

Urban M
Urban Manufacturing - Stimulating Innovation through Collaborative Maker
Spaces

ACTION PLAN
FOMENTO SAN SEBASTIAN
Basque Country, Spain
November 2019

donostiasustapena
fomento**sansebastián**

DESARROLLO ECONÓMICO DE SAN SEBASTIÁN
DONOSTIAKO GARAPEN EKONOMIKOA
SAN SEBASTIAN ECONOMIC DEVELOPMENT

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1 Part I- General information

Project: URBAN M

Partner organisation: **FOMENTO SAN SEBASTIAN**

Country: SPAIN

NUTS2 region: Basque Country

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2 Part II – Policy context

The Action Plan aims to impact:

<input checked="" type="checkbox"/>	Investment for Growth and Jobs programme
<input type="checkbox"/>	European Territorial Cooperation programme
<input type="checkbox"/>	Other regional development policy instrument

Name of the policy instrument addressed: **Basque Country ERDF Regional Operational Programme 2014-2020.**

Through the participation in the Urban Manufacturing (Urban M) IE project, **San Sebastian intends to boost collaboration in the innovation ecosystem through improving maker spaces.** The project application indicated that San Sebastian was aiming to improve collaboration between companies and actors of the Basque Science and Technology network. That was to be achieved by introducing and improving collaborative tools across two of the three themes selected within Urban M: Collaborative Incubation and Commercialization of Collaborative Innovation, both in projects and governance.

Over the last years, Fomento de San Sebastian (FSS), the local innovation and economic development agency and Urban M partner, has been bringing closer together the agents of the local innovation ecosystem through different projects and initiatives, some of them supported by EU funding programmes. FSS has signed strategic partnership agreements with leading local companies and research and innovation centres, to involve them in boosting the city's innovation environment.

The Basque Country Operational Programme (OP) 20142020 sets out the strategy and objectives for involvement in ERDF operations. It is organised according to identified regional needs designed to achieve smart growth. Specifically, San Sebastian will focus on Priority 1 of the OP, which is concerned with Strengthening and Promoting the RDI system in line with the Basque RIS3.

Within this Priority, Axis 1 addresses the need to strengthen and boost the RDI system in line with the Basque RIS3, concentrating on supporting investment by companies in Research and Innovation, and

prioritizing interventions which create a productive Innovation ecosystem. Of particular importance are those types of support which encourage business to collaborate with the actors of the Basque Science and Technology Network. As it is pointed out in the application form of Urban M, **this policy instrument needs to be improved as there is a need to refine the development of a set of tools to enable collaboration between the regional innovation actors involving makers and prototyping developments.**

The implementation of the Urban M project is helping FSS to develop and refine the ideas supporting collaborative innovation, and particularly how to strengthen links between education, business, research and innovation, as project application quotes the Innovation Union Initiative. In particular, FSS has been exploring how to increase the involvement of local companies in open and collaborative innovation processes. In particular, FSS has been closely following the development of Birmingham's STEAM house. For instance, FSS has found it very appealing the series of challenges launched by STEAM house to address a given issue from diverse perspectives. FSS has not got an equipped "maker" space yet, but it shares the idea that the open and collaborative philosophy imprinted in the STEAM house is just as significant as the physical facilities.

The FSS Action Plan will follow two main strategic lines:

- 1) **To consolidate the Donostia Innovation Campus as reference for open and collaborative innovation within the local innovation ecosystem;**
- 2) **To start collaboration agreements to integrate already existing maker spaces and Fab Labs (i.e. fablab DONOSTIA) in the Donostia Innovation Campus, directly inspired by its experience within the Urban M project.**

FSS Action Plan will be connected with the wider local innovation and economic development strategy, particularly with the sustained effort to improve networking and collaboration within the Local Innovation Ecosystem, which is being addressed with the support of other Interreg Europe projects (particularly the Ecoris3 project).

3 Part III – Details of the actions envisaged

1. Action 1: the consolidation of the Donostia Innovation Campus (DIC)

The main action to be implemented by FSS will be the consolidation of the Donostia Innovation Campus (DIC) as reference for open and collaborative innovation within the local innovation ecosystem. The core essence of this action is focused on the development of skills linked to innovation (STEAM) among the youngest in the city through a collaborative intervention model shared by the different agents of the Innovation Ecosystem. This project allows FSS to go one step further in the consolidation of stable working methodology among the students - educational centres (School, Vocational Training Centres and Universities)– business and or technology centres.

DIC will be developed along three main lines of action during the Donostia Innovation Week:

- 1) **Information and awareness raising on innovation and STEAM careers:**

FSS will involve different agents of the local innovation ecosystem (innovative companies, R&D centres...) to draw the attention of local youth about innovation, science and technology, and make them aware of current and future global trends. A series of actions such as workshops, open days, testimonies, and others will be programmed and implemented on the following topics: Technology, Business Management, Design and Creativity, Making and Soft skills.

The various actions to be delivered are a co-design exercise with local agents, given that all of them are carried out in cooperation with the local stakeholders. Those activities will be developed in the Donostia Innovation Week's framework, after the dissemination of a catalogue including this offer co- designed in cooperation with all the city's educational institutions, to make sure that those actions meet the municipality interests but also its stakeholders' ones.

Some of the activities already developed at the 2019 WeekINN edition are:

- 3 workshops about Robotics "HackINN & Fun" addressed to kids from 10 years old to learn how to create and program a robot.
- 2 informative sessions using future thinking methodology:
 - o How will we get older in the future? The aim is to build a collective future of ageing in Donostia. This will serve as a guide to ensure that innovation in the city takes us to the future we imagine. This session was attended by 60 people.
 - o How do we imagine the future of radio? This talked counted with the participation of 50 people.
- 5 workshops addressed to students on "Unplugged Computing": Learning through collaborative games and group dynamics through basic computer concepts without using electronic devices.

More information available at: www.donostiainn.eus/es/donostia-weekinn

2) Donostia Innovation Challenge Programme

In 2017 FSS launched a first edition of the Donostia Innovation League, a youth skill development programme that crystallizes some previous sparse initiatives carried out from as early as 2011 to familiarize youth with the concept of innovation as well as its local ecosystem. It was structured as a challenge to groups of local university and secondary school students to address a local issue. Participant student groups were offered training on innovation and entrepreneurship skills. The benefits of working in this way are numerous and include: training in soft-skills, 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.

In 2018, under the motto "How to improve innovation in the city" FSS launched an edition based on the challenges set 4 companies involved in the programme (Farsens, Angulas Aginaga, Ikusi, Gureak) and those launched by the educational centres. This edition involved a total of 333 students from 10 educational centres that worked on a total of 10 challenges.

Based on the experience gained in this programme FSS designed a more ambitious one called Donostia Innovation Challenge.

The Challenge will remain the core action of the strategy and it will be reinforced. Instead of a single challenge to be met by all the participant groups, companies, research organisations and institutions will be invited to launch micro-challenges under a same topic-umbrella. Each micro-challenge will be addressed by one school, vocational training centre and/or University, through a structured process that ensures the alignment of objectives and expectations, to make sure the challenge is achievable but also that is appropriately addressed and the challenger gets a valuable outcome. During the process the student groups will be trained in personal, entrepreneurship, innovation (Design, business management, Technologies) and communication skills. Training will help them to deliver results but it will enhance their educational profile. The Challenge will be supported by an on-line platform (<http://fomento-innovation-challenge.tak.es/index.html>) that will allow gamification of the process, and will have a strong communication component and a result monitoring system.

2019 edition is focused on the topic "How disruptive technologies can help improve the city". The challenge covers 5 disruptive technology items ranging from Internet of Things, to Artificial Intelligence, 3D Printing, Mix Reality, and Advanced Robotics. As previous editions, it will include a training programme schedule structured in 5 steps (introduction, research, proposal, feasibility study and presentation of the solution). Tailor made training is associated to each of the steps, including a wide range of topics addressed (soft skills, visual and critical thinking, business management, design, technology knowledge) through face to face learning sessions monitored and followed up by tutors. This edition will work on a total of 18 micro challenges involving more than 400 students and 14 entities.

For the first time Design will be one of the focal points in order to work on the project. We will work with professional designers helping our students in their projects. The rationale behind it is not only the coherence of the process and the tangible and intangible value of Design, but also the ultimate goal for this and the forthcoming editions of being able to make better processes so we can implement a new phase of prototyping and making. In fact, the collaboration with the city's companies and Technological Centres is reaching new dimensions, working with more than 10 centres, and having them demonstrating their technologies and products the 28th of October, before the 450 participants. The ultimate goal is to make them follow the projects from the beginning, so they might get into prototyping phases. This is a new path in our Challenge's format, with loads of potential, that will start this year and strongly developed onwards.

The aim is to be able to integrate those dynamics with the different Fablabs present in the city, such as the Architecture Faculty's Fablab, to make sure that all the prototyping processes have a place to be developed.

3) **Dissemination of innovation in education.**

Putting collaborative innovation at the heart of the local ecosystem can only be done through intense communication. Aware of that FSS, in order to increase the visibility of these actions, the core of those activities will be carried during the annual celebration of the Donostia WeekINN, the main local event to showcase innovation in the city involving all stakeholders and bringing together SMEs, international experts, young people, citizens and research centres to allow cross fertilisation and mutual learning. The aim of this activity is offering a space for visibility, exchange of ideas, training, information and learning around this attitude and commitment to innovation in Donostia. In collaboration with the entities and agents of the local innovation ecosystem, activities are organized throughout the week to share experiences on innovation. As an example, those are the activities foreseen for the 2019 WeekINN:

- The STEAM Exhibition 2019, as part of the itinerary to be accomplished by all the educational centres taking part in the Donostia Innovation Challenge 2019. It will be held 28th of October, and will gather about 450 students from ESO, Bachillerato and Vocational Training.
- 2 Family Design workshops: an average of 25 children from 5 to 10 years old = 50 children.
- 4 Gymkhanas on Sustainable Development Goals: on average 30 students from 5-6 years of primary school = 120 students.
- 1 film session to teach children how to use Internet safely = 150 children
- 3 sessions of Music + Innovation: 40 on average = 120 children.
- 1 vocational training event on the main trends of Business Models: 300 vocational training students will attend.
- Informative talk on cybersecurity for families in cooperation with the Association EuskalHack.
- Special session on how to integrate the Computational Thinking into the school curricula. This session is addressed to teachers of primary and secondary education.
- 3 Hackathon sessions about Circular Economy Design: 25 students from 5-6 primary school (with an average of 75 students). This activity has been carried out under the frame of the agreement signed between Fomento San Sebastian and the Faculty of Architecture of the University of the Basque Country (UPV-EHU). This agreement involves the use of the University maker Fablab space for training purposes addressed to citizens, within the framework of the Donostia Innovation Campus programme.



The activities to be implemented in the FSS Action Plan have been largely enriched and inspired by the interregional learning developed within the URBAN M project.

The Policy Clinic carried out in San Sebastian in October 2017 revealed as a fruitful opportunity for FSS to get feedback and inspiration from partners to tackle the main challenge of the policy instrument addressed-: Developing a common approach to collaborative making and urban manufacturing with educational institutions, Universities and Vocational Training institutions. Partners' suggestions have been included in the action plan, as follows:

- • Exhibition to attract stakeholders. As suggested by P5 Lazio region, we will develop part of the activities during the Weekinn, main local event in San Sebastian to showcase innovation, to increase visibility and attract stakeholders.
- • City as a customer creating demand for technical solutions. As suggested by P8 Vilnius City Administration, DIC will be launching local social challenges, so the teams involved will have to provide innovative solutions to address city social demands.
- • Interconnections between young people, science, public and companies. As suggested by P7 Municipality of the City Bratislava, at DIC companies will be launching to the schools/Vocational centres and Universities involved in the programme, micro-business challenges to strengthen the relations among the local stakeholders through collaborative innovation.

STEAM house Best Practice from the Lead partner has inspired part of the contents and methodology of the the Donostia Innovation Campus (DIC), to drive new forms of innovation - fusing learning, knowledge, practice and production across growth sectors and establishing a community of multidisciplinary thinkers. In fact, this has led to one of the new actions to be included in the Action Plan: to work on a collaboration agreement with the Architecture Faculty (Universidad del País Vasco) so their Fab-Lab facilities will be available and used in the Donostia Innovation Campus framework. This first edition, we intend to use them for the Circular Economy Design Hackathons, and foresee to expand their use in the following editions in the Donostia Innovation Challenge format.

Debates and comments developed during the M team's visit to Zagreb have helped us to identify key trends in the maker movement and how they help innovation in city eco systems. These trends are: 'Prototyping the city ecosystem', 'Makers as entrepreneurs' and 'Cross Innovation'. We talked about the need to encourage prototyping in the city ecosystem for early testing of new ideas in products and services - the idea of "failing fast". There needs to be a critical mass of prototyping activity for a healthy ecosystem to thrive, with makers acting in a Research & Development role. This idea has inspired us

to include in the trials proposed to the schools the creation of a prototype to be presented as part of the challenge's solution. Prototypes will be very different depending on the challenge and the educational centre, but making and prototyping is one of the challenges and goals set for this edition in particular, as a way to integrate our DNA for the forthcoming years.

2. Stakeholders involved

Fomento de San Sebastian. FSS is the local Innovation and Economic Development Agency. It will be running and co-financing the support programme and will act as catalyser, to identify and recruit the SMEs, to set strategic partnerships with technology centres, to involve the educational centres and to provide visibility to the collaborative innovation. As the responsible for the coordination and implementation of the Action Plan, FSS will be in charge of:

- Guaranteeing the close cooperation among the various actors of the local innovation ecosystem,
- Securing funds for the implementation of the new services foreseen in the Action Plan,
- Monitoring the Action Plan

Schools, VET and Universities. They are the main beneficiaries of the action, which is primarily addressed to improve local educational system, to bring it closer to the most innovative local agents, to help focusing educational contents and methodologies to current and future trends, and to make them more aware of the company human resources and talent demands. The Action Plan will involve around 28 educational centres (25 schools and VET and 3 Universities).

Local Leading Companies. FSS has reached cooperation agreements with Local Leading Companies to involve them in open and collaborative innovation activities, and particularly in the Donostia Innovation Campus. Some of them are:

- SKOOTIK: Artificial Intelligence solutions for the optimization of manufacturing processes, supply chains and energy consumption.
- Ibermatica: IT solutions for digital innovation.
- Domotek: Prototyping and additive manufacturing services
- NUAVIS is a technological company focused on the development of high added value solutions on computer vision and augmented reality for the industrial sector.
- Spiff Corps: 3D printing
- Inmersia: Artificial intelligence, 'machine learning', Big Data and 'analytics
- Alerion: custom automated industrial inspection solutions for wind energy infrastructures using its patent-pending laser navigation technology that permits high-precision navigation up-close to structures.
- Ikor: electronic circuit design and manufacturing services.
- Cybersurgery: a spin-off of Egile Corporation XXI that aims at optimizing the robotic surgery.

FSS hopes to attract more innovative business leaders to propose challenges and to be involved in other actions, as it will help to strengthen the links within the Local Innovation Ecosystem. The involvement of companies will be critical, as they are expected to propose most of the challenges.

Technology Centres. San Sebastian boasts a rich innovation ecosystem, with a large number of technology centres and FSS has reached cooperation agreements with most of them. In fact, some of them are cooperating on the implementation of the yearly editions of DIC: Technology Corporations such as Tecnalía Research and Innovation and IK4 Research. Tecnalía’s headquarters and some of its departments are located in the San Sebastian Technology Park. Three of the technology centres integrated in the IK4 Research Alliance are located in San Sebastian too:

CEIT-IK4 is a Technology Centre providing R&D&I services in areas such as Materials, Applied Mechanics, Electronics & Communications, together with Microelectronics and Environmental Engineering.

-VICOMTECH-IK4 (Visual Communication and Interaction Technologies Centre) is an applied research centre for Interactive Computer Graphics and Multimedia working in Digital TV & Multimedia Services; eHealth & Biomedical Applications; eTourism & Cultural Heritage; 3D Animation and Interactive Virtual Environments; Intelligent Transport Systems and Engineering; Human Speech and Language Technologies.

Collaboration is fluent, and their involvement in open and collaborative innovation will be quite important as local drivers of innovation.

3. Timeframe

The Action Plan is meant to improve and strengthen some existing programmes and actions. Therefore, some of the actions are already being partly implemented and improvements will be introduced in the future editions of the programmes, beginning 2019, with the full implementation planned to be achieved in 2020.

It is expected the programme will run in yearly editions, for budgetary reasons. For each of the actions, the expected timeframe would be:

Information and awareness raising on innovation and STEAM careers will be running throughout the year.

The new format of the Donostia Innovation Challenge will be launched in 2019, with the following objectives for this year and estimations onwards:

2019	2020	2021
18 micro challenges	24 micro challenges + including the participation in the LEGO LEAGUE Robotic Development “City Shaper” ¹ 2020	28
400 students	600 students	700

¹ within the agreement signed between Fomento San Sebastian and the Faculty of Architecture of the University of the Basque Country (UPV-EHU)

Each micro-challenge may last between 3 and 9 weeks, depending on its complexity.

Dissemination of innovation in education. Specially concentrated during the Donostia Innovation Week, but also opened the rest of the year. Items such as number of students/teachers per event will be monitored, the gender presence to analyze women's presence and how to foster it if needed, number of companies and Technological Centres working on the matter, educational centres' demand in those topics, etc.

4. Indicative costs

The development of the Donostia Innovation Campus as proposed in the Action Plan will be funded out of the Local Authority budget. It is expected that the budget will increase over the three years of implementation:

	2019	2020	2021
Dissemination activities	36,000	40,000	45,000
Challenge	73,000	80,000	85,000
Total	109,000	120,000	130,000

5. Indicative funding sources:

The Action Plan will be funded by FSS. Some sponsorship by local companies may be sought for some of the actions and events.

6. Indicators and follow up

Fomento San Sebastian proposed self-defined performance indicator the number of collaborative tools developed or imported from other regions. In order to measure this indicator Fomento San Sebastian will consider 2 kind of indicators:

-

Date: _____

Signature: _____

Stamp of the organisation (if available): _____