

D.T. 1.3.4

1ST EDITION OF THE TOOLBOX FOR BUSINESS ENGAGEMENT

Business Engagement TWG

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1. INTRODUCTION

The aim of the Toolbox for Business Engagement in co-creation is to support businesses in being involved in the co-creation processes within all the other members of the quadruple helix.

The draft version of the toolbox has been designed according to the evidence of the regionals' research and provides a set of tools focused on business engagement. Some of the identified tools exist for a long time even if not all of them are able to involve all the quadruple helix members.

In this document, we will describe the tools in terms of:

- tool characteristics and
- role and involvement of quadruple helix members (if any).

The purpose of the document is to provide a guide to project partners, Task4 members and any interested subject to answer, for each tool, at the following questions:

- How can we improve the tool?
- What is still missing to consider the tool as real support for co-creating with all the quadruple helix members?

Any direct answers to the above-mentioned questions will be addressed in this document. As explained, it is a fundamental part of the overall project activity, but this document is the starting point for the research activity focused to the identification of the toolbox and of tools to be developed in the SilverStar platform.

2. TOOLBOX OVERVIEW

Tools that make up the toolbox are described in D.T. 1.3.3 “*Summary report of regional analyses - 1st draft of the toolbox for business engagement*” with concrete examples of their implementation. In this section an overview of these tools is provided to support the description of functionalities and the role of involved actors.

2.1. PROCUREMENT FOR INNOVATION/ PRE-COMMERCIAL PROCUREMENT

Procurement for innovation/pre-commercial procurement refers to the acquisition of knowledge collected by intellectual investigation services (R&D services) consisting of critical solution analysis, prototyping, field testing and small scale pre product/services development (National IST research Directors Forum Working Group (2006)).

The main aims of this model are:

- To provide customer(s) a solution not yet available in the market.
- To involve customer(s) in the design of different solutions.
- To provide economic support to a firm/ a group of firms to design innovative solutions
- To support firms in sharing market risks with procurers.

MAIN ACTORS	DRIVEN FACTOR
The procurer, i.e. stakeholders that share a need	The need
The firms that participate in the identification of a solution	The opportunity



2.2. MATCHING (R&D EVENTS)

The matching model for business engagement is an instrument for supporting the co-development of concrete projects that foster new solutions within specific topics. A matcher event - both physical and/or virtual - must be periodical and focused on a few topics to avoid overlaps of content. It is necessary to identify the main actors that are typically investors, important customers, or businesses. It is also possible to involve research centres interested in collaboration.

The collection of detailed information about everyone's cooperation wishes, expressing what they are looking for and have to offer, makes it possible to identify and bring together (match) the right meeting partners.

MAIN ACTORS	DRIVEN FACTOR
The organizer	The idea
The main stakeholders	The need
The firms	The opportunity/ the Idea

2.3. NETWORK FACILITATORS MODEL

According to the definition of Franz (2009) network facilitators are those subjects (e.g. professionals, companies, department and so on) that are:

“Supporting and valorising aggregation processes of SMEs by promoting and making easier (i.e. facilitating) networking activities and animation of local expert communities, and within this framework, activities of inter-organisational non-formal and informal learning.”

The objective of a network facilitator is to create the conditions to share knowledge and set up the bases for innovation and co-creation supporting businesses in meeting other firms or actors of the quadruple helix, with similar aims and complementary competences.

MAIN ACTORS	DRIVEN FACTOR
The firms or Different type of stakeholder	The opportunity

2.4. LIVING LAB MODEL.

In the Living Lab approach, all stakeholders, with a special focus to end-users, are involved in co-creation of innovative solutions. The Living Lab method distinguishes from the user centre design approach because:

- It is not focused on one single product or service, but to a research topic. Its aim is the evaluation of ideas, scenarios, concepts and related technological artefacts in real-life use cases.
- It mainly works on a territorial context - such as regions.
- It allows informal learning for firms, researchers but also for end-users.
- It combines user-centred research with open innovation.

MAIN ACTORS	DRIVEN FACTOR
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The firms, end-users, policy makers and other stakeholder of the quadruple helix	The idea/ The need
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2.5. BUSINESS INCUBATOR MODEL

Business incubator aim is to support the growth of new-born firms providing different types of services from physical spaces to experts' consultancies on business development and innovation processes. Companies typically spend an average of two years in a business incubator with the opportunity, for entrepreneurs, to share ideas and problems with other firms of the same sector. A business incubator provides support also in networking and fundraising.

MAIN ACTORS	DRIVEN FACTOR
The firms	The need / the Idea

3. TOOLS FUNCTIONALITIES AND ROLES

A. PROCUREMENT FOR INNOVATION/ PRE-COMMERCIAL PROCUREMENT	
1. Characteristics ¹	
Tackling market failures	Procurer can clearly express their needs to the market in terms of R&D activities or innovative goods and services that are not available.
Financial support to joint procurement	Procurer provides economic incentives for the innovators to reach subsequent stages by back loading payments.
Unbundling of R&D and production	The procurement of R&D services and the (possible) purchase of commercial volumes of end products are clearly separate and usually are not addressed in the same tender. (p)PI and/or PCP cover-up to "original development" of a first product or service; it may include limited production or supply, but it does not extend to quantity production that is part of the commercial development. There are no guarantees that the selected contractor(s) for prototypes will also win a follow-up contract for the large-scale production of the proposed solution.
Benefits sharing	Benefits are shared between the procurer and the contractor(s). Intellectual Property rights (IPRs) can be managed in two ways: <ol style="list-style-type: none"> 1) Contractors keep the full IPR and the procurer(s) has a free license of exploitation for internal use. In the case of third parties involvement, the contractor(s) are required to grant non-exclusive rights under market conditions; → this situation frequently incurs when the procurer is a public entity. 2) Contractors and procurers share the IPR and the rights to commercial exploitation; → this situation frequently incurs when the procurer is a private entity.
Competitive development in stages and risk sharing	Procurer's tender builds on stages (i.e. subsequent development phases) involving different participant (single firm or consortium). Multiple firms (or consortiums) are allowed to compete in parallel during all stages; ideally, two contractors reach the final stage. This guarantees to procurer to have alternative proposals to evaluate under different criterion (such as design, quality, costs, time to market and so on).

¹ The definition of the Characteristics follows the work of Iossa and colleagues (2017)



At each stage, the procurer decides which solutions can proceed to the subsequent stage.
The selected firms can access to a financial contribution from the procurer in order to undertake the R&D services of the new stage.
The monetary thresholds depend on the stage and it is combined with risks.

2. Role and involvement of quadruple helix members

<p>Government</p>	<p>In Public PI or PCP, public entities are the procurer and are in charge to:</p> <ul style="list-style-type: none"> - design the tender, i.e. to identify the market need, to design the rules for managing the IPR, to design for each stage the objectives, the evaluation criteria and the monetary thresholds; - evaluate the results. Public entities usually nominate a panel of expert in charge to apply the evaluation criteria to the solution and provide the reports on which bases the results are published; - provide the financial contribution. <p>There are some PI or PCP in which Government or Public Entities are not directly involved in the tender. In this case, public entities launch a call for procurer on a specific topic. Public entities are in charge to evaluate the proposal and finance those that are addressing a more urgent need. The identified procurer - that can be a consortium - is in charge to design the tender according to the identified need, evaluate the proposal and share the benefits. The financial contribution is (partially) provided by the public entity.</p>
<p>Businesses</p>	<p>Businesses are the main actors of the PI and PCP since are the designer of Innovative solution.</p>
<p>Education</p>	<p>Education representatives are not frequently involved in this model. There are two possible involvements:</p> <ul style="list-style-type: none"> - Research centres can be involved by a firm to support in a specific R&D activity, usually in the first phase; or - Education can be procurer to address a specific need; - They can be involved in the definition of guidelines or the design of specific training activity for the procurer supporting the introduction of the identified innovative solution (e.g. service or product).
<p>Community</p>	<p>The procurer represents the “customer”. In general, the direct involvement of the community representatives is not highlighted in the model. If the PI/PCP address a health care need or a social need it implies that the procurer evaluated the community need.</p>



B. MATCHING

1. Characteristics

Clear topics definition	Matching events/platforms are all about making connections and beginning relationships. Attending firms may have additional goals such as making a good impression, set up collaborations, scheduling a follow-up meeting and so on. The definition of clear topic supports businesses in define their involvement and their goals.
Website and platform	The creation of a promotional website is the bases to support the awareness about the matching event, but it is not enough. Firms can find information using the web but frequently the data or information is too huge, complex and distributed, which make it almost impossible for businesses to find useful information. Therefore, lots of marketers have started using Artificial Intelligence, i.e. AI-based matchmaking platforms to get the most appropriate information needed. These platforms support firms in identifying information according to their businesses and goals.
Register & profile set-up	The registration of the business is the starting point. Customized questions guide attendance in the set-up of their cooperation profile (the registration form). Participants are asked to provide detailed information about their cooperation offers/wishes, such as what type of partner they are looking for. Those participant information and cooperation profiles are the cornerstones of the matchmaking itself. Profiles are published online to make them accessible for all event participants and/or visitors of the event website.
Browse & matching profiles	After the registration, if the matching event uses a platform, any registered participants, still before the event, can identify interesting and promising contacts with whom they want to meet. Intelligent search functions allow participants a quick and easy identification of suitable (matching) cooperation profiles. Advanced platform can also provide suggestions based on the declared profile and goals.
Pre-arrange meeting	Participants can request and prearrange meetings with other participants before the actual event to save time. In any case, registered attendances know earlier who/what they can expect at the event so they can plan accordingly essential presentation in a targeted manner.
Meetings	Participants have their pre-arranged meetings and talk with each other. Ideally, this first meeting is the starting point for a collaboration.

2. Role and involvement of quadruple helix members

Government	There are some cases of matching events that are supported by local entities. In most of the cases, the involvement of governmental representative is not expected.
Businesses	They play the main roles. They can act as a sponsor, organizer of events and attendances, in terms of products/services provider and customers.
Education	Their involvement depends on the topic of the events but is rare especially in public events.



Community

End users or their representatives are welcome in exposition or public events where firms are invited also to present products. Their engagement is almost reduced to a few representatives or any.



C. NETWORK FACILITATOR MODEL

1. Characteristics²

Clear purpose/Topic definition	The network must have a clear purpose, i.e. a clear focus that meets a real organisational need. The deep knowledge of the target businesses is the key factor for the success of a facilitator.
Clear boundaries	A network too wide or covering too many topics, is unmanageable. It is important to define the boundaries such as minimum services to be provided, type of feedback from facilitator and rules for managing requests to the facilitator.
Clear organization context	This aspect is more related to businesses acting as network facilitator. Their organisational context must be defined and known by members of the network to better support the interaction and involvement. Required information must be (i) about rules for promoting and enabling public and stakeholder engagement, (ii) about professional development aspects and (iii) about the support provided by its team.
Network coordination	Coordination, leadership, administration takes time and must be allocated. It can be 'hidden' within someone's day job, or done on top of the day job, but it still needs doing. Frequently it is necessary to define the governance of the network. Some of the most used models of governance are detailed in the living lab table.
Connection with other networks	To provide additional solutions not directly addressed by the network, or greater possibility of contact, such as the international level, specific collaboration with other networks must be set-up and promoted.
Direct involvement	To support the engagement of the businesses involved in the network, periodic news about the network activities, both planned and done, allows keeping focused the attention of firms.

2. Role and involvement of quadruple helix members

Government	The main involvement of policy makers is provided through the facilitator coordinating the network. Frequently is realised by inviting institutional representatives to talk about a need or an opportunity to network members. There are some local offices devoted to supporting networking on specific topics covering social interests. These are few.
Businesses	They play the main roles. They can act as sponsors, coordinators and members of the network.
Education	Their involvement is deep and with different roles, such as: Members of the network, mainly for the research aspects. Consultants on a topic connected to the focus of the network. Trainer for the network's members, for those networks that support also these aspects.
Community	End-users' representatives are frequently members of these networks and their involvement it is also an attractive element for the involvement of businesses.



D. LIVING LAB MODEL

1. Characteristics³

<p>Set Boundaries: Governance model</p>	<p>It is important to define a clear governance model adequate to the type of Living Lab and the level of openness. There are two main types of governance:</p> <ol style="list-style-type: none"> 1. <u>Hierarchical</u>. In this model roles are clearly defined and one business, or a small group, is leading. The leading business defines the problem and chose the solution according to its needs. In principle, Living Labs are open development communities, but in order to derive more business benefits also closed and more hierarchical management models should be applied. 2. <u>Flat</u>. In this model no predefined leading actor is present. There are rules for participation, but problems and solutions can be proposed by any participant.
<p>Set Boundaries: Collaboration model</p>	<p>There are many different collaborations' models that can characterize the Living Lab. In 2008 Pisano and Verganti defined a list of models for various contexts and cases (see table 1) The collaboration depends on both (i) the ownership and (ii) the type of innovation that the collaborative network is to conduct. These choices heavily influence the innovativeness and nature of the expected outcome.</p> <p>Four main types of collaboration (2008) can be used in a network for innovation and all of them can be applied to Living Lab:</p> <ul style="list-style-type: none"> ➤ <u>Elite Circle</u>: Is the main hierarchical model with roles clearly defined. One company (or small group) define the problem, select participants and choose the optimal solutions according to its needs. It is used mainly when solutions are highly confidential and/or needs specific skills. ➤ <u>Innovation Mall</u>: the identified problem is shared with the community and everyone can propose solutions, after a period the subject (usually a firm) that identified the problem choose the best solution. This is the model that better fits for usability tests and improvement of existing products. ➤ <u>Innovation Community</u>: anybody can propose problems, offer solutions, and decide which solutions to use. Its governance is flat and mainly used in corporate sectors for systemic innovations. It is well suited for solving societal problems. ➤ <u>Consortium</u>: it is a closed model in which participant jointly select problems, define actions and choose solutions. There is a clear focus, common understanding and participation of highly specialized professionals.

³ The definition of the Characteristics follows the work of Eschenbacher (2010)



<p>Engage: Provided services</p>	<p>The participation of a firm to a Living Lab depends also to the provided services.</p> <p>The list of provided services depends on the governance model and on the collaboration models implemented. According to the review done by Eschenbaecher et colleagues about services provided by ENoLL community of Living Lab, the possible services are</p> <ul style="list-style-type: none"> •Project preparation services •Innovation and development services for companies •Meeting place •User development methods •Usability testing •Online focus groups •Pilot and innovation environment •Project management services •Prototype creation and Prototype testing •Scenario analysis •Need finding •Service concepts •Product development services •Commercialisation •Networking
<p>Engage: Strategy</p>	<p>Living Labs are based on network, for this reason, it is necessary to identify the best practices for engaging participants according to the level of openness defined in the collaboration model.</p> <p>To have sustainable and credible business models including strategy and implementation measures, as well as future potential, it is necessary to engage participants. At the same time, all beneficiaries need to have a clear idea about provided services, IPR management, i.e. the clear picture of the operational model.</p>
<p>2. Role and involvement of quadruple helix members</p>	
<p>Government</p>	<p>Government can be engaged in Living Lab by providing space, supporting some activities and representative of specific sectors can be invited in meetings. Sometimes also provides financial support.</p>
<p>Businesses</p>	<p>Are the main actors. Businesses are beneficiaries of the Living Lab services and can be also part of the governance.</p>
<p>Education</p>	<p>Research centres are involved in Living Lab mainly in the definition of solutions or with the role of expert sharing experience.</p>
<p>Community</p>	<p>End-users and end-users' representatives are mainly involved in the flat open model of Living Lab. They can access to space, test and experience the prototypes, discuss about an idea and be directly engaged in the design of solutions.</p>



E. BUSINESS INCUBATOR MODEL

1. Characteristics

Clear Topic and objectives	Business incubators support new-born firms by providing mainly mentorship and education via seminars linked to legal aspects, ad hoc meeting with consultants and human resources for the administrative issue. Business incubators are usually funded by the government, but there are also examples financed by corporations. These last examples are focused on a specific area.
Time duration	The incubator program may last from 1 to 5 five years. This is one of the main differences with accelerator programs that last few months.
Increase knowledge and Knowledge sharing	Incubators offer an environment of collaboration. This enables the start-ups to share a space, as well as have access to a multitude of resources, exchange ideas and peer feedback. They provide mentorship from seasoned entrepreneurs and business experts.
Provided services	<ul style="list-style-type: none"> ➤ Physical space and common services below-market rates; ➤ Coaching and guidance; ➤ Consultancies with experts, usually for market plan, business development, innovation processes; ➤ Fundraising; ➤ Networking;

2. Role and involvement of quadruple helix members

Government	It funds the Incubator and provides some services
Businesses	New entrepreneurs are the target of the services provided by Incubator. Businesses are also involved as mentors. Corporations may also fund some incubators and collaborate with start-ups in developing new product.
Education	They are involved mainly in coaching, networking, consultancies and reviewers of ideas.
Community	User-representatives have not a structured involvement in Incubators.

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