



Urban Manufacturing - Stimulating Innovation Through Collaborative Maker Spaces



LISBON ACTION PLAN

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PART I – GENERAL INFORMATION

Project:

Urban Manufacturing - Stimulating Innovation Through Collaborative Maker Spaces

<https://www.interregeurope.eu/urbanm/>

Partner organisations concerned:

Lead Partner - Birmingham City University

Other partner organizations involved:

Lisbon City Council

Birmingham City Council

Fomento San Sebastian - Economic Development Agency

Lazio Region

BSC (Business Support Centre Lda) Kranj

City of Zagreb

Bratislava Municipality

Vilnius City Administration

Country:

Portugal

NUTS2 Region:

Área Metropolitana de Lisboa

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PART II – POLICY CONTEXT

The Action Plan aims to impact	X	Investment for Growth and Jobs programme
		European Territorial Cooperation programme
		Other regional development policy instrument

Name of the policy instrument addressed:

Lisbon Regional Operational Programme 2014-2020 (Programa Operacional Regional de Lisboa 2014-2020) and future *Lisbon Regional Operational Programme 2021-2027*.

<https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/policy-document/lisbon%E2%80%99s-regional-operational-programme-2014-2020>

Further details on the policy context and the way the action plan should contribute to improve the policy instrument:

This action plan targets, in particular, Priority Investment 1b of the Regional Operational Programme (ROP), defined as *Promotion of Business Investment in R&D; development of connections and synergies between companies, research & development centres and public universities*. This ROP provides support to development of new products and services, technology transfer, social innovation, eco-innovation, applications of public interest, demand stimulus, networking, clusters and open innovation through intelligent specialisation, technology applied research, pilots, early-validation actions, advanced capacities of production and first production. But such support is conditioned by prior demonstration of feasibility of projects, sustainability of promoters and demonstration of economic impact, which are difficult to satisfy by many agents in makers/makerspaces ecosystem.

To favour Lisbon's Collaborative Making Ecosystem creation and expansion, these instruments should be more adapted to support collaborative activities. At least in the 2021-2027 period, if not still in current ROP Lisbon 2020, the concept of entrepreneur, and of collective actions, should be more clearly adapted to this kind of activities – that are not necessarily real businesses (although some might be it, and new business opportunities emerge from collaborative dynamics).

PART III – ACTION PLAN

1. Lisbon, a dynamic creative and innovative ecosystem

Today, Lisbon, as a European capital, has a developed ecosystem that is broad and layered, covering education, experimentation, making and incubation. It's booming with a thriving entrepreneurial mind-set, that fosters a dynamic growing creative and innovative ecosystem.

Although the maker movement with its actors is recognisably one of the biggest moving forces of this ecosystem there is very little evidence of programs aimed to help makers achieve sustainability.

With that in mind several ideas start to emerge as a mean to improve the situation, taking special advantage of easier access to new technologies like additive prototyping processes or open source resources. Manufacturing on demand, customisation, e-commerce and new places to sell are a few of these ideas that will further evolve into collaborative actions towards an interconnected manufacturing ecosystem, as proposed in the current action plan.

2. Why Urban_M in Lisbon, why Lisbon in Urban_M?

In such a context, it is important to reflect in ways to give consistency to this ecosystem. Creativity and cross-innovation may be a *state of mind*, may be good theoretical concepts, but can also be something tangible. That is why a project around makers and makerspaces is an exceptional idea to implement in Lisbon. A project with all the ingredients: collaborative, project driven that leads with innovation and it is material. After all, as it is said in the *rationale* of Urban_M, “collaborative makerspaces take many forms, but common to all is the idea of producing physical objects through cooperation”. And this is one major reason for the participation of Lisbon in the [Urban_M](#) project.

As we were able to verify during the course of this program, the benefits of working in a collaborative way (in any kind of spaces: Fab Labs, Open Innovation Centres, Living Labs and Cross-Sector Incubators) are numerous and may range from the capacity to create new and improved products to the enhanced sense of community that it potentially generates.

Nevertheless, most of these spaces do not cooperate between themselves (in Lisbon and in other cities) and they are often restricted to some sector or concrete programme, usually attracting people and organisations from similar professional fields. There is also a very low rate of collaboration

between companies and universities, between companies and R&D centres and between companies in general.

Can we imagine the potential of crossing some of these sectors (and spaces) that are traditionally far from each other? That is the main goal of this action: to promote cross-sector collaboration, allowing and encouraging people, institutions and companies to work with others that are traditionally far from their professional spectrum. This can be made through the creation of collaborative platforms that structure specific systems in the wider macro-system.

There might be many ways to set the route to build such an ecosystem, but few of these have the advantages of the one that Lisbon chose: to build its Collaborative Making Ecosystem founded on energies already existing in the City; using this particular ecosystem to better organise its wider creative ecosystem; but also incorporating practices, reviews and experiences of other European cities and regions.

Urban manufacturing is, in this sense, a cross-sectoral rationality that we can find in Lisbon's dynamic creative and innovative ecosystem.

3. From the problems to the idea

In this general context, rises the idea of taking collaborative processes to another level, optimising the engagement generated by the myriad of players in Lisbon's Creative Ecosystem and carrying them to create better conditions to maker's activity.

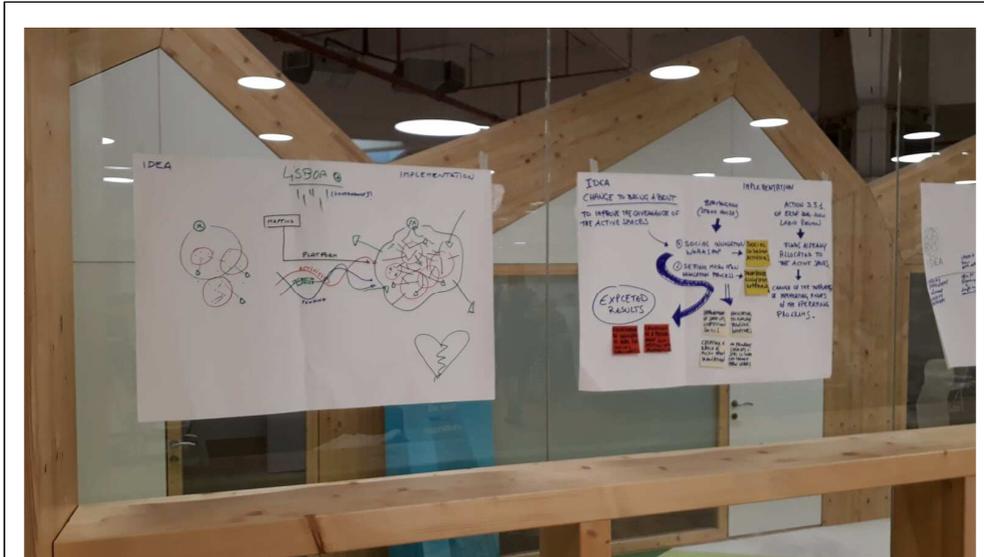
To accomplish this ambition, there are two major issues to answer:

- How to organise a collaborative making ecosystem in the context of the wider Lisbon's Creative Ecosystem?
- How to adapt policy instruments to help this ecosystem to succeed?

Building and consolidating a Collaborative Making Ecosystem in Lisbon

In first place, it is essential to keep the idea that this ecosystem will be built at the level of makerspaces, and not makers. This was the reason why Lisbon City Council called some institutions of different nature, but with "making" as common approach, to be the founder-partners of this project, coordinated by Lisbon's City Council. These partners are based in Lisbon's Urban Manufacturing stakeholders group.

At this makerspace level, the idea is to evolve from an individual to a collective approach, building, in Lisbon, a **space of spaces**, where collaboration is the rule.



(Materials from Zagreb partner meeting)

Learnings from UM programme

The concept of “space of spaces” arose in the Lisbon Policy Clinic (March 2018), in which the general conclusions and suggestions from several partners (namely Vilnius – building critical mass; San Sebastian - developing the connections between different elements of the maker ecosystem; Lazio - establish a single brand for creative spaces across the city) showed the advantages of cooperation among makerspaces and integration in the wider creative ecosystem of the city.

The concept gained consistency during the peer review in Vilnius and consolidated in the Zagreb partner meeting (both held in March 2019). This collective approach became the groundwork in which Lisbon’s action plan was built.

Fig. 1: inspiration from other regions and cities (1).

Of course, we must not forget that each FabLab, each Incubator, each Living Lab, each collaborative space is still the place where things happen and the place where makers want to be. This means that this new, organised, collaborative *meta-space* keeps the individuality and field of action of each one of its member organisations, public or private. It simply

increases the legibility of the ecosystem and its capacity to answer to a broader range of makers and to provide them solutions to their specific needs throughout several phases of their activity – from initial idea, incubation or go to market, if it is the case (fig. 2).

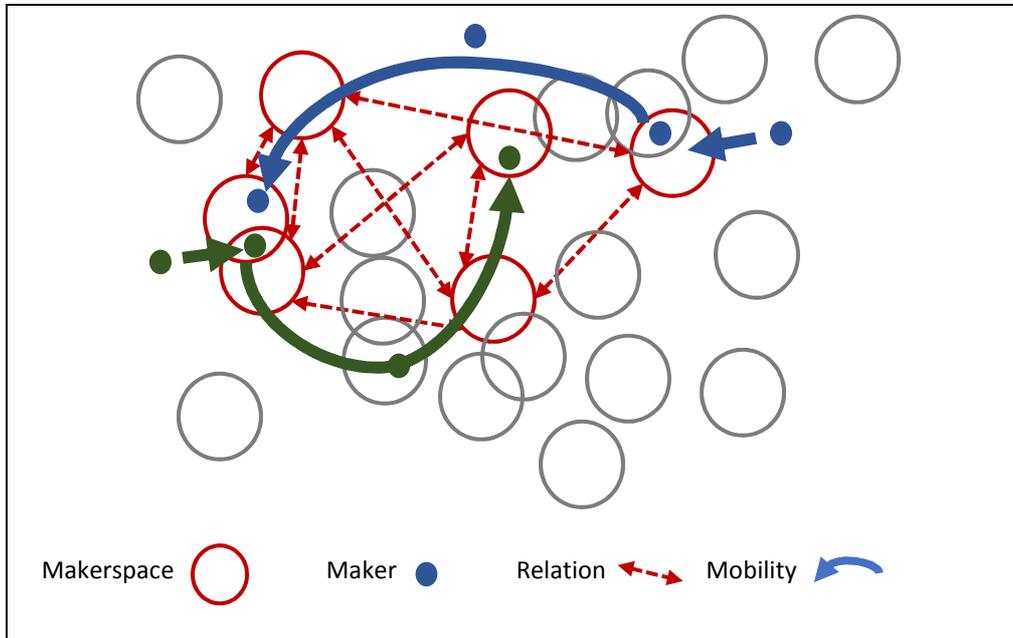


Fig. 2: makerspaces collaborate to provide diversified solutions to makers.

This ecosystem cannot be a closed one, in two senses.

Firstly, because other collaborative dynamics occur in Lisbon, as we have seen, and all these makerspaces are multidimensional, active, involved in other processes. They are places to *make*, but also places to *meet*, to *think*, to *exchange ideas*, to develop other kind of projects, and they should keep being it. That is one of their richness.

And secondly, because such spaces are not self-sufficient in providing all the needs of makers – training, scientific knowledge, funding, for instance, are better provided by other kind of organisations. This project aims to spread itself to other spheres, combining networks (fig. 3).

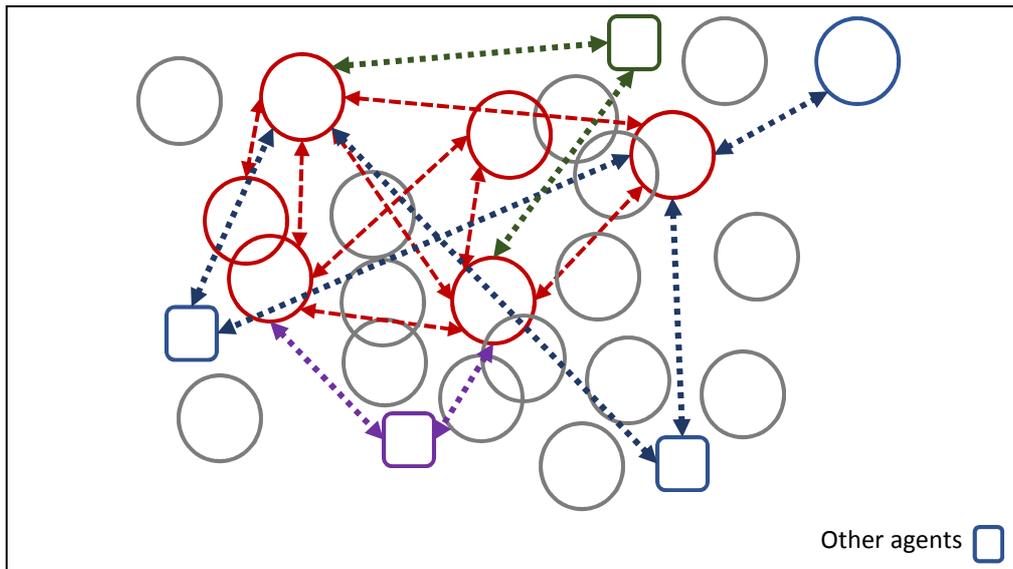


Fig. 3: makerspaces interact with other agents (universities, funding agencies, etc.)

One shouldn't forget that ideas are not enough; you need to create conditions for their implementation. And the main condition, here, is organisation. Complex interrelations need to be stimulated, monitored; redundancies are enemies of efficiency; mutual confidence is essential for success, and confidence is built from consensual rules and from transparency (both internal, in the system dynamic, and external, towards users/makers and other organisations).

Organisation broadens the concept of collaboration. When there is organisation, makers know that they can get the help or the counterpart, that they seek. Collaboration is taken to another level.

As we know from experience in other projects based on cooperation, building and consolidating a Collaborative Maker Ecosystem in Lisbon is a difficult, but feasible and useful, process. That is what this action plan aims to achieve.

Supporting the Collaborative Making Ecosystem with public policies

There are three kind of public resources that can be capitalized in this process: infrastructures and spaces; institutional involvement in coordination and participation; and access to funding.

The infrastructural and institutional are represented by some of the spaces that are in the first line of the UM stakeholders network. Some changes that are needed to better adapt EU and local funding instruments to the nature of makers and their activities.

In any case, Lisbon decided to bring to this project, from the beginning, several institutional partners responsible for implementing public policies at regional or national level, both to bring information that will help to keep the action plan and its objectives in a realistic field and to influence public national and regional policies. These partners are:

- AICEP Portugal Global - Trade & Investment Agency, a government agency focused on internationalisation of Portuguese economy.
- CCDR Lisboa e Vale do Tejo –public agency responsible for development and territorial policies coordination in the region of Lisbon and for implementation of ERDF and ESF regional operational programme.

But whatsoever are the policies, there is one internal condition to success: the system must be sustainable by itself. Necessary resources (any kind of resources), or capacity to bring new ones, must be generated inside the ecosystem and should emerge from collaborative processes, making evident that there are individual, economic, and social, gains in this project, and added value results from its implementation.

This is the key issue of the Lisbon approach to urban manufacturing: to generate value from collaborative processes, and not necessarily from commercial transactions or services remuneration. That value is represented by the **collaborative voucher**: a symbolic asset recognised by all the players in the ecosystem.

4. What changes are needed in main policy funding instruments?

The project has the ambition of self-sustainability, but of course some external inputs are needed to help this ecosystem to grow and spread. These inputs could come from the large set of policy and funding instruments that support innovation, entrepreneurship and economic competitiveness, in the framework of Lisbon's *Research and Innovation Strategy for Smart Specialisation (RIS3)*.

The main financing instrument is ERDF Lisbon Regional Operational Programme 2014-2020, in particular the *Investment Priority 1b*, defined as “promotion of Business Investment in R&D; development of connections and synergies between companies, research & development centres and public universities”. It funds the development of new products and services, technology transfer, social innovation, eco-innovation, applications of public interest, demand stimulus, networking, clusters and open innovation through intelligent specialisation, technology applied

research, pilots, early-validation actions, advanced capacities of production and first production.

ROP Lisbon 2020 also provides funding to entrepreneurship under urban Community-led local development strategies, but this is focused on necessity entrepreneurship, like unemployment or other social exclusion situations of individuals. It is also directed for some specific communities, geographically limited.

Other than direct funding to businesses and entrepreneurs, ROP Lisbon 2020 also includes a collective approach to competitiveness that seems very interesting from the point of view of the Urban_M project in Lisbon. Some of the specific instruments are:

- Support System to Collective Actions, complementary to the several incentive systems for companies available within ROP Lisbon 2020. The measure is aimed at the creation or enhancement of the framework conditions that facilitate firms' competitiveness by mobilising different regional actors (public and private) that offer their skills and resources to address key challenges faced by the region.
- Support for Technological Infrastructure (in the case of technological companies involved in the call).
- Incentives systems, such as the Incentives System for Qualified and Creative Entrepreneurship, and the Incentives for Micro and Small Companies.

Besides ROP Lisbon 2020, other European programmes, such as Horizon 2020, URBACT, Urban Innovative Actions, Interreg Europe, COSME and others within EASME - Executive Agency for SME, provide opportunities for funding activities and projects related to this ecosystem.

Municipal microcredits also available, through the "Lisboa Empreende" programme.

As we can see, this is a good combination of funding instruments to public, private or collective projects. But there is, however, a major problem related to these instruments: they are focused in economic competitiveness, demanding economic rational and feasibility; or they were conceived to social inclusion strategies, demanding individual or community disfavoured conditions.

But makers are often focused in objectives and activities that are not real economic activities. Also, they are not necessarily in situation of social exclusion.

Although this is not an unsurpassable obstacle to public funding to makerspaces, it brings some serious difficulties to consolidation of a collaborative network that intends to increase capacity and provide opportunities for more individuals.

To favour Lisbon's Collaborative Making Ecosystem creation and expansion, these instruments could be more adapted to support collaborative activities in the field of makers and makerspaces. At least in the 2021-2027 period, if not still in current ROP Lisbon 2020, the concept of entrepreneur, and of collective actions, should be more clearly adapted to this kind of activities – that, as we said, are not necessarily real businesses (although some might be it, and new business opportunities emerge from collaborative dynamics) or social inclusion strategies (although they might generate solutions for unemployed people or collective empowerment processes for communities).

Involvement of authorities responsible for national and European funding in Portugal in the project should be the proper way to overcome this challenge.

5. Lisbon_M: Stimulating Innovation Through Collaboration Among Maker Spaces

Concept and objective

This action plan is designed to build the foundations and set in motion a Collaborative Making Ecosystem in Lisbon: the city as a space of maker spaces, collaborating with each other, in order to increase capacity to attract, nourish, sustain, magnify, multiply, maker's activity.

Results

This action plan intends to build the basis for a sustainable collaborative ecosystem focused on *maker's* activity. As we have seen, these basis rise from the consolidation of collaborative processes among *makerspaces* (and other institutions), as a first step to promote a better environment for the makers. So, the success of the project should be measured through the success in promoting collaborative processes among makerspaces.

An appropriate indicator to monitor this action plan should consider the dynamism of the network and its capacity to generate new collaborations and improved products and services – the self-performance indicator that is proposed is the “number of collaborative and co-created projects and processes” (target: 12 by the end of 2021).

Projects and processes consistent with such an indicator could be:

- bilateral or multilateral meetings, exchange of information, knowledge or other evidence-based interrelation among makerspaces and other partners-stakeholders in ecosystem;
- collaborative vouchers emitted by the makerspaces, institutions and companies involved in the project;
- public events dedicated to, or in the field, of the making ecosystem.

Activities

To achieve this result, steps of action plan are:

- Creation of solid institutional and communication bases for ecosystem: mapping, partnership and network building, collaborative platform, implementation model.
- Implementation of activities: collaborative voucher programme, events and initiatives.
- Policy changes to favour collaborative, non-profit, processes of innovation and entrepreneurship.

Action 1: Network building

Activity 1: Mapping of spaces & agents in the ecosystem

Mapping the knowledge flows in the city. A thorough mapping of the existing maker spaces should be made in order to recognise the potential links to be made. This mapping will demand not only the study of the characteristics of the existing spaces but also an analysis of the possible links and interconnections between agents. It will also be important to incorporate in this ecosystem the agents supporting these spaces (community agencies, technological schools, universities, private companies, etc.) and not only the makers themselves.

The necessity of mapping the ecosystem in a wider approach corresponds to Lisbon's initial conviction that this specific ecosystem cannot be built independently from dynamics of cross-innovation already installed in the city. Discussion with partner cities and regions of Urban M confirmed this need.

The dissemination of this work will be useful to share information and develop awareness for the Lisbon's urban manufacturing network.

Activity 2: Implementation model

It will be crucial to the success of the project to create an adequate and consistent model that will be able to continuously support the connection between agents and stakeholders: brokers in the knowledge system of the city/region and how best to connect them.



Learnings from UM programme | Vilnius

Uzupis Art Incubator & UŽ REPUBLIC

Having experience a peer review in Vilnius, visiting Uzupis Art Incubator we learned how a creative community can foster cooperation with like-minded organisations and centres, using non-traditional approach to resources to introduce new creative initiatives and products. This environment creates and maintains an original and attractive atmosphere which is fully supported and encouraged by the city council, appreciating the importance of the creative industries in the city's cultural, tourism and economic development.

Fig. 4: inspiration from other regions and cities (2).

Lisbon City Council intends to develop specific support programmes addressing the issue of awareness on the web and branding of this making cluster in Lisbon.

A number of partners from Lisbon stakeholders' group of Lisbon_M, an informal, but effective, institutional core of the project will have an active role in these first activities.

In other hand, as we said before, the network aims to extend its range, assembling other institutions (universities, I&D and competence centres, other makerspaces, financial institutions, associations, etc.).

As we will see, it is important that all the adherent institutions recognise the logic of the project and the need for self-sustainability, evidenced by the *collaborative voucher* that is the cornerstone of the project. This recommends that a solid commitment is asked to these institutions. As a preliminary suggestion, still to be tested among partners, is the creation of a *collaborative charter*, with obligations and advantages to the signatory institutions.

One of the obligations would be to recognise, and undertake objectives, in the process of creating the collaborative voucher. One of the advantages would be to be a part of the work group, a collective body with some influence in governance of the Lisbon Collaborative Making Ecosystem.

[Action 2: Boosting ecosystem.](#)

Activity 1: Collaborative voucher programme

As we said, *collaborative voucher* is one of the main cornerstones of this project. It will work like a currency, recognised by all the adherent institutions, only referring to collaborative processes inside the Lisbon Collaborative Making Ecosystem.

Some potential examples of collaborative processes:

- Lending of equipment or installation-space from one makerspace to another, to receive makers or other activities.
- Training, internship or education activities open to users of another makerspace(s).
- Providing of professional, technical skills to the network.
- Direct support or credit to activities.
- Collaborative events
- Etc.

In this (and other) cases, the institutions that provide the service get a collaborative voucher, that it can be traded, or handover to its own makers inside the network.

Our notion of voucher limits the needs of monetary transactions, reduces costs and creates mutual bonds of confidence among makerspaces and other partners – including individual makers.

Activity 2: Events & Initiatives

Spend a day programme

The idea behind this programme is to give students and makers the opportunity to test and try all their ideas in one or more of maker spaces that are partners of the initiative. It is a programme clearly directed to the relations between the formative partners (and their students) and makerspaces.

Network showcases

Markets and fairs are determinant to showcase new ideas and products, especially when the goal is to promote cross-sector collaboration. Particularly important to validate ideas, services and products in a wider market.

AICEP, the Portuguese agency for internationalisation of economy, can be involved in this activity, due to its expertise on organising this kind of events with an international approach.

Mouraria Creative Hub and FabLab Lisboa will also promote Pop Up design stores and makers fairs, integrating locally produced and small-scale products, contributing to conscious consumption and a cultural program that reflects different themes in the scope of sustainability.

Action 3: Policy changing

This action can be achieved through an interaction with authorities responsible for public policies and funding instruments. The question of how the project is going to impact policy instruments, favouring collaborative, non-profit, processes of innovation and entrepreneurship, demands this persistent cooperation between project and public authorities – knowing that CCDR Lisboa e Vale do Tejo, the public agency responsible for implementation of ERDF and ESF in the region, is one of the project partners and will act as a *pivot* in the process.

Learnings from UM Programme | Birmingham

STEAMhouse brings inventors, entrepreneurs and craftspeople together. Sharing skills and knowledge to develop exciting new ideas and products. Powered by Birmingham City University, STEAMhouse has been created in partnership with Eastside Projects, and is funded by the European Regional Development Fund and Arts Council England.



Fig. 5: inspiration from other regions and cities (3).

Timeline

All activities should be operational by the end of second semester 2020.

Considering the calendar for the next programming period of European funding, policy changes should be approved until the end of 2020, preferably until the end of first semester of that year.

		2020 S1	2020 S2	2021 S1	2021 S2
Action 1: Network building					
Activity 1: Mapping					
Activity 3: Implementation model					
Action 2: Boosting ecosystem					
Activity 1: Co-lab. voucher					
Activity 2: Events & Initiatives					
Action 3: Policy changing					
Proposal and discussion					

Fig. 6: time chart.

By the end of 2021 the project will perform 12 collaborative processes engaged (corresponding to the self- performance indicator target).

Appendix: Urban Manufacturing - stimulating innovation through collaborative maker spaces

The objective of the **Urban Manufacturing Project** is to ensure that collaborative makerspaces thrive. We achieve this through identifying best practice, testing policy approaches and supporting our cities/regions in creating receptive conditions. Our hope is that we will demonstrate the impact that cooperative facilities can have on innovation and establish a European network of advocates.

What are collaborative makerspaces?

Collaborative makerspaces take many forms, but common to all is the idea of producing physical objects through cooperation. This sharing can occur during ideas generation or fabrication and is most profound when different sectors come together.

The benefits of working in this way are numerous and include new and improved products; an enhanced sense of community; increased mutual knowledge; quicker and more comprehensive solutions; and the tapping of latent potential. This leads to more effective and far-reaching innovation. Examples of collaborative makerspaces include Fab Labs, Open Innovation Centres, Living Labs and Cross-Sector Incubators.

Collaborative makerspaces are typically located within urban environments, so understanding the ecosystem – for example the interdependencies between education, policy makers and manufacturers – is of fundamental importance. Through nourishing these connected elements, cooperative facilities can flourish.

Through our partnership, we are analysing the effect of policies across seven related themes:

- STEAM
- Communities
- Ecosystems
- Funding to support makerspaces
- Results of investment in makerspaces
- Routes to market
- Enterprise

We develop our understanding through a process of knowledge sharing.

Project outputs

The project will produce:

- A good practice brochure with 24 case studies of makerspaces from across the partnership.
- A city or regional action plan for each partner to track and support the implementation of policy changes.

We will do this through:

- Policy clinics, where exchange of experience in policy development will take place between cities across shared themes.
- Peer review sessions, to analyse the relevance and transferability of policies.
- Study visits, to show to the partnership and our stakeholders the range of makerspace models that already exist.

The beneficiaries will include policy makers, innovators, entrepreneurs, cluster managers and the maker community.

(From: <https://www.interregeurope.eu/urbanm/>)

Partnership

Urban_M is led by the **Birmingham City University** and includes the following European cities and regions organisations:

- **Birmingham** City Council (United Kingdom)
- **Bratislava** Municipality (Slovakia)
- BSC (Business Support Centre Lda) **Kranj** (Slovenia)
- City of **Zagreb** (Croatia)
- Fomento **San Sebastian** - Economic Development Agency (Spain)
- **Lazio** Region (Italy)
- **Lisbon** City Council (Portugal)
- **Vilnius** City Administration (Lithuania)



European Union
European Regional
Development Fund

LISBON ACTION PLAN

