develop | Replicate

Circular Economy

- Collecting different cases in Milan and outside on circular economy
- Engagement with stakeholders experts in repairing, waste management
- Fab City Worskhop about material flow and identification of potential synergies
- Fab City Residency during the Milano Design Week 2021
- Round of discussion on the topic of production waste and the activation of circular processes
- Session for sharing results of the Residency Design Week in the Superforma
- Development of an interactive map on Kumu to allow better visualization of stakeholders
- Creation of working groups focused on circular textile and circularity at a neighborhood scale
- Development of prototypes and reflection on circular textile practices
- * * **Launch of the digital tool manifattura milano.it platform**
- Production of a circular tote bag reusing donated sheets
- Map of policy, ecosystem, skills, and places converged to drive sustainable innovation
- Engagement with Urban Economy Department, Air and Climate Department and AMAT
- Presentation of the first draft of Circular Economy Plan on fashion and design
- * **Milano Circolare Festival: laboratories, exhibitions, pitches of more than 80 organisations working on circular and local manufacturing**
- Call to action to think and create the Circular Economy Plan of the City of Milan

→ Draft a strategic plan for advancing the circular economy in fashion and design within Milan Municipality

→ Establishment of the platform Manifattura di Milano dedicated to craftsmanship, urban manufacturing and circular economy in the fashion and design sectors

Heritage

- Emotion Networking workshop applied at BASE to engage with actors of the neighborhood
- Documentaries display and round table on heritage and circularity
- Site visits in two major Milan neighbourhoods and collection of stories

→ Creation of activities to raise awareness around the textile and industrial heritage of the pilot area and its transformation

Innovation space & social inclusion

- Call for proposals to engage stakeholders to the Milan Fab City Camp
- Engagement with start-ups, companies, universities, research centers, associations, public and private bodies
- Kick off event: Milan Fab City Camp with panel discussions, workshops and networking sessions
- Development of networking sessions to foster collaboration between actors
- Engagement of the civil society and citizens to bring closer the topics of circular economy and heritage
- * **The pilot recovered the name of the exisiting programme Manifattura Milano**
- Kick off for a series of meetings with the community to explore future possibilities
- Engagement with politicians, local organizations, and businesses

→ Format of the events to be replicated focus on circular innovation and multistakeholder collaboration

→ Multi stakeholder collaboration model to create new design and products from recovered materials

Learning ecosystems

- Workshop on biomaterials in collaboration with Materiom
- Mapping new possibilities to develop vocational training combined with other Municipal activities
- Launch the Learning Journey 'Percorsi Urbani Circolari' by Manifattura Milano composed of 10 modules
- Percorsi Urbani Circolari Learning Journey: Module 1, 2 and 3
- Publication of the biomaterial's guide: Biomaterioteca
- Two residencies were organized at BASE on plastic recycling and unused textiles
- Engament with Business Schools and Universities
- Test of a two-week intensive programme focused on repairing
- 'Percorsi Urbani Circolari' Learning Journey: Modules 4, 5, 6, 7, 8, 9 and 10
- Launch of Atelier Creativi di Manifattura Urbana Circolare: 40-hour training on the topic of repair
- Launch of "Percorsi Circolari" a guide highlighting circular organisations exposing during Design Week 2023.

→ 'Percorsi Urbani Circolari' learning journey as a skill set required to adopt circular practices at the urban level

SPRINT 1: M8-M14

Building a network, fertilising the ground for new services.

SPRINT 2: M19-M25

Strengthening the community and testing actions

SPRINT 3: M30-M36

Consolidating policy, ecosystems, skills and places for local and circular economy

Legend for acronyms

AMAT - Milan's Agency for Mobility and Environment

* Trigger moment for policy recommendation
* Tool development and application

MILANO CIRCOLARE

An event format co-designed with your community

Photo by Milan pilot

Offline
Setting

Local makers, policy makers, citizens
Target

Event
Format

What is it about?

Milano Circolare is a replicable example for co-designing a city-scale event on circularity and production. Milano Circolare focuses on spotlighting diverse activities and enterprises in the realm of circular fashion and design. Beginning with a call for suggestions encompassing exhibitions, demonstrations, talks, and workshops, these submissions undergo through evaluation, shaping the event's program. This distinctive method not only amplifies the community's presence, but also nurtures its development while providing citizens with valuable insights into Milan's journey toward greater sustainability.

Story behind

The organisation of the Milano Circolare event, following two years of community development efforts, was a strategic point both for NEMA, a network aimed at the development of urban manufacturing in the metropolitan city of Milan, and the municipality representatives involved in the Milan pilot.

Key steps

- Community engagement
- Creation of a dedicated website for the event
- Collecting proposals for circular initiatives from the community and maintaining an open channel of communication
- Selection and refinement by evaluating the proposals
- Program planning
- Political outreach by inviting political representatives and other European cities
- Event execution
- Post-event engagement to maintain momentum with effective communication

Recommendations for future applications

- Include different formats for the participants such as exhibitions, demonstrations, and workshops in order to have more hands-on dimension and extended the event reach to include an external audience of citizens
- When collecting proposals from the community, keep an open communication to address any queries
- When the program relies heavily on local contributions, it requires flexibility to evolving content
- Use the event as an opportunity to unite the community under a common identity
- Ensure smooth event logistics and closely support stakeholders and speakers throughout
- After the event, share highlights, outcomes, and future plans to keep the community engaged and growing.

MANIFATTURA MILANO

A digital platform as a tool to co-design a local model of Fab City Hub

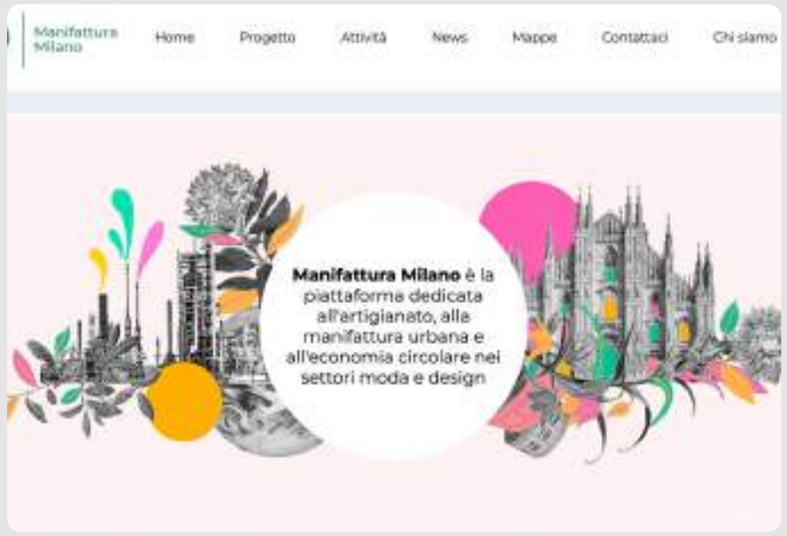


Photo by Milan pilot

Online
Setting

Local makers, policy makers, citizens
Target

Digital Platform
Format

What is it about?

Manifattura Milano is presented as an inspirational tool developed and implemented by the Milan pilot during CENTRINNO. Manifattura Milano has been designed and developed as a dedicated platform for artisanship, urban manufacturing, and the circular economy in the fashion and design sectors.
To join the community, the applicants should fill out a questionnaire describing the purposes and characteristics of their organisations or enterprises. In this way, the local pilot has a clearer idea of the applicants' needs and invites them to relevant online and/or in-person networking events and initiatives. Check out the platform here.

Story behind

The platform was launched after the Milano Fab City Camp, a significant first public event that served the pilot to launch its Fab City Hub's journey. The digital platform was a way to keep the attention from Fab City Camp participants and to start building a community around their needs.

Key steps

- Selection of the main focus of your digital platform
- Co-designing of the main wireframe of the page and code
- Drafting an editorial line for at least a year
- Hiring a dedicated person to be responsible of collecting and publishing the content
- Engaging the audience with an appropriate communication plan

Recommendations for future applications

- Create an innovative virtual space to discuss issues and co-design strategies for supporting local and circular manufacturing
- Disseminate community's activities in order to increase the pool of local businesses interested in circularity
- Provide access to resources and promote events and networking around circularity for different stakeholders
- A digital platform such as Manifattura Milano keeps track of all the different activities of the engaged community, promoting connections among different stakeholders, thus, the community will be more empowered.

ESTABLISHING A DIGITAL AND PHYSICAL COMMUNITY FOR LOCAL CIRCULAR MANUFACTURING IN THE CITY OF MILAN

Circular Economy
Heritage
Vocational Training
Innovation Spaces
Social Inclusion

Related key concepts

Heritage value and innovation
Policy-making mindsets
Contingency and macro trends
Spatial Planning and Urban Development Frameworks
Regulation
Funding
Knowledge and Capacities

Areas of influence

Recommendations

- Promoting circular practices through the implementation of incentive structures to encourage businesses and individuals to adopt sustainable ways of production.
- Launching campaigns to raise awareness and public support for circular economy policies.
- Fostering partnerships between the public and private sectors to create shared spaces or repurpose underutilized buildings
- Encouraging the provision of affordable, long-term spaces specifically allocated for local enterprises within the city by establishing designated zones or buildings where such activities can operate with reasonable rents and secure leases.
- Considering mechanisms where successful businesses in temporary locations can transition smoothly to permanent spaces preserving the established networks and communities they've built.

Practical case

Designed as an ecosystem that synergistically develops circular processes at the urban level, the Milan pilot repurposed the previous Manifattura Milano initiative into a platform that fosters craftsmanship, urban manufacturing, and circular economy practices within the fashion and design sectors.

In its digital format, the platform fosters collaboration among organizations by offering visibility through event promotion on its website and facilitating subscriptions to its newsletter. The platform also includes an interactive map showcasing all engaged stakeholders, creating a digital nexus for interaction. The community extends its reach through diverse physical events like co-design sessions, focus groups, and residencies, culminating in the highly successful Milano Circolare event, which happened in February 2023 with more than 3,000 visitors over two days.

The platform's significance transcends its functional role; it's perceived as a public asset, empowering civic engagement and reflecting CENTRINNO's commitment to placing citizens at the forefront of urban transformation efforts, by bridging visibility to manufacturers' needs. These needs include issues such as lack of affordable working spaces, and the disruption of the continuity of networking and community efforts when working on temporary solutions. Furthermore, it plays a pivotal role in conducting training sessions and fostering collective discussions on circularity at the grassroots level, contributing to the envisioning of potential Fab City Hubs tailored to the needs of local artisans and businesses.

PARIS

The 18th Arrondissement of Paris represents a diverse neighborhood that integrates cultural and industrial spaces. Despite being an active area with a population density of 32,024 people per square kilometer, it faces distinct challenges, including limited green space (4.6%), soil and air pollution, soil sealing, gentrification risk, and elevated unemployment rates. Operating within the framework of a circular city, the 18th Arrondissement serves various roles, such as a production center, loop closer, and an innovation and learning hub.

In the area, a renovated industrial and commercial building stands as an exemplar of 20th-century brutalist architecture, designated with the "Architecture Contemporaine Remarquable" status by the City of Paris. Owned by the City Council (RIVP), the structure encountered abandonment in the 2010s but has been revitalized, now housing co-working spaces in the basement and presenting intriguing possibilities for urban gardening and a revival of historical city gardening techniques.

City Population size	L	**Productive focus**	Urban food system
Population density	Paris 18th Arrondissement: 32,024 people/km2	**Partners**	Fab City Grand Paris, (WOMA, ARS Longa, Vergers Urbains), Volumes, Sony CSL
Pilot scale	Neighborhood	**Website**	Cartography web

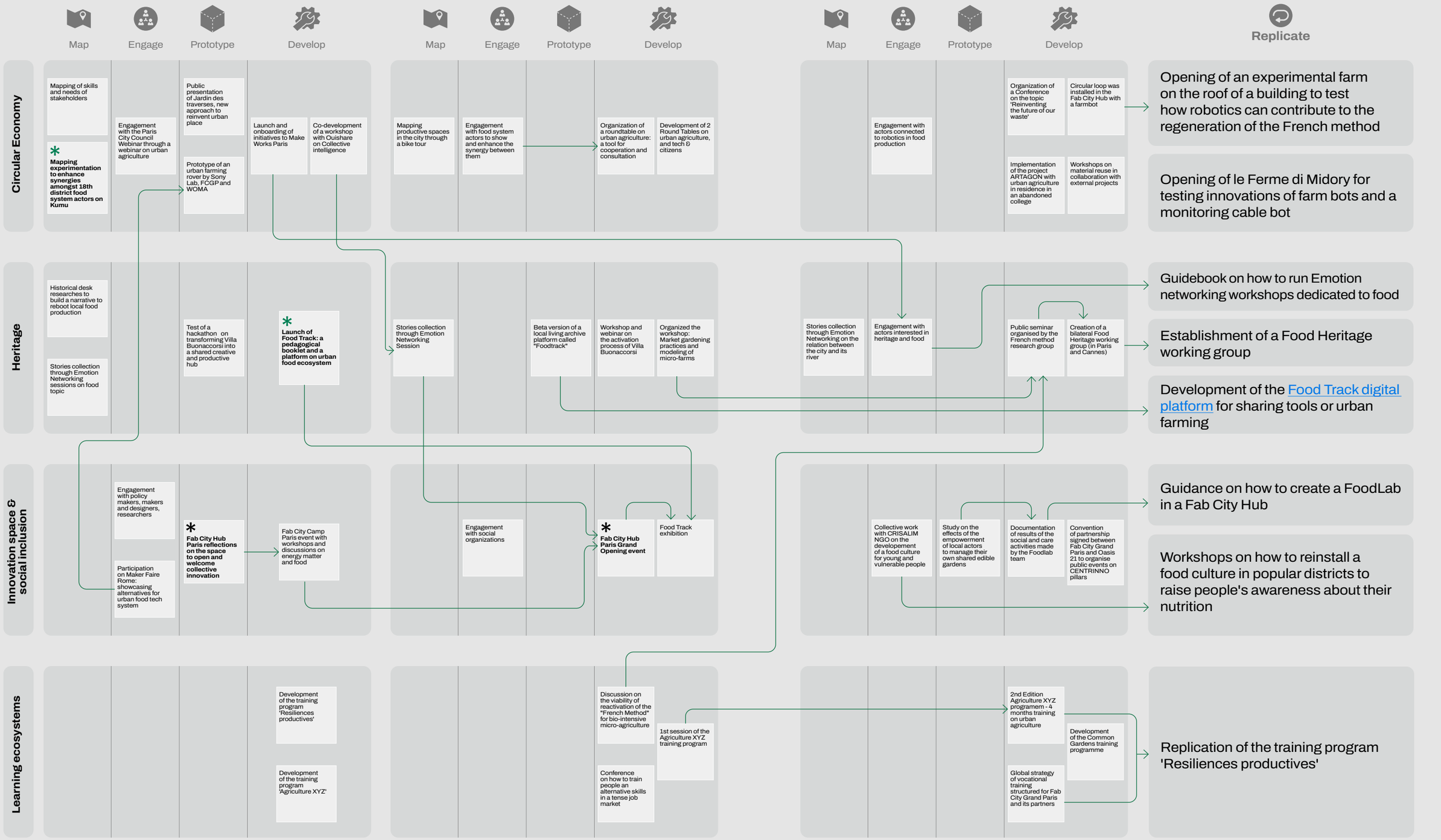
Figure 24. *Map of the Paris pilot area by Metabolic Institute*

Vision

To gather and to develop an alternative urban food system thanks to a rich historical and sociological heritage showing that it is both economically viable and environmentally friendly to grow food in the city and to hybridize past practical knowledge with cutting edge technologies.

+80	+160	30	+940	+170
Cartography resources	Participants in CENTRINNO Schools	Living archive stories	Participants in public events	Active stakeholders in the community

Figure 25. *Paris Pilot Key Performance Indicators*



SPRINT 1: M8-M14

Heritage and hubs, main keystones to ignite a resilient urban food system

SPRINT 2: M19-M25

Heritage and community building in the Parisian food ecosystem

SPRINT 3: M30-M36

The Fabcity market garden: a matter of neighbours and friendly robots

✻ Trigger moment for policy recommendation

✻ Tool development and application

KUMU FOR LEARNING ECOSYSTEMS

An open source mapping to turn your Hub into a Learning Ecosystem: a case study from Paris FCHs Team

Photo by Paris pilot

Online
Setting

Urban food actors, agricultural stakeholders
Target

Digital platform
Format

What is it about?

KUMU is an open source mapping tool that was used as a basis for collecting data about urban ecosystems by the 9 Fab City Hubs within the CENTRINNO Cartography activities. For Paris, the purpose was to map the actors of alternative food systems and their potential to support the creation of a learning ecosystem.

The Paris pilot required a comprehensive understanding of the skill sets of Fab City Grand Paris network and extended community. This insight was crucial, for example, for formulating a vocational training program, providing expertise or spaces for specific needs, and collaborating on calls for proposals.

Story behind

The Paris pilot encountered challenges in assessing the diverse skills and knowledge within its extensive and dispersed membership. To bolster its role as an active learning ecosystem, the Paris pilot decided to develop this tool to identify, quantify, and localise the skills, resources, and actors within its network's members.

Key steps

- Understanding the purpose and how KUMU works
- Testing and trying the tool and its customization
- Choosing a specific purpose for the ecosystem mapping
- Customising and developing the local tool pilot through a series of training sessions
- Organising promotional events in order to present the work done with Kumu

Recommendations for future applications

- Defining the purpose of the ecosystem mapping is crucial as it helps to gain a clear overview of the available skills and resources within a specific territory
- A digital tool that allow not only the identification of stakeholders but the connections among them is a good asset to support the implementation of physical FCHs as a distributed learning ecosystem
- Use the analysis to identify potential business opportunities, training programmes or distributed production places
- Publicly sharing the results can cultivate crucial partnerships for multidisciplinary collaborations and bolster local production efforts

FOOD TRACK

Uniting history, community, and innovation in urban agriculture

Photo by Paris pilot

Hybrid
Setting

Urban food actors, agricultural stakeholders
Target

Digital Platform
Format

What is it about?

The goal of Foodtrack, is to organise collective thinking about the heritage of the “French method” (urban agriculture techniques developed in the 19th century in Paris) for the development of current urban agriculture.

Foodtrack is both a historical archive, a digital community platform, a toolbox for urban market gardeners, and a reflection on the alternatives to produce food in an urban landscape.

The creation of this tool is based on the skills of the Paris pilot ecosystem and on scientific partnerships to create a French method research group (with historians, data scientists, urban farmers, and more). Check out the platform here.

Story behind

The goal of this tool is to raise awareness about the challenges of urban agriculture by showing the changes in the Paris region in the last 200 years and the disappearance of a rich heritage.
By showing the links between the know-how of the French method and current urban agriculture, the Paris pilot questions the replicability of a model that has proven itself beyond mass agribusiness.

Key steps

- Mapping the existing material and the state-of-the-art of past urban agriculture practices
- Working on how the platform presents this material
- Opening the platform for contributors to give feedback and improve its system

Recommendations for future applications

- Relying on scientific partnerships can be beneficial for creating or validating methods or frameworks
- After having the technology in place, start with a first circle of professionals that could create an interesting first ensemble of entries
- Design the platform in a way that its nature and the structure can be transferred to other topics
- Create an active community on the alternative urban food system by raising awareness and reconnecting the public with food issues

DEVELOPING A DISTRIBUTED CITY-LEVEL ECOSYSTEM OF PLATFORMS: TRAINING AND PUBLIC DEBATES ON SUSTAINABLE URBAN FOOD AND AGRICULTURE

Related key concepts	Areas of influence
	Heritage value and innovation
	Policy-making mindsets
Circular Economy	Contingency and macro trends
Heritage	Spatial Planning and Urban Development Frameworks
Vocational Training	Regulation
Innovation Spaces	**Funding**
Social Inclusion	**Knowledge and Capacities**

Recommendations

- Engaging a large spectrum of actors from the civil society, the third sectors and the involvement of public authorities
- Developing joint projects on distributed production, and vocational training courses on circular design and food production
- Demonstrating the sustainability of alternative economic models such as shared professional kitchen and complementary infrastructures to help companies to design, prototype and test their ideas.
- Getting financial accessibility of real estate market through public or private partnerships considering temporary use convention
- Ensuring support by local authorities in the provision of resources for educational programs, and guidance for the identification of financing schemes.
- Promoting the creation of interconnected sites or hubs that function as part of a larger ecosystem
- Encouraging hubs to develop strong identities centred around social economy and ecological transition

Practical case

The establishment of the Fab City Hub in Paris's North-east district, guided by CENTRINNO principles, presented significant challenges initially. However, the initiative successfully attracted creative and sustainable economy professionals, leveraging extensive networks and support from the City of Paris. Oasis 21, functioning as a cooperative space for ecological and social transition organizations, played a crucial role in community integration, fostering partnerships with local associations and hosting diverse events.

To ensure economic sustainability, the hub prioritized coworking spaces, collaborated with training programs, and introduced a Foodlab and small food-related businesses, enriching its core values. Integrated into a larger ecosystem led by Oasis 21 across three interconnected sites, the hub promoted cooperation and participative governance, strengthening a collective commitment to sustainability. In collaboration with its partners, the local team excelled in forging a robust identity centered on the social economy and ecological transition, uniting like-minded members and residents. This concerted effort has amplified knowledge sharing within the community, fostering a collective commitment to shared values. As a consequence, the Fab City Hub Paris strategically implemented an animation strategy, focusing on key themes such as urban agriculture, circular economy, and DIY (do it yourself) initiatives. Despite challenges, strategic measures and collaborative efforts have transformed the Paris Fab City Hub into a symbol of sustainable growth, uniting diverse stakeholders and nurturing a shared vision of a more sustainable future.

TALLINN

Kopli, a subdistrict located in northern Tallinn, bears historical and industrial significance, tracing its origins back to the early 20th century when it served as a Russian shipyard. Positioned on the Kopli peninsula with a population density of 3,472 (Pohja Tallinn) and a greenspace share of 12.5%, the Kopli district plays a vital role as both a production center and loop closer within the circular city framework. The establishment of the Russian Empire's primary naval base in Kopli sparked significant architectural revitalization, a trend that persisted from the 1910s to the 1930s. This meticulously planned living environment included essential amenities such as schools, churches, community centers, hospitals, canteens, shops, post offices, fire stations, and more. Noteworthy among these structures is Kopli 93, an Art Deco-style building erected in 1936. Initially serving as a community and cultural center, a military sailors' club, and an educational facility, it now holds heritage status, being repurposed as an innovative hub with the mission of revitalizing traditional skills, local food production methods, and common-based peer production.

City Population size	S	**Productive focus**	Traditional skills, educational community focus
Population density	Tallinn Pohja-Tallinn: 3,472 people/km2	**Partners**	TalTech University of Tallinn, City of Tallinn
Pilot scale	Neighborhood	**Website**	Cartography web: https://www.CENTRINNO-cartography.org/tallinn

Figure 26. *Map of the Tallinn pilot area by Metabolic Institute*

Vision

To valorise and upgrade traditional artisan skills by opening a new physical space where the community comes together to experiment towards circular production while empowering the resilience and long term self-sufficiency of local makers.

+20	+540	20	+12.790	+30
Cartography resources	Participants in CENTRINNO Schools	Living archive stories	Participants in public events	Active stakeholders in the community

Figure 27. *Tallinn Pilot Key Performance Indicators*

WORLD CAFÉ

Debate, switch, share and repeat. A method to facilitate inclusive debates by Tallinn

Photo by Tallin pilot

Online
Setting

Urban food actors, agricultural stakeholders
Target

Digital platform
Format

What is it about?

World Café Community Meeting is a tool that was greatly inspired by the original World Café method that is used for hosting large group dialogue. In the Fab City Hub context in Tallinn, the original tool was modified to support community relationships and decision-making. In a community that prioritises reaching a consensus on an important matter, all voices must be heard.
The World Café Community Meeting helps to discuss potential solutions and make decisions in a large group efficiently.

Story behind

Organizing numerous debates using the World Cafe Methods session empowered the Tallinn pilot to establish an inclusive community. The goal was to enhance collaboration, align the needs and vision of both the community and the municipality, and improve the capacity for self-organization and decision-making. This initiative successfully navigated differences in languages, backgrounds, and beliefs.

Key steps

- Identifying the right location
- Sending invitation to the community members
- Defining topics for discussion and the purpose of the session
- Preparing the space and welcoming participants
- Developing the activity
- Summarising and sharing the results
- Implementing the decision made

Recommendations for future applications

- The tool could start with a discussion on a more easy and fun note and follow with more difficult or serious ones.
- Let the people warm up and get to know each other first, then make decisions afterwards.
- The topics for the discussion rounds can range from getting to know each other, sharing knowledge, figuring out strategies or making decisions. This tool should be used creatively.
- Change the topic for discussion and share the results of the discussion more often. However, if the group gets larger than 30 people, a greater number of rounds for the same discussion topics might be necessary.

A CO-DESIGN TOOL FOR COMMUNITY VALUES AND PRINCIPLES CREATION

Strengthening collaboration and common goals

Photo by Tallin pilot

Hybrid
Setting

Urban food actors, agricultural stakeholders
Target

Digital Platform
Format

What is it about?

This co-design tool helps to map the values of a community and create a shared value system. It is necessary to have a common understanding of the values to apply in a community in order to achieve its goals.

Collectively addressing the value system will help to understand both oneself and other members of the community. As a result, the communities' sense of mission and belonging improve. In this way, collectively defined, interrelated, and clearly mapped values are necessary to give meaning to community events. The values serve the community to create strategies, take decisions, plan, and organise community activities.

Story behind

The Tallinn pilot saw the need to bring the community together long-term and set healthy boundaries for the future of the Kopli 93 community makerspace.
They used the co-design tool to map the values and principles that make Kopli 93 what it is today so that any future visitor can become familiar with the principles and apply them.

Key steps

- Introduction, explaining the purpose of the workshop, and setting the agenda
- Setting personal expectations
- Writing and presenting personal values
- Mapping and grouping common values
- Titling common value groups
- Generating operating principles based on the value system
- Summarising and mapping the journey

Recommendations for future applications

- The co-design values should be overlooked and updated by the community on a regular basis.
- Enable clear self-expression for participants by providing an inspiring and safe space for discussion.
- The values and principles need to be put somewhere visible and used for the long term.
- The tool is useful when the community has a common space where it is more difficult to divide responsibilities and ownership of areas.

ENHANCEMENT OF PARTICIPATORY BUDGETING FOR COMMUNITY EMPOWERMENT IN TALLINN

Related key concepts

Circular Economy
Heritage
Vocational Training
Innovation Spaces
Social Inclusion

Areas of influence

Heritage value and innovation
Policy-making mindsets
Contingency and macro trends
Spatial Planning and Urban Development Frameworks
Regulation
Funding
Knowledge and Capacities

Recommendations

- Creating a platform for the emergence of ideas from communities, ensuring representation and sustainability of projects' realisation
- Developing initiatives aimed at enhancing citizen awareness regarding local governance procedures and decision-making processes.
- Making the residents think and act together, increasing coherency and a sense of community
- Encouraging a wider range of project ideas by diversifying the types of initiatives eligible for funding
- Implementing robust evaluation mechanisms to assess the impact and effectiveness of funded projects.
- Establishing platforms for sharing success stories, best practices, and lessons learned from the participatory budgeting program.

Practical case

While revitalising an abandoned cultural house in Northern Tallinn transforming it into a functioning community hub (Kopli 93), the pilot implemented a new mechanism for participatory budgeting. It aimed to empower residents, granting them agency to propose innovative projects that could be financed by the city through the following process:
An expert committee evaluates the feasibility of the ideas submitted and the best ones are introduced, discussed, and put up for public vote. In accordance with the conditions of the participatory budget, each city district has the option to carry out one project a year, which the residents of the city districts have submitted, and which has gained the most votes. The created funds should be dedicated solely to public facilities, open and accessible to all.

The project's success wasn't just in its execution but also in its influence. It sparked a citywide wave of support for community activities. Other districts followed suit, enhancing communication strategies to facilitate broader participation in the participatory budgeting process, aiming to maximize the submission of ideas and ensure a majority engagement in voting. The success of Tallinn's model calls upon other cities worldwide to adopt similar approaches, fostering inclusive governance and empowering communities to co-create public infrastructure spaces.

SPRINT 1: M8-M14

Building a foundation for the hub: opening the discussion, activation of local residents and stakeholders

SPRINT 2: M19-M25

Building a thriving Fab City Hub: opening Kopli 93 for the wider public, building a self-organised community, and strengthening the circular economy stakeholders network

SPRINT 3: M30-M36

Turning Kopli 93 into a platform for local resilience and self-sufficiency

Legend for acronyms

FCF: Fab City Foundation

* Trigger moment for policy recommendation
* Tool development and application

ZAGREB

Sesvete is the largest area in the city of Zagreb and is essentially residential, with a population density of 3,368 people per square kilometer and a meager 3.1% of green spaces. The neighborhood faces several distinct challenges, such as limited green spaces, even with numerous vacant factory buildings, as well as issues related to the presence of asbestos in former factories and illegal waste disposal.

In Sesvete, the abandoned Sljeme is a once-thriving former meat factory and pig farm that played a significant role in the Balkan meat industry for over a century. However, in just a decade, what took more than a century to establish has been largely dismantled, mainly due to the turbulent transition from a socialist system to a market economy in the mid-90s. Irregular privatizations, mismanagement, private interests and corruption eventually led to bankruptcy in 2006. Since 2017, the Sljeme complex has been owned by the municipality of Zagreb. Despite having a history of many transformations, the site presents an ideal opportunity for the development of the city center, standing out for being well connected to the rail network and future road networks, and for having a high potential for regeneration and repurpose.

City Population size	M	**Productive focus**	Digital technology and artisanship
Population density	Zagreb Sesvete: 3,368 people/km2	**Partners**	Fab Lab Zagreb, University of Zagreb
Pilot scale	Neighborhood	**Website**	Cartography web

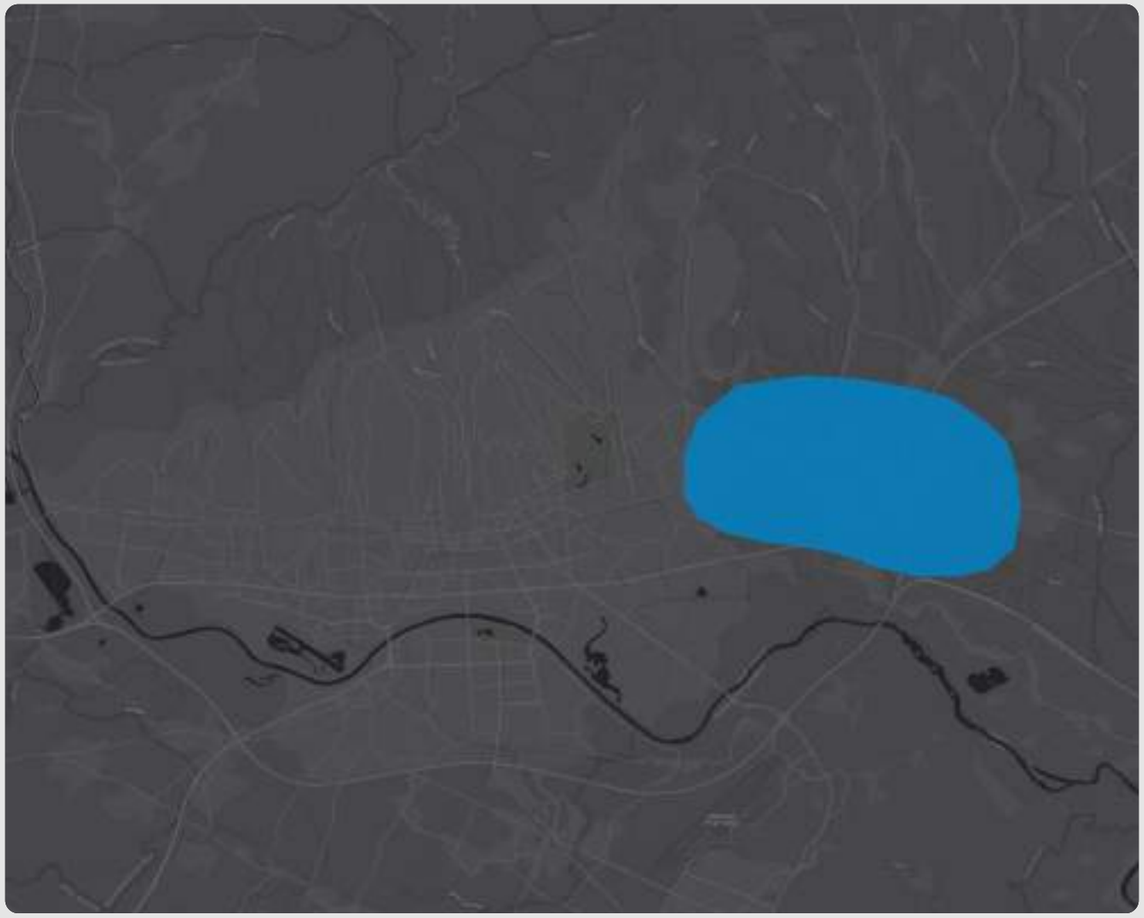


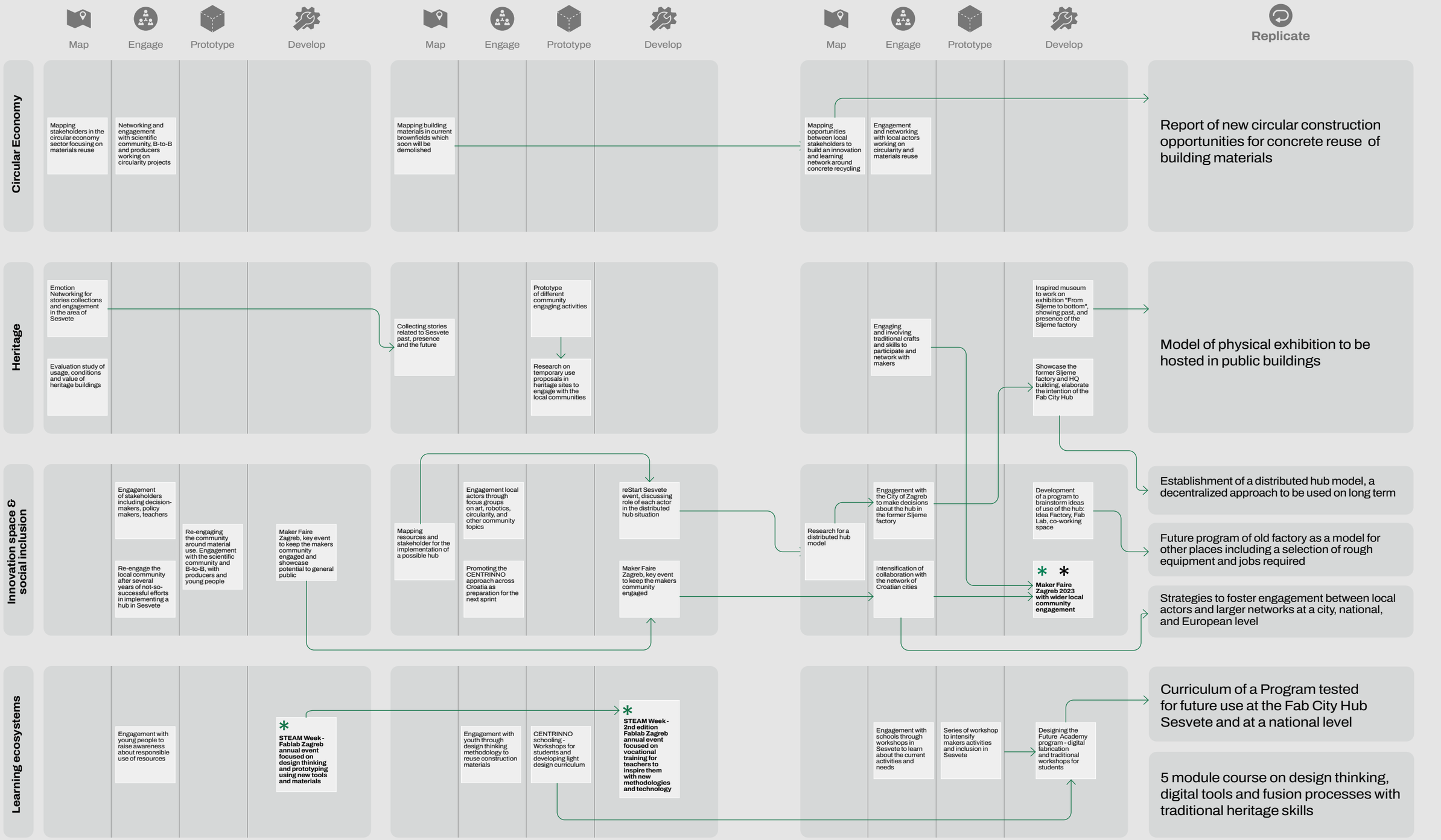
Figure 28. *Map of the Zagreb pilot area by Metabolic Insititute.*

Mision

To establish a community-driven organisation committed to actively participating in the urban regeneration of the former meat factory in the Sesvete area, with the aim of serving as a source of inspiration for the transformation of similar brownfields across Croatia.

+40	+440	+10	3750	+40
Cartography resources	Participants in CENTRINNO Schools	Living archive stories	Participants in public events	Active stakeholders in the community

Figure 29. *Zagreb Pilot Key Performance Indicators*



SPRINT 1: M8-M14

Inclusive community: CENTRINNO open day or HUB_S Kick-off

SPRINT 2: M19-M25

Entrepreneurial Mindset Shift

SPRINT 3: M30-M36

Digital transformation

Legend for acronyms

STEAM= science, technology, engineering, arts and mathematics

* Trigger moment for policy recommendation

* Tool development and application

MAKER FAIRE ZAGREB

A community organised event format to launch your next crazy DIY innovation

Offline
Setting

Makers, makerspaces, fab labs, general public
Target

Event
Format

Photo by Zagreb pilot

What is it about?

Maker Faire is a community-organised event that celebrates the DIY spirit of making and innovation. This format offers great flexibility regarding scale, duration of activities, and the types of public participation it accommodates. One of the main objectives is to organise a significant event that could serve to build and/or strengthen a community of makers. This is done through hands-on activities, interactive projects, and workshops showcasing various projects to motivate and inspire participants.

Story behind

The Zagreb pilot has organised the Maker Faire event since 2019 as a powerful tool to build and engage a strong and diversified community of makers for the local Fab City Hub (FCHs) as well as to foster a culture of creativity and innovation among a broader public.

Key steps

- Preparation: before the event, organisers need to liaise with key actors and interesting maker projects, consider the logistics, and implement a communication campaign.
- Execution of the event
- Reporting: after the event, organisers evaluate the information collected from participants and use it to improve future events

Recommendations for future applications

- Provide a space and give visibility to the local makers' community working on innovative projects related to the circular economy and upcycling
- Promote activities that foster connections among multidisciplinary actors (students, creatives, and SMEs)
- Use the event for attracting future FCHs's stakeholders and creating opportunities for partnerships in new projects
- Consider the use of temporary spaces, such as heritage building or small and medium-sized enterprises offices to showcase projects and network with potential partners

STEAM WEEK

New and innovative ways of learning through a network of facilitators

Offline
Setting

Facilitators, students, universities and fab labs
Target

VT programme
Format

Photo by Zagreb pilot

What is it about?

STEAM week is a training for trainers with impactful hands-on activities. It is not about expensive equipment but more about methodology, which can be replicated within the school classes without significant cost.

STEAM week activities are focused on new and innovative ways of learning. It consists of inspirational presentations and lectures followed by hands-on activities. The Zagreb pilot has been working with more than 100 schools, and their base consists of over 800 facilitators.

Story behind

The Zagreb pilot has over the years worked closely with education organisations on all levels (kindergarten, schools, and universities) to establish a network of facilitators who are interested in exploring new ways of learning.

STEAM week was launched in response to the difficulty of the Zagreb pilot to meet the high demand for workshops with kids received from the schools. Therefore, they decided to organise, at least once a year, activities to train teachers and other educational facilitators through affordable and accessible workshops, aimed at replicating the methodologies in schools.

Recommendations for future applications

- Starting with a limited number of schools and engaging a few teachers initially is recommended to gradually develop the school network, rather than necessitating a large network from the outset.
- It could be highly beneficial to bring international facilitators with activities that are new to your own educational system and also involve various sectors, from biology and chemistry, to physics and technology fused as much as possible with an artistic approach.

ADVOCATING FOR A PHYSICAL HUB FOR MAKERS IN THE URBAN CONTEXT OF ZAGREB

Related key concepts

Circular Economy
Heritage
Vocational Training
Innovation Spaces
Social Inclusion

Areas of influence

Heritage value and innovation
Policy-making mindsets
Contingency and macro trends
Spatial Planning and Urban Development Frameworks
Regulation
Funding
Knowledge and Capacities

Recommendations

- Cultivating enduring relationships with public bodies, emphasizing the long-term benefits and community impact of projects such as Fab City Hubs
- Showcasing the potential of a distributed network capabilities through local events and strong partnerships
- Facilitating national and international synergies to act as a catalyst of good practices, attract glocally (global and local) cooperation and foster mutual learning
- Designing and sharing viable and inspiring pathways for old industrial buildings at the intersection between urban mining, museum of stories and place for learning and prototyping
- Empowering community ownership implementing strategies for people to be able to run Fab City Hub's operations in the future

Practical case

The initiative in Sesvete to convert an abandoned meat factory into a Fab City Hub exemplifies a collaborative effort between Fablab Zagreb and the Faculty of Architecture. However, encountering challenges in securing access to the location prompted the exploration of various strategies to advance the project.
To overcome obstacles, the team engaged the community in co-creating activities aimed at reimagining the potential uses of the factory. Initiatives like Urban Mining Cartography and the Living Archive Stories were born from these collaborative efforts. Moreover, community engagement was nurtured through extensive communication and project exposure across borders. Events such as Maker Faire Zagreb, STEAM Day/Week, and ReSTART Sesvete were pivotal in fostering connections from neighborhoods to cities and even across countries.

Recognizing the strength of distributed networks, the team emphasized their value in establishing a physical hub while leveraging partnerships with distributed entities. This strategy ensured resilience in both current and future scenarios. Despite hurdles, the team remained resolute, actively seeking new funding avenues and forging partnerships that align with evolving policies.

6.

VOICES FOR THE FUTURE(S) OF REGENERATIVE NEIGHBORHOODS

POLICY ADVOCACY FOR EU, LOCAL POLICYMAKERS, AND FAB CITY HUBS

The future of regenerative neighborhoods and cities stands at the forefront of sustainable urban development. It embodies the vision of vibrant communities thriving in symbiosis with their surroundings, embracing diverse voices and perspectives, adopting circular practices for knowledge exchange and local production, and valorizing their unique local identity and heritage.

During the CENTRINNO project, numerous methodologies and micro missions were implemented to devise and showcase strategies, approaches, and solutions for revitalizing industrial historic sites into community-driven innovation hubs. These efforts aimed to address ecological challenges, foster a diverse, inclusive, and innovative urban economy, and leverage heritage as a catalyst for both innovation and social inclusion.

In this report, we delve into a series of policy recommendations that emerged from the knowledge gained in nine different European territories as inspirations to propel this vision into reality. Drawing upon statements provided by each CENTRINNO pilot team,, these recommendations converge on a shared goal: **advocating for a transformative shift towards regenerative urban landscapes that nurture resilience and circularity, while emphasizing local strengths.**

Working within the bioregion, city or neighborhood contexts offers ample opportunity to enact substantial change on a local scale. Nonetheless, it's evident that the potential for a more profound impact exists when these principles and messages are disseminated more broadly, facilitating the necessary systemic change across the EU and beyond.

As we navigate the complex interconnections between global directives, local strategies, and innovation ecosystems, CENTRINNO project shares 9 main categories of policy guidelines outlining what the **European Union, local policymakers**, and (existing or upcoming) **Fab City Hubs** can do in the next few years to support cities towards regenerative urban models.

1. THE EUROPEAN UNION SHOULD PRIORITIZE COMPREHENSIVE SUPPORT, INCLUDING **FUNDING, RESEARCH OPPORTUNITIES**, AND POLICY INITIATIVES, TO BOLSTER SUSTAINABLE URBAN DEVELOPMENT WHILE **NURTURING DIVERSE AND RESILIENT COMMUNITIES** ACROSS TERRITORIES.

Funding Support

- The EU should allocate structural and investment funding opportunities for bottom-up initiatives that focus on re-localizing production on the city scale, combining the creative sector with local manufactures.
- The EU should continue to provide long-term funding for action research projects
- The EU should create more financial, regulatory and infrastructure incentives for local community creation and commons-based community hubs, fostering social networks, local production, and resilience.

Research & Education

- The EU should promote investigation initiatives based on emerging challenges to transform urban landscapes through design to match with the unprecedented need for a fairer and greener future.
- The EU should advocate for EU-level collaborations among vocational training schools to enhance education quality and reputation, fostering trans-European partnerships for improved vocational education standards.
- The EU should launch initiatives facilitating knowledge sharing between cities to manage urbanization while maintaining diversity with room for different income groups and types of businesses.

Circular Economy & Sustainable Urban Development

- The EU should promote the widespread adoption of circular economy practices, such as waste reduction strategies, product lifecycle extensions, digital solutions, and circular design principles offering scientific evaluation methods to assess their effectiveness.
- The EU should articulate specific long-term strategies for sustainable urban development. This involves actively endorsing and providing tangible support for bottom-up initiatives to foster resilient urban communities through policy alignment, data and research support, and seed funding for pilot projects.
- The EU should support initiatives that promote cultural heritage and its transformation instead of demolition.

2. LOCAL POLICY MAKERS SHOULD SPEARHEAD A COMPREHENSIVE STRATEGY THAT E**MBRACES HERITAGE PRESERVATION, MULTI STAKEHOLDER COLLABORATION, AND CIRCULAR ECONOMY PRINCIPLES** TO FOSTER SUSTAINABLE URBAN DEVELOPMENT IN CITIES.

Infrastructure & heritage preservation

- Local Policy Makers should facilitate the transformation of reclaimed industrial heritage buildings into sustainable creative hubs accessible to the community, ensuring city planning regulations and zoning laws account for space requirements
- Local Policy Makers should focus on preserving industrial heritage buildings for creative purposes, integrating working spaces to maintain diversity in economy businesses, and offering flexibility within urban development plans.
- Local Policy Makers should allocate space within local community buildings for grassroots initiatives, establishing a regulatory framework to implement European best practices around innovation and creative initiatives within the local context.

Stakeholder engagement & networking

- Local Policy Makers should involve and engage local stakeholders in development plans, foster the creation of local networks to enhance the resilience of small businesses, and encourage trustworthy collaborations between makerspaces and schools to promote vocational training and creativity among children.
- Local Policy Makers should invest effort in researching and fostering horizontal collaboration with existing local actors engaged in sustainable development (e.g. universities, civil society, real estate, grassroots organizations), fostering inclusive and resilient partnerships through bottom-up project approaches.
- Local Policy Makers should support networking opportunities of Fab City hubs by encouraging active participation of citizens in training programs and launching campaigns to raise awareness about the benefits of these structures among the local community.

Circular Economy Planning and coherent long-term strategy

- Local Policy Makers should conduct meticulous area-wise assessments to understand the specific needs of makers and their requirements for circular transitions. Emphasize the importance of contextualizing challenges faced by makers rather than employing citywide policies that might generalize issues.
- Local Policy Makers should develop a local plan for circular economy initiatives, involving stakeholders, mapping organizations' activities and needs, and creating an evaluation matrix. Maintain a long-term strategic approach to urban social model transition, avoiding abrupt changes based on short-term events.

3. FAB CITY HUBS SHOULD FUNCTION AS **CATALYSTS FOR LOCAL ECOSYSTEMS**, FOSTERING SYNERGIES AMONG CIRCULAR ECONOMY INITIATIVES, SOCIAL INCLUSION ENDEAVORS, AND LOCAL PRODUCTION NETWORKS.

Ecosystem Facilitation & Synergy Identification

- Fab City Hubs should serve as facilitators and connectors within the local ecosystem, identifying synergies between actors involved in circular economy, social inclusion, and local production initiatives.
- Fab City Hubs should involve relevant local stakeholders, identify their needs, and initiate collaborations with local schools through workshops targeting diverse groups, and fostering a diverse user base.

Emphasis on Local Strengths & Networking

- Fab City Hubs should focus on regional, national, and neighbourhood strengths, building connections, and being open to experimenting with new ideas and approaches.
- Fab City Hubs should forge strong connections by working closely with local producers, create¡ing community, and giveing visibility to their ongoing activities. Simultaneously, these hubs should establish a community presence and maintain extensive networks, both locally and internationally, to enhance collaboration and knowledge exchange.
- Fab City Hubs should keep advocating for local production and change, emphasizing the importance of consistently communicating these narratives to reach a broader audience.

Promotion of Circular Economy & Multidisciplinary Approach

- Fab City Hubs should promote circular economy awareness through community-oriented activities such as open workshops, educational programs, collaborative projects and interactive.
- Fab City Hubs should maintain a continuous mindset of openness and cultivate holistic approach and multidisciplinary expertise to adapt to evolving dynamics within the community and surroundings.
- Fab City Hubs should develop sustainable models, experiment with commons-based and social enterprise business models, and create value through complementary infrastructures for testing and innovation.

7.

CONCLUSIVE WORDS

This document offers a comprehensive analysis of the CENTRINNO best practices,translated into blueprints for wider applicability, shedding light on the transformation of industrial heritage zones into regenerative neighborhoods across nine diverse European cities.

From the project's infrastructure dimension, the report delves into the report delves into an strategic overview for the replicability of the Fab City Hub Toolkit and the other CENTRINNO platforms, including Cartography, Living Archive, CENTRINNO Schools, and Network. This in-depth exploration not only explores into their singular objectives but also includes their creation processes, offering insights on how to effectively navigate through them from different perspectives, and highlighting their interconnectedness with other CENTRINNO key concepts.

Shifting to the pilot city level analysis, the blueprints presented for each pilot city go beyond outlines, encompassing their overarching missions, successfully achieved indicators, transformative journeys, a selection of tools, and potential influences for new policy proposals. Based on concrete cases and tools, the analysis includes operational steps for re-adaptation, providing tangible guidance for implementation. Additionally, each pilot blueprint serves as a repository of valuable lessons learned, culminating in policy guidelines derived from real-world experiences.

CENTRINNO, in its advocacy, emphasizes a clear understanding of the environmental and urban challenges intrinsic to regenerating industrial historic sites, underscoring the vital role of citizen participation. By valuing and embracing individual narratives, CENTRINNO aims to collaboratively envision the future of our cities, understanding that these personal stories play a pivotal role in shaping transformative solutions.

The document strives to empower stakeholders with a holistic understanding of the tools and platforms from the CENTRINNO project experience, as well as the application of them and other methodologies in real-world scenarios, reinforcing the potential for their impactful integration into urban regenerative practices.

In moving towards actionable steps, we call upon the enablers of socio-ecological transitions, people evolving in the policy making environment, people part of local community initiatives or innovation hubs, or those interested in the Fab City ecosystem to actively engage with the insights and tools developed in the last three years by the innovative CENTRINNO partners. We invite readers to collaborate and translate these findings into tangible actions, working together to implement CENTRINNO's best practices in your own urban development initiatives. By fostering partnerships, sharing knowledge, and embracing innovation, we can collectively contribute to the development of regenerative neighborhoods across diverse territories in Europe and beyond.

Join us in shaping regenerative urban futures and making a positive impact on our communities.

Together, we can turn these blueprints into transformative realities.

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CENTRINNO pilot partners: Design Society - DDC, Departament D'educació - Generalitat De Catalunya, Fab Lab Barcelona/ Institut D'arquitectura Avançada De Catalunya, Fab City Grand Paris, Fablab Zagreb, Haskoli Islands - HI, Kobenhavns Kommune, Manifattura Digitale In Ex Ansaldo Rete Di Imprese, Poblenou Urban District, Sony Europe, Stichting Hout- En Meubileringscollege - HMC, Stichting Pakhuis De Zwijger, Sveuciliste U Zagrebu Arhitektonski Fakultet - UOZ, Textilmiostoo Islands Og Pekkingarsetur A Blonduosi - ITC

Reviewers: Comune Di Milano, Waag Futurelab

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Geneva

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