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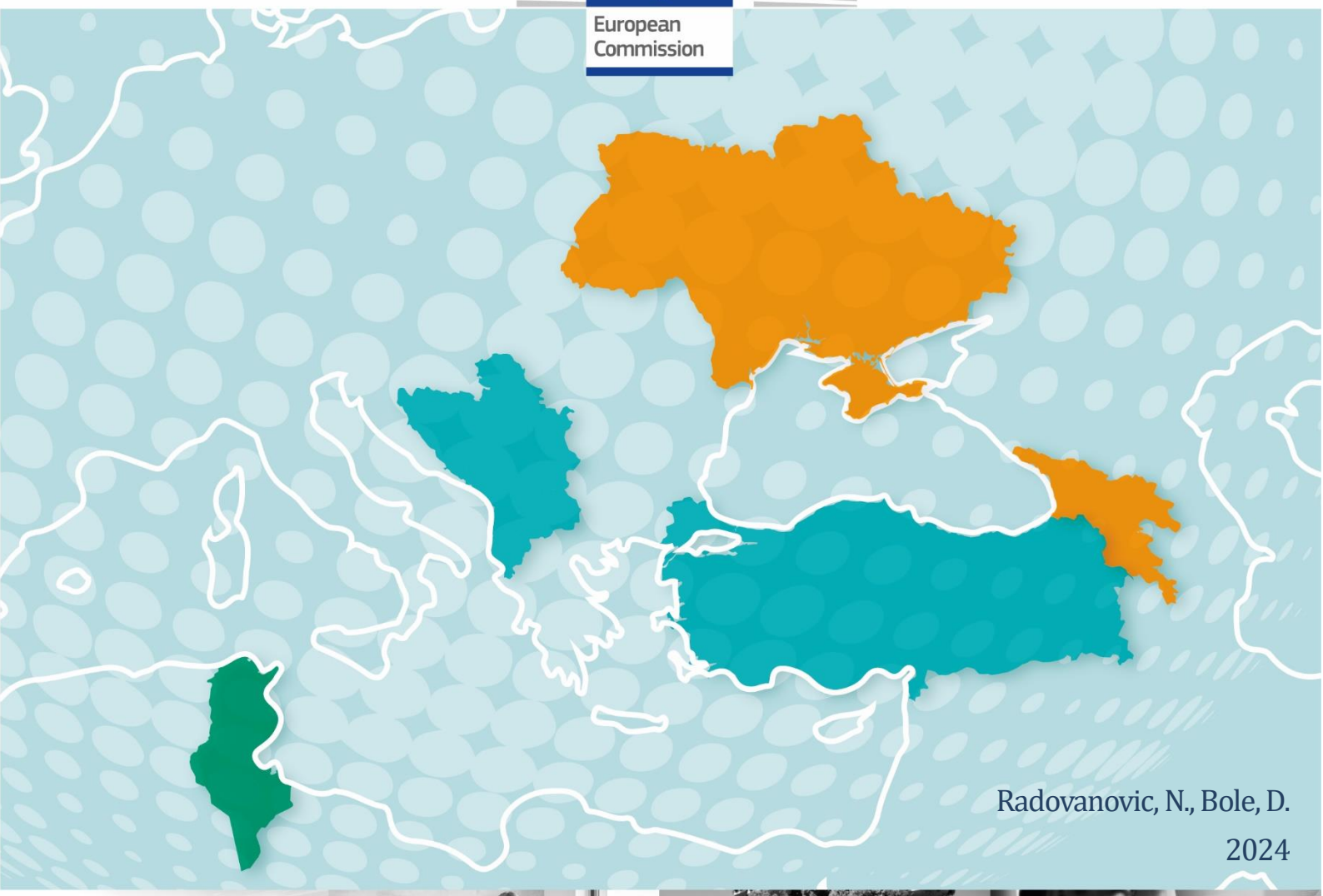

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SMART SPECIALISATION IN THE EU ENLARGEMENT AND NEIGHBOURHOOD REGION

Guidelines for the stakeholder dialogue in the process of designing and implementing Smart Specialisation strategies in the EU Enlargement and Neighbourhood Region

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Abstract

The stakeholder dialogue within the Entrepreneurial Discovery Process has been often cited as the most critical stage in designing the Smart Specialisation strategy. It represents a very important milestone in the process, as it brings together key representatives of a society, coming from business, academic, civil and government spheres, to thoroughly discuss and agree on the number of priority areas followed by an appropriate policy mix. The findings from this stage are the key ingredients for the policymakers that are drafting a Smart Specialisation strategy. However, the engagement of such stakeholders needs to be maintained in the implementation stage as well, when policy instruments are tested in the real environment and the implementation results come into the light. Hence, the motivation for being involved in the continuous stakeholder dialogue in both Smart Specialisation design and implementation stages is of crucial importance. In the context of the EU Enlargement and Neighbourhood Region, where the Smart Specialisation advancement is followed against the dedicated frameworks for strategy design and implementation, this importance is even more demonstrated. This report provides a guidance on how to conduct the efficient and continuous Entrepreneurial Discovery Process in such setting.

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The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

Executive Summary

More than a decade ago, European countries and regions adopted a new approach to defining their innovation policies, based on the Smart Specialisation concept. The objective was to define priority areas for further investments and to create a strong structure for developing and maintaining their economic competitiveness. In the late 2010s, most of the economies in the EU Enlargement and Neighbourhood region expressed their desire to undertake the same approach and pursue development of Smart Specialisation strategies within their own capacities. In conducting their Smart Specialisation processes, they were being supported by the European Commission's Joint Research Centre who provided assistance to national authorities from the region in applying the Smart Specialisation methodological framework developed specifically for the EU Enlargement and Neighbourhood region by the European Commission. This framework follows all the stages required by the Smart Specialisation concept, while taking into account the economic particularities of the region, which is characterised by an economic transition.

The concept of Smart Specialisation relies on active and intensive engagement of various stakeholders coming from very different backgrounds, such as from SMEs, large companies, multinational organisations, faculties, research institutes, non-governmental organisations and many others. They are usually categorised as members of the quadruple helix and divided into businesses, academia, government and civil sector. The crucial elements of the Smart Specialisation approach, namely transparency and evidence-based justifications, can only be achieved through the full participation of all these stakeholders, starting in the qualitative mapping phase and culminating in the stakeholder dialog in the entrepreneurial discovery process.

The Entrepreneurial Discovery Process stage, in which an extensive stakeholder dialogues is taking place, for the definition of the Smart Specialisation priority areas and relevant policy instruments and measures is of utmost importance. This is especially significant for launching and maintaining a stakeholder dialogue in the context of the EU Enlargement and Neighbourhood Region, which is often characterised by lack of trust, the embeddedness of top-down decision-making, lobbying and other phenomena that could hinder the dialogue. On the other hand, the complexity of this stage is reflected in diverse motivation of stakeholders that participate in this process. They need to be constantly encouraged to contribute to the process and this can be done by demonstrating the respect for their commitment to the dialogue and building on that through allowing for a closer engagement in policy instruments design and implementation, as well as through a stronger ownership element.

These guidelines build on extensive experience from the EU Member States and their regions as well as from the EU Enlargement and Neighbourhood Region. They highlight critical milestones and steps to follow for utilising the potential and the value that this stage provides. It is also important to note that the engagement of stakeholders is not a one-off activity, but rather a continuous exercise. The implementation phases, related to governance, revision and redefinition of priority areas and policy instruments, as well as participation in the monitoring action, require close collaboration with the key stakeholders. Therefore, these guidelines are focusing on identifying the elements that motivate the participation of the stakeholders and contribute to maintaining their close engagement in the Entrepreneurial Discovery Process, while providing a structure for conducting the steps within the process with respect to its requirements. In addition, this report provides customised templates and forms for carrying out the tasks within the Entrepreneurial Discovery Process with high efficiency.

1 Introduction

The purpose of this publication is to provide guidance to all countries and economies from the EU Enlargement and Neighbourhood Region as they undertake the most challenging stage of both the design and implementation phases of the Smart Specialisation process.

Two key tasks have been carried out in order to produce this report. The first task was to analyse and verify relevant data and information on the Entrepreneurial Discovery Process in the EU Enlargement and Neighbourhood environment. The literature and materials analysed include existing data, studies, reports and other relevant publications on Smart Specialisation in the EU Enlargement and Neighbourhood Region. The particular focus was on the Smart Specialisation design and implementation frameworks[1] and the experiences from the stakeholder dialogue in the economies from the EU Enlargement and Neighbourhood Region. The work included online communication with the stakeholders and contributors to the Entrepreneurial Discovery Process (EDP) in the target economies to verify the findings.

The second task was to prepare the final report with detailed recommendations for tailoring the EDP and the appropriate continuous stakeholder dialogue in the context of the EU Enlargement and Neighbourhood Region. The report takes the form of guidelines for the implementation of a continuous Entrepreneurial Discovery Process in the economies from the EU Enlargement and Neighbourhood Region and contains detailed steps and requirements for performing this stage in both design and implementation phases of Smart Specialisation. The report provides examples of good practices, identified challenges and strengths for this stage of the Smart Specialisation process, as well as ways and recommendations to overcome the identified challenges. It offers information and recommendations for the implementation of a tailored EDP with appropriate preparation steps, rules and procedures, as well as a section explaining the specifics of a tailored continuous EDP.

2.1 EDP principles and practices

According to the definition of European Commission[2], national / regional Research and Innovation Strategies for Smart Specialisation (RIS3 strategies) are integrated, place-based economic transformation agendas that do five important things:

1. They focus policy support and investments on key national/regional priorities, challenges and needs for knowledge-based development;
2. They build on each country/region's strengths, competitive advantages and potential for excellence;
3. They support technological as well as practice-based innovation and aim to stimulate private sector investment;
4. They get stakeholders fully involved and encourage innovation and experimentation;
5. They are evidence-based and include sound monitoring and evaluation systems.

The RIS3 requires states (or regions) to identify the priority domains and knowledge specialisations that best fit their innovation potential, based on their assets and capabilities. However, the process of defining and exploring priority domains that support economic diversification cannot be top-down or bottom-up planning followed by monitoring and control of funding by priority domains. According to Foray et al. (2011), defining and exploring priority domains is the outcome of an "Entrepreneurial Discovery Process" (EDP) involving all relevant regional stakeholders. Key stakeholders such as businesses, research centres and universities, policy makers and civil society work together to identify a Member State's or region's most promising areas of specialisation, but also the weaknesses that hinder innovation.

[1] See https://s3platform.jrc.ec.europa.eu/knowlegde-hub

[2] European Commission. National/Regional Innovation Strategies for Smart Specialisation (RIS3). March 2014

The Entrepreneurial Discovery Process is considered a feature that distinguishes the Smart Specialisation approach from innovation strategies of the past and the one that lends these approaches their more 'bottom-up' character (Rodriguez-Pose and Wilkie, 2016). The term EDP originally referred to the identification of areas for investment in research and innovation (i.e., priority-areas), through an inclusive and evidence-based process grounded in stakeholders' engagement (Marinelli and Perianez Forte, 2017). Discovering what a country or a region may be good at requires an investment in a concrete process of exploration. However, the experience accumulated over the past years has shown that this is only the initial step of an EDP. In other words, the EDP in practice goes beyond the prioritisation phase and the subsequent related investments (Gianelle et al, 2016).

The EDP provision calls for an inclusive and interactive process in the different stages of the policy-making process. For successful implementation of S3 priorities, it is not enough for public authorities and stakeholders to jointly identify investment priorities. Rather, once the process of 'discovery' has been initiated, it is crucial to keep engaging stakeholders in the different stages of the policy-making process. This new dimension, which could be referred to as a continuous process, is necessary to ensure trust and commitment to the strategic objectives codified in the S3s and thus the successful implementation of the strategy itself. Although the interaction between the public and private sectors is not an unknown practice in different regions, the challenge is to maintain the momentum created in the elaboration of the national and/or regional S3 strategies throughout the different stages of the policy cycle. To achieve this, it is important to capture and maintain dialogue between all institutional actors involved in the design and implementation of S3 strategies. This task includes dialogue with the following entities:

- teams/institutions that conducted the EDP exercise;
- actors involved in the management/implementation of an action plan;
- implementation agencies or other funds;
- individuals involved in drafting and managing calls for proposals.

All these actors should have a common understanding of the EDP and be aware of their role within the whole process. Based on the experience gained in different regions, the involvement/consultation of stakeholders in the definition of policy instruments appears crucial, as it allows policymakers to identify potential bottlenecks hence foreseeing implementation problems. Also, the interaction among stakeholders involved in the monitoring of the strategy allows a continuous reflection on market needs and opportunities, as well as a periodic re-assessment of the investment priorities previously identified.

The experiences show that the EDP as a continuous process is proving positive and satisfactory. It was made clear that the EDP should be a continuous activity that continues throughout the implementation of the strategy. Such a continuous EDP implies that stakeholders remain engaged to ensure that the outputs are used for the refinement of priority-areas, identification and improvement of instruments that would implement them, and RIS3 governance and monitoring mechanisms (Marinelli and Perianez Forte, 2017).

Continuous EDP can have a significant impact. It allows for continuous optimisation of RIS3 instruments and framework, leading to significant improvements in RIS3 implementation, even for countries that were not among the frontrunners when RIS3 was designed. The EDP has been used in the design and implementation of nearly 200 Research and Innovation Strategies for Smart Specialisation. However, there is no one-size-fits-all approach. To be successful, each region needs to adapt its EDP to the local context, and there are many different practices and modalities of the EDP to apply:

- *EDP can be conducted face-to-face, online or in a hybrid mode*. While EDP with S3 was originally conducted in the form of face-to-face meetings or workshops, more and more EDP consultations were conducted online, especially during the COVID-19 pandemic. Face-to-face meetings are seen as more effective when trust between stakeholders has yet to be built. They

provide higher quality feedback and are therefore very suitable for strategic decision-making and brainstorming in the design phase of S3. On the other hand, holding online meetings can overcome difficulties when a larger group of stakeholders cannot be present in person for various reasons, such as COVID 19 measures on physical distancing. Online meetings can attract a larger audience and have a more flexible scheduling, but require sustainable IT technical support, more facilitators and rigorous management to ensure the coherence and efficiency of such a group. Hybrid EDP involves both face-to-face meetings and online meetings;

- *The size of EDP groups varies*. Larger groups of stakeholders are needed when strategically important issues are discussed and broader consensus is required, typically in the S3 design phase. Organising such groups requires a lot of organisational efforts and therefore are difficult to organise frequently and ad-hoc. EDP in small groups is appropriate when more operational and tactical decisions need to be made. Such meetings are easier to organise, have a more flexible scheduling and are particularly suitable for the implementation phase of S3;
- *Thematic or continuous meetings.* An EDP is organised, especially in the initial design phase of S3, as an intensive sequence of thematic workshops that make a crucial contribution to the elaboration of the strategy document. The topics and desired outputs of these workshops are standardised, as the outputs of the previous workshops are also required inputs for the next workshop. The sequence must be followed to achieve the desired result. On the other hand, there are continuous EDP meetings that are typical for the implementation phase. They all have similar and non-predefined agendas that are adapted to monitor and steer the implementation of the strategy.

Based on the experience gained in the implementation of RIS3 strategies in the European Union Member States, the European Commission's Joint Research Centre (JRC) developed frameworks that implement the general principles and elements of stakeholder participation and define in more detail the steps and standards that should be followed by enlargement and neighbourhood countries in the design and implementation of their RIS3 strategies. In particular, two frameworks were developed: the Smart Specialisation Framework for the EU Enlargement and Neighbourhood Region (S3 design framework) published in 2018, covering the design phase of S3 process, and the Smart Specialisation implementation framework for the EU Enlargement and Neighbourhood Region (S3 implementation framework) published in 2022, covering the implementation phase of S3 process.

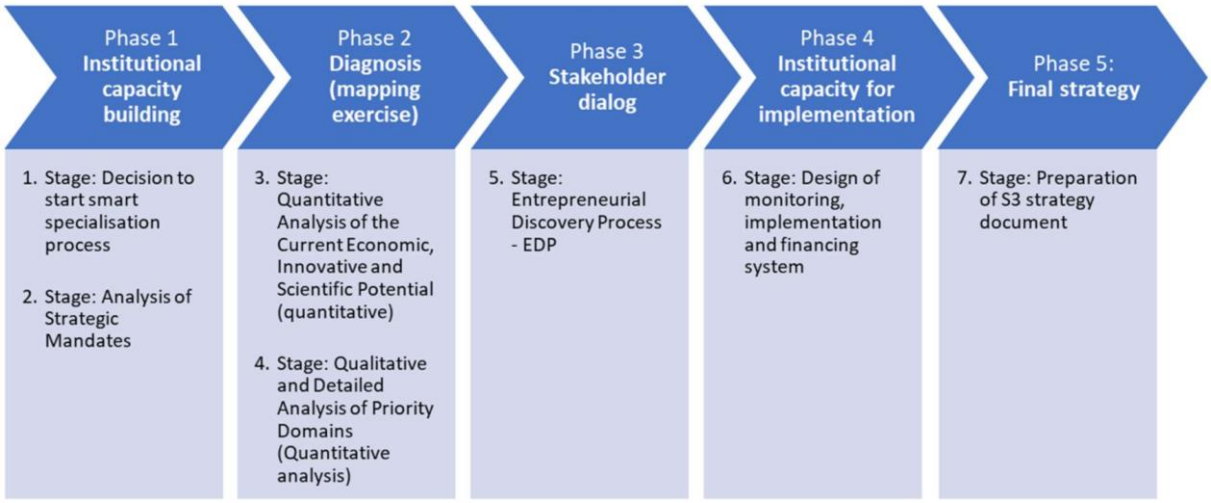
2.2 EDP in the S3 design framework

The S3 design framework models an S3 design as a typical stage-gate process, where the next phase should not begin until the previous phase has been completed. The process is divided into 5 phases consisting of 7 stages leading to the development and formal approval of the first strategy document. The EDP is the fifth stage in the S3 design process.

The critical input needed for the EDP should come from the first four stages of the RIS3 design. Before starting the EDP stage, the following elements should be known from the previous stages:

- The analysis of the strategic mandates should provide answers as to whether the RIS3 document, and thus also EDP, is implemented at national or regional level and what place does the Smart Specialisation occupy in the policy landscape, i.e. how it relates to other relevant national/regional development policies and strategies.
- The quantitative and qualitative mapping should provide the list of preliminary priority domains for EDP, the preliminary list of key stakeholders for each preliminary priority domains and the preferences of key stakeholders in relation to the future EDP process.

Figure 1. S3 design process according to the S3 design framework



Source: authors

EDP stage should not begin until this input is known and agreed with key (government) stakeholders. Following the S3 design framework, the EDP consists of 6 sub-stages:

- **EDP training**. Training of EDP coordinators and facilitators is normally supported by the JRC and designed to prepare the teams of national coordinators and facilitators (moderators) of the EDP workshops. The coordinators represent national Smart Specialisation teams and facilitators are experienced moderators with experience in the business sector.
- **Identification of stakeholders for each priority domain**. For each priority domain, relevant stakeholders should be identified. They include key players in value chains, innovative companies, cluster members, chambers of commerce and other business associations, researchers and organizations from related fields. They can be identified by desk research and interviews or a more objective network analysis of scientific and innovation cooperation.
- **EDP plan and working rules**. Before the EDP is formally launched, clear rules should be defined for participation and decision-making process. They need to be communicated to the members of working groups together with the invitation or at the first meeting. As the EDP includes a series of workshops, often organised in different regions, a plan should be developed and communicated to the participants.
- **Definition of EDP working groups**. The working groups should well represent the value chains identified in qualitative mapping for each priority domain, researchers from relevant domains, intermediaries and government agencies active in the priority domain. Representatives of companies should constitute minimum 50% of participants of each working group.
- **EDP workshops**. A series of workshops should be organised for each priority domain. The deliverables of the EDP workshops are: (1) EDP kick-off conference, presenting all priority domains, (2) SWOT analysis, (3) Vision for the future and final name of priority domain, and (4) Policy mix objectives and actions with indicators.
- **EDP input for S3**. The results of the EDP should be the main input for the Smart Specialisation strategy. The coordinators and facilitators should cooperate to provide written conclusions from each workshop and consult them with the participants.

Figure 2. EDP sub-stages

Source: authors, based on the Matusiak and Kleibrink (eds.) (2018)

The sub-stages of the EDP according to the S3 design framework shown in the figure above are to ensure that the process is of high quality and delivers the desired outputs. A successful EDP should deliver the following outputs:

- Name and final definition of priority domains;
- SWOT analysis;
- Cross-innovation potential among priority domains;
- Long term vision and Strategic objectives for each priority domain;
- Input on policy mix for each priority domain;
- Roadmaps/action plans for implementation for each priority domain;
- Definition of crosscutting areas with key EU and global initiatives e.g. digital and green transformation, sustainable development and societal goals;
- Input on continuation of EDP.

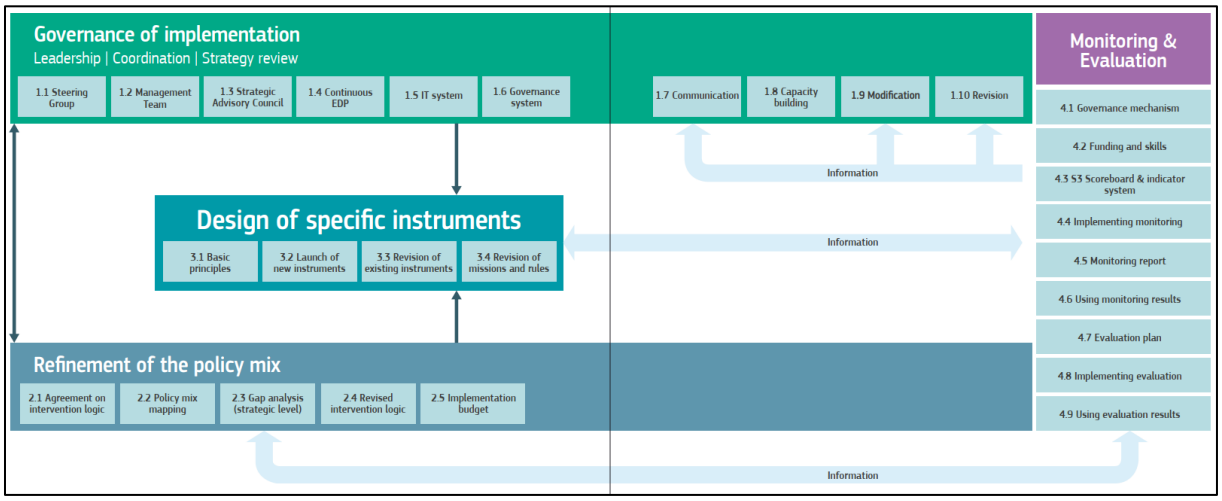
2.3 EDP in the S3 implementation framework

The S3 implementation framework is divided into four building blocks: 1) Governance of implementation, 2) Refinement of policy mix, 3) Design of specific instruments, and 4) Monitoring and evaluation. Each of the building blocks comprises several elements that interact with each other. The building block 'governance of implementation' includes all the elements necessary to create an institutional background that monitors and operationalises the continuous implementation of S3. EDP is one of them. The main bodies needed for the implementation of S3 are a steering group, a management team, a strategic advisory board and working groups for continuous EDP.

With the establishment of the continuous EDP as an integral element of the first building block "Governance of implementation", the EDP working groups should be established for each S3 priority domain. The role of these working groups is to support S3 implementation in their domain by:

- fostering dialogue and cooperation between actors in the quadruple helix for the domain;
- drawing up initial roadmaps for stimulating innovation in their domain, identifying instruments and tools to be used for that purpose, as well as suitable impact indicators for measuring progress;
- stimulating the launch of projects in response to the identified objectives for their domain;
- identifying new or changed opportunities and suggesting changes to priorities in the medium term, or even revision of the S3; and
- acting as a source for the Management Team and Steering Group concerning the specifics of S3 implementation in their domain.

Figure 3. Overview of the S3 implementation framework



Source: Matusiak et al. (2022)

The groups should consist of representatives of business, academia, intermediaries and non-governmental organisations and, where appropriate, public bodies specialised in the relevant S3 domain. Each EDP group should have a coordinator who is familiar with developments in the domain and who has legitimacy vis-à-vis the different types of actors. A dual coordination between coordinators from academia and from industry can also be an option. Management Team should facilitate a secretariat entity for the groups (technical organisation of meetings, records, minutes, etc).

While the Steering Group appoints the members of the working groups, the Management Team is the main responsible entity for setting up a continuous EDP. It proposes members of the working groups, administers the groups, ensuring sufficient representation of stakeholders within them, organises meetings, including setting the agenda and providing appropriate feedback from each priority domain to the Steering Group, and provides financing for the work of the groups (where necessary).

The main resources needed for this activity include personnel for the secretariat of the working groups and financial resources for the engagement of coordinators, and collecting analyses, reports and data.

Within the "Governance of implementation", the EDP working groups have a vital role in the following:

- *Modification of implementation*: this action includes periodic reviews aimed at identifying needs and possibilities for modifications in the implementation of the instruments that would lead to better results. These reviews are based on monitoring and evaluation data, as well as on the opinions of the S3 implementation and steering committees and the work of the EDP groups.
- *Revision of strategy*: this action refers to medium- and long-term strategy revision on the basis of lessons learned from monitoring and evaluation. These lessons will inform the development of the S3 domains as well as the effectiveness of the various instruments and the policy mix as a whole. A revised S3 should be developed based on these lessons and new rounds of EDP with the support of the full EDP working groups.

EDP also plays an important role in the ongoing "*refinement of the policy mix*", where the analysis of the gaps in the policy mix should be organised in a very participatory way by also involving EDP groups that help to identify the instruments to be continued/enhanced/modified, instruments to be discontinued and gaps that need to be filled with new instruments.

In setting up the continuous EDP, the key inputs that should guide the organisation of the working groups to be effective and efficient are as follows:

- Consider the preferences of working group members gathered during the EDP workshops in the S3 design phase regarding the modalities and mandates of the different types of working groups (i.e. there may be narrower working groups with operational roles that meet frequently and broader working groups with more strategic roles that meet less frequently when more strategic issues are discussed);
- Organise the governance system to ensure that working groups have a clear position, mandate and communication arrangements with other bodies within the governance system, as well as a system for monitoring and evaluation.

Important elements for successful implementation of a continuous EDP include having proposals to modify and improve instruments as well as information on identified changes in stakeholder needs to either discontinue instruments or develop new ones. It is also essential that the process provides information on the evolution of S3 domains and the effectiveness of the policy mix as a whole, information on the refinement of the priority areas and feedback from stakeholders on specific issues raised by the S3 governance and monitoring mechanisms.

2 EDP experiences from the EU Enlargement and Neighbourhood Region

This chapter is dedicated to the examples of good practices in implementing EDP in the EU Enlargement and Neighbourhood Region. The different elements of EDP are presented through 6 experiences from the economies that have already completed the EDP stage as of September 2023 and where the EDP has been designed or implemented with details adapted to the often very difficult local context. Details were collected during online consultations with the stakeholders and contributors to the EDP in targeted countries.

2.1 Tailored plan, management of resources and intensive EDP trainings in Serbia

The EDP in Serbia was recognised as an example of good practice due to tailored planning, ensuring adequate resources and conducting intensive training before and during the EDP. Serbia was also the first country to fully implement the mapping of economic, scientific and innovative potential and the EDP according to the provisions of the S3 design framework. Initial awareness raising and capacity building for EDP in Serbia was provided by the JRC through the organisation of a regional S3 workshop for the Western Balkan economies in Ljubljana in April 2018 and through a similar event in Sofia in May 2018.

Aware of the increasing complexity of the S3, the S3 management team sought technical support to develop a customised EDP plan. The plan was developed based on the S3 design framework, additional specific JRC requirements, and taking into account the local context and input for EDP acquired during the qualitative analysis. The comprehensive EDP plan defined series of thematic workshops, their regional distribution, EDP management and documentation protocols, communication aspects and a preliminary timetable. It also defined the resources needed to implement such a plan, which led to the identification of human, financial and material resources that need to be secured before the process begins. Therefore, S3 management focused on obtaining the necessary financial resources, which were mainly secured from national funds in cooperation with the World Bank. These funds were initially used to cover the costs of hiring key international and local experts. Namely, the S3 management team in Serbia selected the future EDP team, which consisted of coordinators and co-coordinators for each of the priority domains. According to consultations with the key stakeholders from Serbia, EDP team members were selected on the basis of very high criteria regarding their expertise in relevant priorities, their network and recognition by other stakeholders from the priority area, experience and specific skills, as well as their self-motivation and availability.

In addition to the main members of the EDP team, the resources acquired were also sufficient for workshop facilitators, sub-contractors organising events and for the development and implementation of the communication strategy. In total, a team of 17 people was directly involved in the development and implementation of the EDP workshops.

With the necessary resources secured, Serbia began intensive training and capacity building prior to the implementation of EDP workshops, which covered topics such as:

- Understanding the S3 fundamentals;
- Development of unified messages for communication with stakeholders;
- Rules and procedures for identification of stakeholders for each priority domain;
- Development of working group rules and definition of working groups;
- Development of documenting, invitation and management protocols;
- Co-development of communication campaign.

Capacity building and training were further intensified between the thematic workshops of EDP, focusing on the following topics:

- In-depth understanding of the content of thematic workshops;
- Co-creation of agenda and detailed scenarios of thematic workshops;

- Analysis of stakeholder feedback and formulation of conclusions based on meeting minutes;
- Analysis of methods used at EDP workshops and lesson learned.

In total, more than 20 capacity building and training workshops were conducted for members of the S3 management team and the EDP team. This paved the way for a very successful EDP in Serbia, which ended up with 283 stakeholders actively participating in 17 quadruple helix face-to-face EDP workshops, which was recognised as the best practice at the Regional conference on Smart Specialisation in Skopje, North Macedonia, on October 18-19, 2022.

2.2 Mixing online and face-to-face workshops in North Macedonia

The EDP stage in North Macedonia started in November 2021 with the plans for a tailor-made training of the S3 management team, relevant actors from the government sector, selected future working group coordinators and facilitators, complemented by the representatives of donor organisations that considered S3 important and expressed desire to support the EDP. In addition to the training, information on the local context was also gathered to guide the development of a tailor-made EDP plan.

The limitations of COVID-19 pandemic and the related measures that could prevent large groups from meeting in person were identified as one of the main challenges during the EDP planning. On the other hand, all coordinators preferred that the workshops are conducted in person, as this would be the first time that key stakeholders would participate in such a process in North Macedonia. Considering both facts, the tailor-made plan EDP envisaged holding EDP workshops in both hybrid and online modes. Out of total 12 EDP workshops, 10 were organised in hybrid mode and two in fully online mode.

The methodology for the first round of online workshops was developed by local ICT experts with the support of the tailored EDP guide, transferring the experience from Portugal and other countries (Laranja et al, 2021; Begovic et al, 2021). However, the crucial factor for successful implementation was the quick learning of the coordinators and facilitators, who immediately identified problems and used the lessons learned to improve the hybrid and online approaches.

The ‘SWOT’ workshops were for the most part conducted entirely online. The World Café method via online breakout rooms was used, where all workshop participants evenly and randomly discussed a specific dimension of SWOT in 20-minute conversation rounds. The contributions were recorded using Padlet, an online bulletin board. The method proved adequate to include all participants and resulted in highly populated Padlets. A key problem of the workshop was the duration of each breakout room, which was difficult to coordinate and manage online. Therefore, this method should also be accompanied by strong back-end support and a communication channel between facilitators that can dynamically adjust the length of the breakout rooms.

All ‘Vision’ workshops were conducted in a hybrid format, i.e. participants were present both on site and online via a secure link on the online platform. The hybrid format provided an opportunity for a larger group of key stakeholders to contribute effectively to the process, but the hybrid model was even more challenging in terms of time management, as there are two ways of interacting with stakeholders and the coordinators struggled to moderate both at the same time. Therefore, separate moderation for on-site and online participants with more frequent coordination of ideas is beneficial to increase the effectiveness of a workshop conducted in a hybrid format. Tools like those used in the SWOT workshop were used to conduct the online part of the workshop, while the on-site group used the “Metaplan” approach to facilitate “brainwriting” as the main technique for collecting ideas.

The ‘Policy mix’ workshops were also all conducted in a hybrid mode, which created time management challenges as some parts of the agenda required extensions to complete the discussion. The team at EDP used lessons learned from previous workshops and hired additional staff to constantly fill the online Padlets with input from stakeholders on the ground, while the online stakeholders were supported by a professional congress support company in ensuring top-notch video and audio quality

so they could equally interact with stakeholders on the ground. This ensured that all stakeholders always had a clear overview of all topics discussed and were able to conduct the dialogue efficiently. Despite optimised organization, most of working groups had challenges to provide quality output of the workshop due to demanding topics.

The final reports from the EDP showed that, even under such difficult circumstances, all the objectives of the thematic workshop were achieved, including providing relevant content for the strategy document and the number and structure of active participants.

2.3 Targeted communication of the EDP in Serbia

Targeted communication is one of the often neglected elements of an EDP. In Serbia, it was recognised that it is important to make the EDP visible to engage key stakeholder groups, such as:

- Future EDP stakeholders from businesses, academia and civil society who should form EDP working groups and actively participate in the EDP workshops;
- Top-level political actors who should support the process by providing the top-down support needed for cross-ministerial collaboration, securing national resources and helping attract donor funding, and attracting general media attention;
- Middle-level policy actors who participate in EDP workshops to improve the quality of the policy mix in the design phase and enhance the success of the policy instruments in the implementation phase;
- The general public interested in research and innovation in the preliminary priority areas to increase public support and awareness and make the process more relevant for the top-level policy actors.

It was recognised that the design process of the Smart Specialisation strategy should be fully visible in the EDP stage. Therefore, a campaign was developed by experts, which included the following elements:

- Clearly defined communication goals;
- Defined target groups and their most important communication channels;
- Branding with own graphic identity and materials: logo, roll-ups, amenities, etc;
- Consistent messages about the key aspects of S3 in the country;
- Clear rules and mandates for communication.

The main messages developed and used by all: top-level political actors, coordinators, co- coordinators and facilitators were addressing typical questions, such as:

- What is S3 and who is it for?
- What are the main benefits and expected engagement?
- What is the role of the government?

These messages were conveyed to the target groups in compliance with clear communication rules and mandates and through the most important communication channels, such as process ambassadors, targeted promotional events and media. The most effective channel was through the S3 ambassadors, i.e. influential businessmen and academics, using the word of mouth and referrals, or social channels, resulting in a snowball effect. The team also used the official S3 web page at the address https://pametnaspecijalizacija.mpn.gov.rs/. The main content produced for these channels were testimonials and best practices from abroad on the website, presentations of best cases on the website, innovation-related events and EDP workshops, as well as video interviews from events. The S3 events were promoted widely, including on the mainstream news, which contributed significantly to general awareness. This publicity was also beneficial to the government sector, but part of the

business and academic world was more reluctant, and it was recognised that communication should be more subtle and targeted in the channels used by the key stakeholders.

2.4 Regional approach to EDP and addressing data unavailability in Georgia

Smart Specialisation in Georgia was initiated as a pilot program in the Imereti region, spearheaded by regional authorities and supported by the Joint Research Centre. The development of the regional Smart Specialisation strategy underwent assessment by international experts, who not only participated but also provided leadership and coordination alongside managing authorities. The pre-EDP phase of the S3 design encountered challenges, primarily due to data unavailability in various areas during the quantitative mapping at the regional level.

The EDP in the Imereti region took place in 2022, comprising a series of 16 workshops following the S3 methodology. These sessions delved into discussions on SWOT analyses, visions for priorities, and the formulation of policy mixes for each priority area. The regional approach involved joint moderation and facilitation of EDP workshops, with one local and one international expert collaborating.

The workshops successfully attracted stakeholders from diverse groups in the identified priority domains, proving instrumental in surfacing issues that were previously unknown to regional or national authorities. The commitment of regional authorities played a significant role, as they devoted substantial efforts to the Smart Specialisation process. This commitment gained added importance as national authorities considered replicating the process in other regions where successful practices emerged. The engaged stakeholder environment facilitated the identification of priority areas and the proposal of relevant policy actions, establishing a conducive framework for continuous stakeholder engagement during the implementation phase.

Although the EDP addressed the data unavailability issue in quantitative mapping, the regional approach encountered other challenges related to the ambiguous strategic mandates of the S3. Aligning the regional S3 strategy with regional development plans proved challenging, given slight disparities between the national strategic development methodology and the methodology for regional development at the municipality level. This necessitates further harmonization between regional and national levels. Additionally, establishing a sustainable funding mechanism for implementing regional Smart Specialisation strategies posed difficulties, requiring financial instruments to support initiatives from both business and public (e.g., research) entities at the regional level. Another challenge was designing an indicator system that could be effectively monitored at the regional level.

2.5 Tailored plan and needs assessment for continuous EDP in Serbia

In 2021, following the adoption of the strategy document and the commencement of its implementation, Serbia devised a plan for a continuous Entrepreneurial Discovery Process (EDP) that adheres to EU standards while considering the local context. The S3 framework provided detailed guidance for EDP preparation. Since two years had elapsed since the last EDP workshop, the EDP working groups needed reconstitution. These guidelines facilitated the identification of stakeholders for each priority domain, the development of the EDP plan and working rules, and the formation of the EDP working groups.

Both the S3 management team and the EDP team were unequivocal that the success of Serbia's continuous EDP hinges on providing feedback for identifying and improving tools for implementation, refining priority areas, and optimizing Research and Innovation Strategies for Smart Specialization (RIS3) governance and monitoring mechanisms. To achieve this success, the process must be conducted with integrity in terms of stakeholder participation and the appropriateness and implementation of EDP rules and procedures. The primary challenge was ensuring the necessary level of intensive and enduring participation of relevant stakeholders amid waning attention and reduced government support, exacerbated by a two-year hiatus. Additionally, the COVID-19 pandemic and

general elections impeded the adoption of the S3 strategy and the associated action plan, leading to the exclusion of much stakeholder input gathered during the EDP workshops from the strategy document or the action plan.

Considering these challenges, the EDP plan was formulated, and the organization of the initial continuous EDP workshops was initiated. The recommendations encompassed various aspects of the tailored continuous EDP plan, including:

- Develop a clear value proposition to attract stakeholders from the business and academic sectors.
- Adapt working group rules and workshop agendas to stakeholders' preferences.
- Manage stakeholder expectations meticulously to sustain their long-term engagement.
- Explore alternative ways and modalities to ensure continuity, even under COVID-19 constraints.

In line with these recommendations, the detailed continuous EDP plan was co-created with the members of the S3 management and EDP team, encompassing agendas, timelines, and sequences of workshops for different priority areas, key activities, milestones, and essential resources and partners.

To kickstart the continuous EDP, other facets of implementation had to be in place. In addition to the detailed plan, an analysis of gaps and needs was conducted, defining the desired design of the framework for Smart Specialisation strategy implementation. This included governance system entities, key activities, monitoring and evaluation systems, and key stakeholders and activities for continuous EDP. The team also assessed the current state of development, identified gaps, and conducted a needs assessment, providing crucial input for mobilizing funds from the national budget and donors. These funds enabled the implementation of the tailor-made, continuous EDP plan, which would not have been fully possible otherwise.

2.6 Operationalisation of the working groups in Montenegro

In late 2021 and early 2022, Montenegro encountered challenges during the Smart Specialisation Strategy (S3) implementation phase, particularly in organizing and facilitating working groups (WGs) for each of the four priority areas. The development and operationalization were grounded in the S3 implementation framework and drew from previous experiences in EU countries, encompassing the following features:

- **Representation of Stakeholders**: Stakeholders from the quadruple helix were represented, with the business sector forming the largest participant group.
- **Organizational Structure**: Public administration exclusively or predominantly handled the organization, secretariat, stakeholder mobilization, and group animation. Adequate resources needed to be allocated for the provision of these services.
- **Clear Rules of Conduct**: Clearly communicated rules of conduct within the groups ensured clarity for both early joiners and newcomers.
- **Quality Facilitation**: The process was facilitated to ensure a balanced contribution from all members, fostering a sense of ownership of the agenda and results. This included controlling vested interests and mobilizing active participation.

The engagement areas of the working groups were also defined. Their primary purpose and overall role were to facilitate dialogue and cooperation among quadruple helix stakeholders in their respective priority domains. This involved participation in governance processes, designing or modifying policy mixes, and monitoring activities.

Participation in governance processes encompassed the refinement and review of priorities, designing or reviewing objectives, and roadmaps. In the policy mix design and modification stage, working groups

focused on policy mix work, defining public calls and selection criteria, and designing thematic scopes. Lastly, involvement in monitoring included receiving data for S3 implementation revisions, disseminating information among stakeholders, designing monitoring indicators, and estimating target values while identifying potential niches within priority domains.

Several crucial actors were engaged in Montenegro to successfully establish and facilitate the operations of the working groups. The public administration handled technical and organizational matters, including inviting stakeholders, arranging meetings, providing venues or software, catering, and writing materials. Heads of working groups were responsible for setting agendas, chairing meetings, and occasionally preparing expert materials for discussions. The role of international donors, providing financial resources for the active participation of working group members, was recognized as significant during the implementation stage.

Given the governance structure with two levels above the working groups, Montenegro chose to continue with smaller working groups, typically consisting of six members. These smaller groups demonstrated responsiveness, flexibility, and proactivity, leading to the early identification of needs and niches, resulting in several internationally recognized flagship public calls.

3 Lessons learned

The following chapter includes lessons learned from key stakeholders and EDP contributors regarding real practices and recommendations that support the implementation of the EDP and the continuous EDP.

3.1 How to identify working group coordinators and facilitators and build their skills

If the local team of experts responsible for conducting qualitative analysis interviews does not assume the role of working group coordinators during the Entrepreneurial Discovery Process (EDP) stage, it may leave the EDP without key drivers in a crucial phase. In such instances, new EDP working group coordinators need to be identified, and they should be given a clear mandate to lead the planning and execution of EDP workshops, overseeing the working groups in the EDP stage for each identified priority domain.

It is advisable to appoint coordinators and facilitators for each priority domain who possess complementary personal networks and can effectively engage with various stakeholders. These individuals should have an in-depth understanding of the priority domain and an extensive network of contacts. Recognition by stakeholders in the priority domains is essential to build trust and attract the required numbers and structure for successful EDP working groups. Leadership skills and experience in facilitating consultation processes are crucial, and coordinators and facilitators should demonstrate proactivity, motivation, and readiness to tackle such complex assignments.

Additionally, coordinators and facilitators should be open and highly motivated to develop new capacities necessary for disseminating information about S3, encouraging other stakeholders to engage, and formulating an appropriate EDP plan and working rules. This preparation should take place before reaching out to stakeholders. Continuous capacity building, particularly intensified during EDP workshops, is essential. Technical support needs to be provided to develop scenarios, organise and conduct EDP workshops, and draw the right conclusions during the implementation of the EDP workshops.

3.2 Enhancing political support and commitment

For the successful execution of the Smart Specialisation Strategy, robust political backing is imperative. Ideally, the primary driver of the process should be the national S3 coordinator, a government-appointed official tasked with propelling the S3 process forward and capable of dedicating sufficient time to this role. This coordinator should lead a (continuous) EDP team comprised of highly motivated and committed coordinators and facilitators for the EDP working groups, with strong support from the highest government structures, such as the Prime Minister's Office or equivalent.

Prior to the EDP, support should be fortified through institutional and budgetary commitments. Institutional commitment involves the reaffirmation of the S3 position in the policy framework by top officials from various relevant ministries, the assignment of proactive government officials from these ministries as members of the EDP working groups, and the delegation of proactive government officials from various relevant ministries to enhance and implement RIS3 policies. This will foster better cooperation and support from various relevant ministries during the design phase, resulting in a more effective policy document and stronger ownership by government officials, essential for the successful implementation of the S3 policy mix.

Budgetary commitment encompasses the reallocation of financial resources from various relevant ministries, ensuring financial resources for S3 design, and securing national budget and additional resources (e.g. donors) for S3 design and implementation. This ensures a smoother S3 development process and guarantees the availability of financial resources for implementation. Increased financial resources for implementation will enhance the attractiveness of the value proposition for stakeholders

to participate in the (continuous) EDP, where they play a crucial role in shaping the policy mix for which this budget will be utilised later on.

3.3 Development of the EDP plan in accordance with the stakeholder preferences

To ensure the necessary stakeholder engagement, the EDP plan and work rules should be developed according to the preferences of the targeted stakeholders. Data that needs to be collected to help develop the detailed EDP plan includes frequency, duration, location and mode (online, face-2-face, etc.) of EDP workshops.

Preferences for the EDP should already be gathered during the qualitative analysis and in the current analysis of the local context just before the development of the detailed EDP plan begins. Preferences for the continuous EDP should be collected during a series of EDP workshops. To successfully integrate the continuous EDP with the other elements of S3 implementation, the governance system needs to be considered as a whole.

Plans for both the EDP during the design phase and the continuous EDP should be developed in detail, including a thorough action plan for the preparation of the EDP and an action plan for the implementation of EDP workshops and the completion of EDP input for the Smart Specialisation process. Key activities and tasks, responsible task holders, deadlines and milestones should be defined, enabling the development of a plan for the necessary human, material and financial resources.

3.4 Securing resources and time for EDP implementation

A detailed (continuous) EDP plan will reveal the full complexity of EDP. The experience shows that the resources allocated for carrying out the EDP according to the tailored plan are usually underestimated and insufficient. The process becomes already more resource-intensive within the qualitative analysis stage, where extensive expert support in different priority areas is needed. However, the amount of resources needed increases even more in the EDP stage, where the preparation of the detailed tailor-made EDP plan, the organisation and implementation of the EDP workshops alone require considerable human and financial resources. In addition, the feedback acquired from key actors in the Western Balkans shows that EDP is the stage were by far the most resources were required. Besides, the EDP was recognised as the stage where the most personnel for technical support and other types of support is needed.

Therefore, the implementation of a detailed EDP plan normally requires additional technical assistance and additional administrative staff. There is a common misconception that online or hybrid workshops EDP require fewer resources. Managing such events often requires more staff in the form of technology experts and additional support from back-end facilitators in order to manage virtual groups so that they are able to work properly. Furthermore, following the S3 design framework, the EDP workshop on policy mix should provide input on the desired policy instruments and measures in a form that can be easily incorporated into the strategy document. However, practice shows that the capacity of stakeholders in terms of policy mix formulation is often not at the level that would make this easily possible. In order to meet these expectations, additional technical assistance should be acquired.

The experiences from the targeted region show that the EDP is the stage that takes most of the process time. An often neglected, but crucial resource, is the time available for the EDP, resulting in time constraints that force faster implementation at the expense of quality.

These resources are usually not thoroughly planned for at the outset and it is difficult to obtain them on an ad-hoc basis once the process is underway. It should be emphasised that the lack of resources can seriously affect the quality and flow of the process.

3.5 Developing a value proposition and managing stakeholders' expectations

To engage stakeholders, a S3 management team and an EDP team of coordinators and facilitators should develop a clear value proposition. It has been shown that, for stakeholders, "being part of an elite", or of a decision-making group, is the value proposition that usually attracts them to an EDP. However, additional benefits should also be emphasised. As a variety of stakeholders are addressed, the benefits are different for each stakeholder group and accordingly the value proposition should be different. A clear value proposition will attract stakeholders to the EDP working groups, but it is important that they remain active participants throughout the duration of an EDP. Therefore, the expected stakeholder engagement and the limitations of S3 should also be clearly communicated.

In order to build and develop trust, it is important that the government institutions deliver on their commitments regarding the timeline and resources for S3 development and implementation.

3.6 Identification of process ambassadors

Previous experience in the region has shown that influencers have considerable effect on the perception and behaviour of actors in the innovation ecosystem. Namely, there could be widely recognised individuals in diverse preliminary priority areas who understand the Smart Specialisation and are genuinely willing to participate in the process. Moreover, they would be willing to promote the Smart Specialisation process through the word of mouth, thus ensuring other stakeholders' participation in the EDP. Not only do they provide extensive feedback on the design process; they are also willing to become more involved in the RIS3 implementation by using S3 policy instruments and providing feedback.

It is important that the identification of these so-called "ambassadors of Smart Specialisation" starts in the qualitative mapping stage, through qualitative analysis interviews. They should come from the industry, academic and government sectors of all preliminary priority areas. Once the ambassadors have been identified, they should be assigned to relatively smaller tasks previously agreed between the S3 management and the EDP team. The involvement of such personalities also increases the overall visibility and reputation of the Smart Specialisation process.

3.7 Communication campaign for attracting key stakeholders

Once a clear value proposition has been developed based on a well-developed EDP plan and supported by the institutional and budgetary commitment of government to provide the resources for implementation, a carefully planned stakeholder outreach campaign should be launched. The ultimate goal of such campaign is to formally enrol the members of the EDP working group in the numbers and structure required by the S3 framework, according to the predefined rules.

So far, the best results in stakeholder recruitment have been achieved by approaching the previously identified relevant stakeholders in the following order:

1. Establishing direct contact with identified EDP ambassadors by coordinators, followed by a formal invitation;
2. Referral of ambassadors to other relevant stakeholders, with each influential ambassador attracting several additional stakeholders to the process, multiplying the number of participants;
3. Open call is an option if the previous two steps do not lead to the desired results in terms of number and structure of members of the EDP working group.

The abovementioned activities should be accompanied by a targeted communication campaign aimed at key stakeholders from the quadruple helix. Key messages about the S3 process, its inclusiveness and its main objectives need to be developed and used by top-level government representatives, S3 management and all coordinators and facilitators, following clear rules and mandates for

communication. It is very important that this is not overly promoted for a variety of reasons. Smart Specialisation is characterised by a consultation process between key stakeholders from industry and academia. As such, it might become attractive to external groups (e.g. politicians) who might see the EDP as an opportunity for individual promotion without providing true contribution to the quality of the process. Such phenomenon may hinder the participation of key stakeholders. As Smart Specialisation is not a 'neutral policy', but priority-oriented, promotion in the RIS3 design phase should focus on attracting and retaining key stakeholders.

3.8 Perceived complexity and importance of the EDP phase

The EU Enlargement and Neighbourhood Region is sometimes characterised by a culture of non-cooperation and the main actors driving the S3 processes often fear that the high demands of the S3 standards in terms of stakeholder participation will not be met.

The feedback of key S3 actors and contributors from the targeted region confirmed that the EDP is also the most demanding stage regarding required resources and support used. Besides, this is also the S3 design stage were support provided by the JRC was scored with highest satisfaction.

However, the same analysis showed that by far the most satisfactory part of the S3 process in the Western Balkans region is the EDP stage. In addition, in the economies that have completed the EDP, among the main benefits of the whole S3 process, are increased stakeholder engagement and satisfaction with the EDP.

4 Putting in place a tailored EDP

This chapter provides a step-by-step guide for the development and implementation of the EDP in the EU enlargement and neighbourhood. It follows the division into sub-phases of EDP, as elaborated by the S3 design framework, and takes into account lessons learned from the practice and the local context. Particular attention is paid to the first sub-stage, which complements the EDP training with detailed and comprehensive preparation.

4.1 Preparation and training for EDP

Detailed and comprehensive preparation and training are essential for the success of EDP. The EDP training, as described in the S3 design framework, is complemented by comprehensive preparation to ensure that a detailed, tailored EDP plan is developed and resources secured for its implementation. There are 8 sequential steps that need to be completed before proceeding to the next sub-stage of an EDP.

4.1.1 Gathering required input for the EDP

To ensure the integrity of the entire RIS3 design process, it is essential to build on the evidence-based findings of the S3 process conducted to date. The key input that will significantly influence the EDP should already be determined in the 'Analysis of strategic mandates' stage, which should ideally include the following elements agreed with key government stakeholders:

1. The place of S3 in the strategic framework, i.e. its relation to other relevant national/regional development policies and strategies;
2. The standpoint of the key stakeholders on how the RIS3 priority areas and related policy mix will be harmonised with other relevant policies and strategies;
3. The decision on the territorial dimension of the S3 (depending on the size of the country and the existing sub-national administrative structure) - national vs. regional approach;
4. The identified sectors which have economic, scientific and innovative potential for Smart Specialisation.

In addition, the output of the qualitative mapping of the economic, innovative and scientific potential should optimally provide the following input:

1. List of preliminary priority domains (and sub-domains, if existing) for the EDP and their definitions;
2. Preliminary list of key stakeholders for each preliminary priority domain (with indication of sub-domains, if existing);
3. Preferences of the key stakeholders regarding the future EDP process.

If the decision has been made that RIS3 will be developed on the regional level, then such input should be provided for each region.

4.1.2 Appointment of the EDP team

The EDP team is led by the national S3 coordinator and consists of coordinators and facilitators to lead future EDP working groups according to the preliminary priority domains. The coordinators should meet the following criteria:

- Be respective members of academia, business or the civil sector;
- Have expertise and good insight into a particular domain;
- Have extensive network and high reputation;
- Have experience with group processes and practical knowledge of facilitation, i.e. workshop techniques;

- Possess good leadership, communication, organisational and analytical skills;
- Have proven integrity to avoid bias towards vested interest;
- Demonstrate high interest and self-motivation to participate in S3;
- Be available to take on an additional full-time assignment next to current daily commitments.

If the qualitative analysis has been successfully completed and the above criteria are met, the coordinators should ideally be people who have already conducted interviews with the stakeholders in the stage prior to EDP. This shows continuity of the process, facilitates stakeholder identification, bridges the lack of trust and reduces the amount of capacity building required.

Due to the high demands and high intensity of tasks mentioned above, coordinators can be often supported by co-coordinators/facilitators who should have complementary skills. This means that each priority domain would ideally have two members in the EDP team.

4.1.3 Capacity building activities

Members of an EDP team should build new capacities necessary to understand the principles and benefits of S3 and EDP, motivate other stakeholders to engage and later co-create an appropriate EDP plan, identify stakeholders and develop working rules, all of which should be done before contacting stakeholders. Due to the complexity of EDP, capacity building workshops should be conducted face-to-face and include topics such as:

- Understanding of the S3 fundamentals and S3 design framework;
- Understanding of the EDP, its principles and specific goals;
- Understanding of the main topics and goals of thematic EDP workshops;
- Rules and procedures for the identification of stakeholders for each priority domain;
- Development of the working group rules and definition of working groups;
- Development of the documenting, invitation and management protocols;
- Development of the clear value proposition and unified messages for communication with stakeholders as key inputs for communication campaign.

4.1.4 Updated input concerning the local context

There is usually a time break between an EDP and the stages that preceded it, so it is very important to gather up-to-date information about the local context before planning the EDP in detail. To better adapt the EDP work plan, input needs to be gathered from the S3 management and the EDP team. The data that should be collected is information about the latest developments in the following areas:

- Governance of the S3 process and EDP stage in particular;
- High-level policy support for continuation of S3;
- Mandate and positioning of S3 within the current national policy framework;
- Available resources for the design of RIS3;
- Planned resources for the implementation of RIS3;
- Current capacities and experience of selected coordinators and facilitators;
- Progress made regarding the identification of stakeholders and estimation of sufficient critical mass for each of the potential working groups;
- Preferences regarding working group rules and timing of the future EDP.

4.1.5 Co-creation of detailed tailored EDP work plan

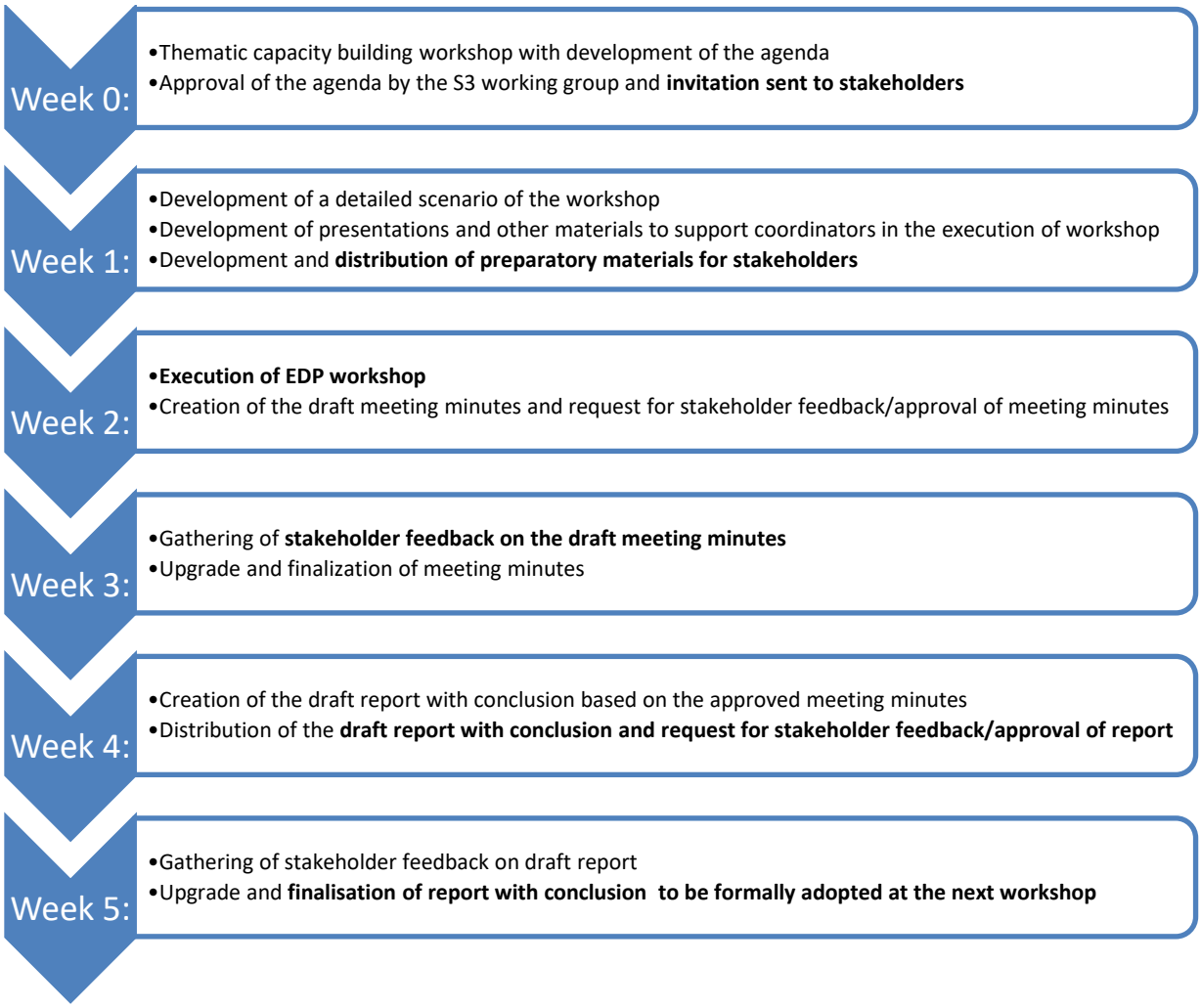
The EDP is the most complex stage of S3 design. It involves numerous activities and high amount of human resources, but is also often constrained by deadlines and stakeholder expectations. To be feasible, the detailed plan should be developed from the bottom up, taking into account the local

context and stakeholder preferences. At the same time, the limits of resources available for the implementation of EDP should be taken into account in order not to jeopardise the fluidity of the process. To keep stakeholders motivated, it is advisable to keep the break between the qualitative analysis interviews and the start of the EDP workshop as short as possible. Ideally, the entire EDP should not last longer than 6 months, which is possible if a detailed plan is developed and properly executed and managed.

A detailed process plan should include:

- An action plan in preparation for EDP launch, with key activities and tasks, responsible task owners, deadlines and milestones, comprising the following:
  - development of content for invitations (e.g. pitches, e-mail templates, formal supporting letters);
  - invitation protocol (defining when and in which form the invitations are sent out);
  - documenting protocol (defining the creation of list of participants, meeting minutes, report with conclusions from EDP workshops, and how and where the feedback is collected);
  - management protocols: reporting, communication and documenting and approving procedures;
  - draft rules on participation and decision making in EDP working groups;
  - preparation of input for communications strategy and communication rules and procedures.
- An action plan for organisation and implementation of EDP workshops and finalisation of EDP input with key activities and tasks, responsible task owners, deadlines and milestones, comprising the following:
  - creation of a typical workflow in organisation and implementation of EDP workshop (see Figure 4) that assists in defining precise timeline of activities;
  - timeline and location of four thematic EDP workshops (Kickoff, SWOT, Vision and Policy mix). In case of time constraints it is recommended to combine EDP kick-off and SWOT analysis workshops together;
  - plan of specific capacity building on key topics of the next thematic EDP workshops;
  - plan of EDP team workshops to develop detail scenarios, support presentations and IT tools and materials stakeholders need for the next EDP workshops;
  - timeline for timely sending of invitations and materials for stakeholders;
  - timeline for creation of key documents e.g. list of participants, meeting minutes, reports with conclusions;
  - timeline for gathering stakeholders' feedback and approval of created key document;
  - provisional plan for finalisation of the EDP input (depends on the (in)quality of the output from the EDP workshops).
- Plan of required resources: human, physical and financial resources.

Figure 4. Typical workflow in organisation and implementation of an EDP workshop



Source: authors.

4.1.6 Securing resources for EDP

The resources needed to implement EDP are often underestimated. This is the stage where the S3 process is most complex, which becomes very clear once the detailed, tailored EDP work plan is developed. The main activities to prepare, organise and deliver the EDP workshops and finalise the EDP input for S3 require significant human and financial resources, which are also identified in the detailed, tailored EDP work plan.

Before proceeding with the EDP, a resource needs assessment for the EDP needs to be carried out in order to determine which resources still need to be secured. For the illustration purposes, the estimated required human resources, service providers and associated types of financial resources are described below:

- Human resources:
- Existing national S3 coordinator and the accompanying team;
- Local EDP team members: a coordinator and a facilitator for each of the priority domains;
- Local policy expert (needed to steer the preparation of the policy mix workshop and optimizing of the EDP input for S3);
- Local analytical expert (expert in S3 methodology, but also in local context, needed to support coordinators in preparation of conclusions).

- Facilitators at the EDP workshops (occasional engagement, needed only when preparing scenarios and executing workshops). The number of staff varies depending on scenarios and modalities (face-2-face, online or hybrid) of EDP workshops;
- Junior staff at the EDP workshops (occasional engagement, needed only when executing workshops). The number of staff varies depending on scenarios and modalities (face-2-face, online or hybrid) of EDP workshops;
- International expert, providing technical assistance to the national S3 coordinator in planning, managing and steering the process, and capacity building for the EDP team;
- Service providers are needed for professional planning and execution of services that are not specific to the EDP, but are essential for the high-quality execution of the EDP stage. These service providers should support the national S3 team in the planning and execution of the following actions:
- Communication campaign team;
- Event management team;
- IT support team;
- Financial resources, required for:
    - Abovementioned human resources;
    - Material costs, travel, etc;
    - Service providers.

Continuing the EDP without securing resources can seriously affect the quality and fluidity of the entire S3 design process.

4.1.6 Tailoring management, governance and support activities

A detailed, tailored EDP plan will exhibit the assignment of many activities and tasks to different actors. This requires constant coordination and intensive communication, which should be regulated with protocols agreed between S3 management and the local EDP team. As operational management is intensified, it is recommended that only 'tactical' matters are discussed within the (cross-ministerial) EDP working group at policy level, while operational issues should be coordinated between the national S3 coordinator and the local EDP team.

To facilitate the monitoring of progress, milestones and key performance indicators should be introduced and updated frequently. Weekly or bi-weekly meetings between the national S3 coordinator and the local EDP team are highly recommended. These meetings should report on progress, sharing of lessons learned and findings that could improve EDP in any way. To support the implementation of EDP and ensure much needed visibility, credibility, transparency, traceability and data security, additional supporting activities should be organised, including at least communication/PR and IT support.

4.1.7 Development of communication strategy and plan

To secure the engagement of key stakeholders and the support of top-level political actors, it is important to make the EDP visible. A communication strategy should be professionally developed and executed, targeting the following key stakeholder groups:

- Future EDP stakeholders from business, academia and civil society who should form EDP working groups and actively participate in EDP workshops;
- High-level political actors needed to sponsor the EDP by providing the top-down support needed for cross-ministerial collaboration, securing national resources and donor funding, and attracting mainstream media attention;

- General public interested in research and innovation in the areas of preliminary priority areas to increase public support and awareness and make the process more relevant.

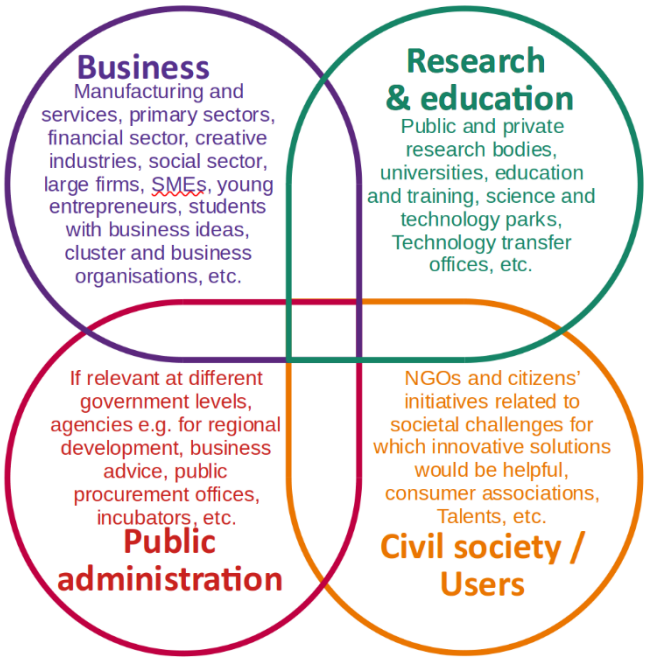
The campaign should ensure that key messages about the S3 are developed and used by policy actors, coordinators, co-coordinators and facilitators following clear rules and mandates for communication. So far, the most successfully channels have been: 1) S3 ambassadors – influential business people and academics - using word of mouth and referrals; 2) official S3 websites; and 3) influencers on social channels such as, for example, LinkedIn. The content that had the greatest reach was S3 best practice examples from abroad and videos from EDP workshops with testimonies from influential stakeholders.

It is important that such a communication strategy remains focused on key stakeholder groups, as EDP is intended for the relevant stakeholders of the preliminary priority domains and not everyone can participate.

4.2 Identification of stakeholders

After detailed preparation, relevant stakeholders need to be identified for each priority domain (and sub-domains if defined in the qualitative analysis). These include key players in the value chains, innovative companies, cluster members, chambers of commerce and other business associations, researchers and organisations from related fields. The identified stakeholders should represent all four helices of the Quadruple Helix innovation ecosystem, as described in the following figure:

Figure 5. Quadruple-helix innovation ecosystem



Source: authors.

In addition to stakeholders that typically operate in the priority areas, it is important to include those actors who can contribute to the success of EDP and the later implementation of RIS3 from the following perspectives:

- Horizontal priority areas and technologies that can significantly improve the transition of vertical domain;

- Contribution to green and digital transformation;
- Contribution to environmental, climate and energy challenges;
- Contribution to societal challenges.

Stakeholders can be identified through desk research and interviews or through a more objective network analysis of scientific and innovative collaboration. It is important to stress that this stage should be inclusive and evidence-informed. Relevant government bodies such as ministries, implementing agencies, regulators, accreditation bodies and the like should be involved in the process. There are many ways to identify stakeholders for a EDP. However, this should be done in a methodical and logical way to ensure that stakeholders are not simply ignored and that quality standards are met. This is particularly important for stakeholders from industry and the private sector. To this end, all relevant databases listing stakeholders based on value chain improvement, research, development, innovation and intellectual property should be used. To ensure the quality of the identified cohort, different types of inclusion criteria can be used:

- Stakeholder already analysed and identified during the qualitative analysis;
- Outstanding size of the company, market success, number of employees, added value, etc;
- Wining innovation awards, grants, public calls, etc;
- Received invitations to collaborate: Horizon projects, Innovation fond invitations & grants, green vouchers;
- Excellence in innovations: national and international awards, holders of valid international patents;
- Recommendation with justification of other working group candidates/members.

The process of stakeholder analysis requires a closer look at each stakeholder to gather more in-depth information so that their influence, involvement, communication needs and preferences are understood. For an EDP to be successful, a stakeholder should be motivated and actively engaged in a process and understand the potential impact of the outcome of EDP on the priority domain. It is also important to understand that not all stakeholders have the same influence or impact on EDP, nor are they affected in the same way. Therefore, good management of EDP is critical to the success of the process. The stakeholder analysis should balance stakeholder influence and motivation so that the degree of influence and interest of each stakeholder in the relevant issues is captured. The following 'soft' criteria could be used to identify stakeholders:

- in-depth knowledge of the sector: position in the global value chain, competitiveness on global and regional level, trends, key actors and best-case examples;
- extensive personal network;
- high reputation in the community;
- broader view beyond boundaries;
- entrepreneurial spirit and willingness to take risks;
- proactivity, availability and willingness to share the opinions and collaborate.

Each identified stakeholder should be represented in form of a list of stakeholders that should include the following information (see template in Annex 1):

- name of the stakeholder;
- helix they belong to (academia, business, government or civil);
- sub-priority within the priority domain (based on QA report);
- inclusion criteria met explaining why this stakeholder is considered relevant;
- ambassadors of the EDP (attracting other stakeholders);
- region where they come from.

To be considered validated, it is strongly recommended that the list of stakeholders for each priority domain includes a minimum of 20-30 key stakeholders (with at least 10 stakeholders in each sub-domain, if existing). Half of these stakeholders should be from the business sector. Preliminary priority domains that do not meet the requirements should not be considered for EDP as the critical mass of stakeholders is no longer sufficient.

4.3 EDP plan and working group rules

Once the preliminary domains and sub-domains are validated, but before EDP formally starts with constitution of EDP working groups, a general EDP plan and clear rules should be established. The purpose of the sub-stage "EDP plan and working rules" is to develop a clear vision of the future process that will enable the EDP working group coordinators to approach the future working group members with all the necessary information about the future EDP and its implementation.

4.3.1 EDP plan

The EDP plan is easily derived from the tailor-made detailed plan EDP. However, as it is intended for the future members of the working groups, its content is more general and limited to activities where stakeholder participation is required.

At the heart of stakeholder engagement is a series of thematic EDP workshops. These workshops are normally organised separately for each priority domain, so a separate plan should be developed for each priority domain. The EDP workshops are usually held in one location and attract stakeholders from different areas. In priority domains where many stakeholders come from different territories, the EDP workshops are often organised in different regions to bring the process closer to the stakeholders. This is adaptation to the local context.

Annex 2 of this document provides a template for an EDP plan. Summarised, an EDP plan for each preliminary priority domain should include the following:

- Appropriate sequence of thematic EDP workshops;
- Topics and required deliverables of each thematic EDP workshop;
- Timetable of EDP workshops;
- Presentation of territorial dimension of EDP:
    - if the priority domain plans to hold workshops in different regions of the country to increase regional presence and proximity of EDP to stakeholders, the plan of EDP should be complemented by a map showing the cities where the EDP workshop will take place;
    - if the working group plans to hold all workshops centrally, the regional coverage can be illustrated by a map showing the territorial distribution of the origin of key stakeholders.

Ideally, the EDP plan should also include a vision of the whole RIS3 design process until the strategy is adopted, but in the EU Enlargement and Neighbourhood such long term plans are quite uncertain and should be avoided.

4.3.2 Working group rules and procedures

In addition to the EDP plan, clear rules should be established for participation and the decision-making process, as well as for the organisation and implementation of future EDP workshops, before the EDP is officially launched.

The rules for the working groups will also be derived from the tailor-made detailed plan EDP and will be limited to activities requiring stakeholder participation, in particular invitation, documentation and management protocols, as well as draft rules for participation and decision-making in EDP working

groups. In addition, up-to-date input on the local context is an important factor in drafting the rules and procedures for EDP working groups.

The rules for participation support the management of working group membership and should define:

- Who coordinates the EDP working group for each priority domain and what are their responsibilities in terms of planning and conducting workshops, documenting the results and leading the decision-making process;
- Inclusion criteria for identifying relevant stakeholders (defined in the 'Identification of stakeholders' sub-stage);
- How a relevant stakeholder becomes a member of the working group, e.g. by formally accepting the invitation or signing the presence list at the first EDP workshop they attend;
- How a member of the working group maintains membership status, e.g. by participating in EDP workshops.

A general rule is that all decisions should be supported by evidence to avoid hidden agendas. Additional rules for decision making should define who can participate in decision making process (e.g. only members of the working group), what is the minimum quorum threshold (for validity of the process it is recommended that at least 20-30 members of the working group per priority domain and minimum 10 members per sub-domain present at EDP workshop) and what will be the method by which decisions will be made (e.g.: by consensus, by consent, voting, Delphi method, etc).

A set of rules for organising and implementing EDP workshops ensures that the S3 framework and the basic principles and elements of stakeholder participation are followed throughout the EDP. In addition, these rules embody stakeholder preference over the EDP workshops and should define:

- duration of the EDP workshops and the interval between EDP workshops (e.g. 5 weeks);
- invitation protocol (it is recommended that official written invitations are sent at least 2 weeks before the workshops);
- when should the preparatory materials be sent to the working group members (it is recommended that preparatory materials for the stakeholders are sent at least 1 week before the workshop);
- different approaches that can be used to conduct EDP workshops (e.g. face-2-face, hybrid, online, etc);
- documentation protocols (it is strongly recommended that EDP workshops are documented with signed lists of participants and meeting minutes which need to be approved by the participating members of the working group);
- standard of inputs for the RIS3 document (it is strongly recommended that inputs are based on approved meeting minutes and supporting evidence and are approved by participating members of the working group).

Annex 3 of this document contains a template of working group rules and procedures.

4.4 Definition of EDP working groups

To ensure the necessary participation and structure of relevant stakeholders in the thematic EDP workshops, the EDP working groups should be established before EDP is officially launched. The working groups are composed of relevant stakeholders who become members by sending admission statement (in replay to invitation letter) or signing a list of participants prior to the first EDP workshop.

4.4.1 Developing and communicating clear value proposition

To engage stakeholders, a clear value proposition should be developed. The value proposition is based on the government's commitment to provide the resources and timeline for the development and implementation of S3.

It has been shown that the value proposition of 'being recognised and selected as a key player concerning the priority area' usually attracts stakeholders to EDP. However, additional benefits should also be included.

As a variety of stakeholders are addressed, the benefits for each of these groups are different and, accordingly, the value propositions should also differ. The typical benefits of an EDP, targeting different stakeholder groups, are the following:

- **Business sector**: opportunity to design measures / instruments, potential source of funding, networking with future project partners, co-creation of new project ideas.
- **Research sector**: opportunity to design measures / instruments, networking with future project partners, meeting with partners for knowledge / technology transfer, potential source of funding.
- **Governmental sector**: be part of a new policy making process, cooperation with business / research.

4.4.2 Managing stakeholder expectations

A clear value proposition attracts stakeholders to the working groups of EDP, but it is important that they remain active participants throughout the duration of EDP. Therefore, in order to build trust, commitments should be kept on the one hand, but also the expected stakeholder engagement and limitations of S3 should be clearly communicated. In order to successfully meet stakeholders' expectations, there are important elements of the process that should be communicated together with the value proposition. As the EU Enlargement and Neighbourhood economies are not members of the EU, resources for S3 implementation are mainly limited to the budget provided by the national government, with additional measures possible from available EU and other donor funds. Therefore, at least an estimate of the available resources should be provided and the policy mix and action plan adopted accordingly. The S3 policy mix should focus more on vertical measures that contribute to the transformation of the identified priority domains. It is also important to emphasise that, in order to shape the policy mix, stakeholders are expected to participate in all thematic workshops of EDP. Their participation and the decision-making process should be governed by pre-defined EDP working group rules to ensure high standards of transparency and verifiability of the process. The objectives and the plan with timetable of the thematic EDP workshops are also predefined.

4.4.3 Standards and representation of an EDP working group

Before the start of the EDP thematic workshop, an EDP working group for each priority area should fulfil several conditions:

1. The members of the working groups should adequately represent the value chains identified in the qualitative mapping for each priority domain and fulfil the criteria used in the “Identification of stakeholders” sub-stage which are also part of the rules for participation.
2. The composition of an EDP working group should represent the quadruple helix, meaning that its members should include stakeholders from business, academia, government and civil society. Representatives from business should make up at least 50% of the participants in a working group.
3. The working group for the priority domain should include at least 20-30 stakeholders, with at least 10 stakeholders per sub-domain, where stakeholders within the sub-domain should represent at least a triple helix, including at least stakeholders from business, academia and

government institutions. Working group members should actively participate in all EDP thematic workshops.

EDP is inclusive, i.e. additional stakeholders who meet the inclusion criteria defined in the working group rules can become new members during the term of the EDP working groups.

In order to clearly demonstrate that a working group meets the above conditions, a list of members should be established and maintained, and should include the following information:

- name and contact details of the stakeholder;
- related helix (academia, businesses, government or civil sector);
- narrow priority within the priority area (based on QA report);
- inclusion criteria explaining why this stakeholder is considered relevant;
- if the stakeholder is considered ambassador of the EDP;
- region of origin;
- date of admission into working group;
- indication of participation at EDP workshops (added when stakeholders actually participate).

This list will also be used for invitations to upcoming EDP workshops, for correspondence to confirm minutes and to obtain feedback on reports from EDP workshops. In addition, the appropriate structure of the working group should be represented graphically, usually by a pie chart showing what proportion of members are from academia, business, government or civil society. It is very important that all personal contact information of stakeholders is handled in accordance with national legislation on data protection.

Annex 4 contains the template for the definition of an EDP working group.

4.5 EDP workshops

4.5.1 General guidelines

Organise EDP workshops in an inclusive and participatory manner

The design of RIS3 is a collaborative effort between business, academia, the civil sector and government, who work together to identify the most promising areas of specialisation, as well as the weaknesses that hinder innovation. This is done through a series of 'entrepreneurial discovery' workshops that need to be conducted in an inclusive and participatory manner. It is important that stakeholders are not only present but also participate and actively engage in the process. This should be achieved through:

- sending out the agenda early enough to allow stakeholders to be present;
- sending well-designed preparatory materials in good time so that stakeholders can better prepare for participation;
- the scenarios of the EDP workshops should include methods that involve all participating members of the working group and give them equal opportunity to express their views.

Documenting for auditability and evidence base

Key elements and principles that should be followed in EDP are transparency, clear rules and a proper evidence base that aim to manage hidden agendas to ensure trust building for sustainable stakeholder engagement. Auditors of the RIS3 strategy document should be able to verify that these principles have been followed. To this end, the auditability of EDP needs to be ensured through the production of appropriate documents. For each EDP workshop, the following types of documents should be ensured:

- official invitations with agendas sent according to working group rules;

- workshop execution materials, usually power point presentation used to facilitate EDP workshops;
- list of participants:
    - in case of face-to-face workshops signed lists of participants with indication of helix and sub-domain,
    - in case of online workshops screenshots and list of participants (without signature) with indication of helix and sub-domain;
- meeting minutes providing raw data that will enable verification of inclusive and participatory approaches used and weather the working group rules on decision-making were followed;
- reports with conclusions based on the approved meeting minutes.

Annex 5 contains a template for the list of participants, while templates for meeting minutes and reports with conclusions are in Annexes 6 to 9.

Continuous capacity building and training

Capacity building and training need to be intensified between the EDP thematic workshops. The training workshops for the S3 management and the EDP team of coordinators and facilitators should focus on the following topics:

- In-depth understanding of the content of thematic workshops;
- In-depth understanding of facilitation techniques;
- Co-creation of agenda and detailed scenarios of thematic workshops;
- Development of meeting minutes from EDP workshops;
- Analysis of stakeholder feedback on meeting minutes and formulation of conclusions;
- Analysis of methods used at EDP workshops and lesson learned.

Ensure that all necessary capacities are built up before the EDP workshops. Otherwise, the risk is very high that adequate feedback from stakeholders will not be obtained hindering the ability to formulate adequate EDP input for the S3 sub-stage.

4.5.2 Topics of thematic workshops

There are numerous standard and additional topics to be discussed at EDP. This section describes topics and outputs, while the proposed tailor-made division of topics and outputs within EDP thematic workshops is presented in the next section.

Standard topics

According to the S3 framework, the standard topic and deliverables of the series of EDP workshops are:

1. EDP Kick-off workshop delivering introduction of priority domains, establishment of workgroups and adoption of EDP plan and rules;
2. SWOT workshop delivering SWOT analysis;
3. Vision workshop delivering Vision for the future and final name and definition of priority domain;
4. Policy mix workshop delivering policy mix objectives and actions with indicators.

References to societal and economic challenges

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, is a shared blueprint for peace and prosperity for people and the planet, now and in the future. At its heart are the 17 Sustainable Development Goals (SDGs), which represent an urgent call to action by all countries - developed and developing - in a global partnership. They recognise that ending poverty and other deprivations must go hand in hand with policies that improve health and education, reduce

inequality and boost economic growth – all while combating climate change and protecting our oceans and forests.[3]

In the EDP workshops, working group members need to explore how the goals and activities of each priority domain can contribute to more sustainable development and to each of the 17 Sustainable Development Goals (SDGs).

References to green and digital agenda

Climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, Europe is leading the transformation into a modern, resource-efficient and competitive economy. Green transition aims to improve the well-being and health of citizens and future generations by providing[4]:

- fresh air, clean water, healthy soil and biodiversity;
- renovated, energy efficient buildings;
- healthy and affordable food;
- cleaner energy and cutting-edge clean technological innovation;
- longer lasting products that can be repaired, recycled and re-used;
- globally competitive and resilient industry.

Digital technologies present enormous growth potential for Europe. Empowering businesses, academia, people and administrations with a new technologies, will unable digital transformation. This unlocks digital growth potential and deploy innovative solutions for businesses and citizens. Digital solutions that put people first will open up new opportunities for businesses, encourage the development of trustworthy technology, foster an open and democratic society, enable a vibrant and sustainable economy, help fight climate change and achieve the green transition.[5]

In the workshops of EDP, members of the working groups should explore how digitalisation improves the competitiveness, absorption and accessibility of their services or products. In addition, the impact on climate change, decarbonisation, energy efficiency, the green economy and new ways of producing energy should be discussed in the EDP workshops of all priority domains.

4.5.3 Suggested division of topics and outputs of EDP thematic workshops

In order to optimise the fluidity of EDP, it is suggested to organise the EDP Kick-off and SWOT analysis workshops together, so that 3 EDP workshops are organised in total:

1. Workshop (WS1): EDP kick-off and SWOT analysis workshop;
2. Workshop (WS2): Vision work;
3. Workshop (WS3): Policy mix workshop.

By combining standard topics and additional topics, such as references to societal and economic challenges and references to the green and digital agenda, the following breakdown of topics and outputs for each of the EDP workshops is suggested.

Table 1. Key topics and outputs of (WS1) EDP kick-off and SWOT workshop

Key topics on the agenda	Key outputs in the report with conclusions
SWOT analysis Identification of Cross-innovation potential and opportunities:	SWOT matrix for each priority sub-domain (e.g. within Agri-Food): • 1 matrix for - Smart agriculture

[3] https://sdgs.un.org/goals
[4] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
[5] https://ec.europa.eu/reform-support/what-we-do/digital-transition_en

• With horizontal domains • With other vertical domains COVID & health related issues and opportunities Digital and green transformation opportunities & benefits for users Feedback on EDP workshop and plan	• 1 matrix for Food processing with high added value Cross-innovation matrixes listing opportunities between: • vertical and horizontal domains (e.g. Smart buildings & materials – Energy) • vertical priority domains (e.g. Agri-Food – ICT) List of possible application in field of Digital and green transformation opportunities & benefits for users

Source: authors.

Table 2. Key topics and outputs of (WS2) Vision workshop

Key topics on the agenda	**Key outputs in the report with conclusions**
Formal approval of conclusions from the previous workshop Long term vision for the future Strategic objectives leading to the vision Impact and leverage on sustainability goals Final name and definition of the domain: • Elaborating missing justification as indicated in QA report • Final name of priority domain Incremental/New findings on already discussed topics: • SWOT • Cross-innovation opportunities • Digital and green transformation Feedback on EDP workshop and plan	Long term vision statement for each priority domain List of SMART Strategic objectives leading to the vision Matrix of possible impact of strategic objectives on SDGs Final name and definition of the domain: • Elaborating sub-domains • Final name of priority domain (Optional in case of New incremental/ findings): • Improved cross-innovation matrix indicating opportunities between vertical and horizontal domains • Improved Cross-innovation matrix indicating opportunities between vertical priority domains • Improved List of possible application in field of Digital and green transformation opportunities & benefits for users

Source: authors.

Table 3. Key topics and outputs of (WS3) Policy mix workshop

Key topics on the agenda	**Key outputs in the report with conclusions**
Formal approval of conclusions from the previous workshop Discussion on policy mix categories: • Specific objectives supporting strategic goals (not measures, but SMART specific objectives) • policy actions – indication of possible forms of policy support, measures that support reaching the objectives	Input on policy mix including specific objectives, associated measures and indicators Desired Roadmaps/action plan for implementation of policy mix or at least indication of priorities Details on continuation of EDP (Optional in case of New incremental/ findings): • Final definition of SWOT matrix • Final definition of Vision statement • Final definition of the priority domain

• indicators – indication of measurable characteristic to enable monitoring within implementation Discussion on Roadmaps/Action plan for implementation Continuation of EDP Incremental/New findings on already discussed topics: • SWOT • Cross-innovation opportunities • Digital and green transformation • Definition of Vision statement • Definition of the priority domain Feedback on EDP workshop and plan	• Final cross-innovation matrix indicating opportunities between vertical and horizontal domains • Final Cross-innovation matrix indicating opportunities between vertical priority domains • Final List of possible application in field of Digital and green transformation opportunities & benefits for users • Matrix of possible impact of strategic objectives on sustainable development goals.

Source: authors.

Workshop topics are proposed based on the current context. However, should the preferences of the main actors in the Smart Specialisation process or the members of the working groups change, or should the global context change, the topics and outputs should also be adapted.

4.5.4 Facilitation techniques for online and face-2-face workshops

Facilitation plays an important role in promoting stakeholders' engagement in the EDP as well as in the decision-making process. Useful facilitation skills include creating the appropriate group environment, encouraging participation, and leading a group to reach its objectives. There is a wide range of tools and techniques (Laranja et al, 2021; Begovic et al, 2021) to help engage people and mobilise different types of evidences needed to understand and sense complex problems involving multiple stakeholders, such as the case of transformative regional social and economic changes through Smart Specialisation Strategies for Sustainability. Recently, in response to the effects of the COVID-19 pandemic, facilitation techniques have been adapted or extended to remote collaborative settings using online platforms. In general, any facilitation technique will enable to:

- create an environment for high-quality conversation;
- define question(s), topic(s), challenge(s);
- divide participants in small groups (up to 6 people per group) - corresponding to rooms, tables (breakout sessions);
- divide the time in "rounds" of conversation (e.g. 20 minutes);
- use different questions challenges in each round. Alternatively, use the same question for more than one round, or build questions round after round to focus the conversation or guide its direction;
- harvest the conversation. After small groups (and/or in between rounds, as needed), individuals are invited to share insights or other results from their conversations with the rest of the large group.

Below is a summary of the most commonly used facilitation methods that proved to be useful in EDP workshops (both online and in-person).

- Open Space Technology

Open Space Technology provides an online alternative to the traditional meeting, conference, or summit formats within organizations, communities, groups, and networks. It proves particularly valuable for addressing complex questions involving a diverse array of stakeholders with varied

interests. Moreover, it is efficient in situations where there is a real or potential risk for conflict, and quick decisions and actions are imperative. This approach is built upon several key practices (Laranja et al, 2022; Begovic et al, 2021; Harrison, 2008):

a) Invitation: This step involves defining the purpose or a crucial question for participants. It also entails specifying the list of invitees, the meeting place, and time. The invitation should articulate breakout topics, serving as a call to action and an aspirational vision. It reminds participants to concentrate on meaningful purposes.
b) Circle: Arranging participants in circles facilitates visibility and communication among everyone. Circles create clear yet permeable boundaries, fostering a sense of belonging, commitment, and communication. This spatial arrangement promotes caring, connecting, sharing, learning, working, and celebrating.
c) Bulletin Board: Establishing a bulletin board, even in its simplest form, maximizes information with minimal effort. It is crucial to have a means of displaying all raised issues, comments, answers, and suggestions. In an online setting, the entire platform can function as a bulletin board. For example, facilitators in workshops often use large white flipcharts or boards to jot down notes or employ post-its.
d) Marketplaces: This methodology allows flexibility for people to create structures needed to work on their ideas and take responsibility for their own learning during an event. Participants can propose topics and organize parallel sessions, inviting others to contribute. This marketplace approach encourages dynamic engagement.
e) Breathing, Pulsation, or Iteration: Open Space Technology facilitates movement between plenary sessions and breakouts, allowing participants to navigate seamlessly. The iterative nature involves multiple rounds of breakouts, requiring several iterations for a group to maximize its potential contributions. Asking significant questions may necessitate several rounds to arrive at meaningful answers.
f) Storytelling: The initial invitation represents the narrative of what participants desire. The circle serves as a container for stories, while the bulletin board aids in sharing them. Stories become the currency in the marketplace. Captured notes, takeaway materials, and shared stories inform subsequent invitations, sustaining the momentum of the process. Even in challenging situations, inviting stories about positive experiences and successes can prove beneficial.

- World Café

The World Café, a facilitation technique designed to enhance the quality of participatory events, stands out as a powerful tool when the goal is to stimulate engagement and foster reflexive thinking. Its efficacy has been evident in the EDP in North Macedonia, marking its inaugural use in the Western Balkans. This approach proves particularly valuable when seeking diverse perspectives from stakeholders regarding a shared problem.

In the context of the World Café, the process unfolds through a series of conversation rounds, each catering to small groups typically consisting of 6 or 7 participants. Each round introduces a different question, allowing for a dynamic exploration of various facets of the issue at hand. Importantly, participants have the flexibility to switch groups between rounds, facilitating a cross-pollination of ideas and insights.

This innovative technique has proven to be a catalyst for rich and multifaceted discussions, providing a platform for stakeholders to share their perspectives and insights on the identified problem. The World Café methodology thrives on its ability to create an inclusive and dynamic environment,

fostering collaboration and encouraging participants to delve deeper into the complexities of the subject matter.

The successful implementation of the World Café in North Macedonia underscores its adaptability and effectiveness as a participatory tool. Its introduction to the Western Balkans region through the EDP showcases its potential to enhance the quality of stakeholder engagement and promote a more comprehensive understanding of complex issues. As detailed in Laranja et al. (2021), the World Café technique offers a structured yet flexible framework that aligns seamlessly with the goals of the EDP, making it a valuable asset in the participatory toolkit.

- Art of Hosting – AoH

The Art of Hosting emerges as a highly effective methodology, leveraging the collective wisdom and self-organizing capacity inherent in groups of any size (Laranja et al, 2022). Central to its philosophy is the belief that participants will invest their time and energy most effectively when aligned with what matters most to them. The Art of Hosting seamlessly integrates various techniques that foster high-quality conversational processes, such as Circle, World Café, Open Space Technology, and storytelling.[6]

At its core, the Art of Hosting extends an invitation to participants to actively engage in the process, encouraging them to step forward and take initiative in resolving common challenges faced by the group. This participatory approach not only acknowledges the diverse perspectives within the group but also empowers individuals to contribute their unique insights and experiences.

The Art of Hosting recognizes the importance of creating an environment that encourages meaningful dialogue and collaboration. By combining elements of established methodologies like Circle, World Café, Open Space Technology, and storytelling, it seeks to cultivate an atmosphere conducive to shared learning, problem-solving, and innovation.

Moreover, the Art of Hosting acknowledges that the success of a collective endeavour relies on the active involvement and commitment of its participants. By tapping into the collective intelligence of the group, this methodology aims to unleash the full potential of individuals, fostering a sense of ownership and accountability in tackling shared challenges.

In essence, the Art of Hosting serves as a comprehensive and adaptable framework that not only embraces the diversity of conversational processes but also empowers participants to become proactive agents in addressing the common issues that bind them together. As groups engage with the Art of Hosting, they are not merely passive participants; rather, they become co-creators of solutions, contributing to the development of a more resilient and collaborative community.

- Brainwriting[7]

Like brainstorming, brainwriting is a great way to share new ideas, encourage creativity, and develop innovative ideas. In group brainstorming sessions shy or introverted group members may be reluctant to speak up. Brainwriting overcomes these limitations by allowing them to write down their ideas instead, giving everyone an equal opportunity to participate. It also encourages people to take more time to formulate their thoughts, and enables them to develop ideas offered up by others.

A popular and lively form of brainwriting is known as Brainwriting 6-3-5. During a 6-3-5 session, brainwriting exercises are split into several rounds. In each round, six people write down three ideas each within five minutes. After the first round, everyone swaps their piece of paper with someone else, reads what's on it, and then writes down three more ideas. These can be new ideas, or build on ideas that have already been shared. After six rounds, the pieces of paper are collected, and all the suggested ideas are discussed and next steps agreed.

[6] https://www.artofhosting.org
[7] https://www.mindtools.com/pages/article/newCT_86.htm

Although this example uses six people, you can invite any number of people to your brainwriting session. Other details can also be adapted to suit your needs, including the number of rounds and the amount of time given for each one. But most people find that aiming for three ideas in each round brings the best results.

Brainwriting is not brainstorming - not everyone feels confident enough to contribute to a brainstorming session. They may be anxious about receiving negative comments, or worried that their ideas might be unsuitable. Some people may just need longer than others to come up with ideas, which can restrict their ability to participate in traditional brainstorming sessions. This is especially true if the people who speak first end up directing the discussion, as this can mean that their ideas become the only options "on the table."

In brainwriting, however, everyone's on an equal footing. All participants get to contribute at the same time, and all suggestions are anonymous. People also have more time to think through their ideas and to develop them. This can help to boost creativity, because it empowers people to put forward ideas that they might – in a normal brainstorming session – have deemed too risky.

- Roadmapping

Roadmapping is a strategic process that involves the systematic identification of actions, steps, and resources required to transform a vision into a tangible reality (Phaal, Farrukh, and Probert, 2004). In the realm of S3, roadmapping takes on the crucial role of translating the initial vision and SWOT analysis of each priority domain into a comprehensive program of actions and projects. To effectively conduct regional S3 roadmapping for each priority domain, the engagement of all relevant stakeholders is essential. Collaboratively, these stakeholders work to outline the necessary steps to convert the vision of transformative change into actionable projects, leading to the exploration of new products, processes, or services.

In the initial stages, stakeholders may jointly identify markets and scientific research that can be instrumental in addressing these markets. Subsequently, they construct a roadmap, breaking down the overarching process into sub-themes, individual projects, and the allocation of resources. Prioritization is a critical element of roadmapping, typically achieved through ranking. Value Proposition Canvas (VPC) can be particularly beneficial for innovation "pull," aiding in defining new product development projects and allocating resources for experimentation within the region.

It is important to note that roadmapping goes beyond the mere creation of a roadmap; it primarily involves a dynamic process of learning and collectively arriving at a consensus regarding which projects—both large flagships and smaller initiatives – the region should experiment with (Begovic et al., 2021). Numerous European countries, including Romania and Lithuania, have successfully employed roadmapping in the design and implementation of their country-level Smart Specialisation strategies (Nauwelaers et al., 2014).

This strategic approach not only guides the transformation of a vision into tangible projects but also fosters collaboration, shared learning, and consensus-building among diverse stakeholders. By engaging all relevant parties in the roadmapping process, Smart Specialisation Strategies are more likely to be grounded in a shared understanding and commitment, enhancing their effectiveness in driving transformative change within a region.

4.5.5 Special considerations and limitations

Key stakeholders, coordinators, facilitators and reportedly even numerous EDP working group members have complained that the number of outputs required from the EDP should not be expanded beyond the standard topics defined in the S3 design framework. The standard topics are already challenging enough for regional stakeholders participating in the EDP for the first time, and additional topics only harm the quality of the dialogue by adding time pressure.

As the topics are already challenging and new to most stakeholders, the EDP workshops take a long time and are conducted under time pressure. The time pressure caused by the increased number of outputs required has a negative impact on the quality of the debate and outcomes. Therefore, especially in economies where the EDP is being conducted for the first time, the inclusion of numerous additional topics should be avoided.

4.6 EDP input for Smart Specialisation

According to the S3 design framework, the results of the EDP should represent the main input for the Smart Specialisation strategy. The coordinators and facilitators should provide written conclusions from each workshop and discuss them with the participants.

4.6.1 Key underlying concepts

The work to be undertaken during final EDP phase is underpinned by two crucial concepts: intervention logic and policy mix.

The S3 intervention logic serves as a comprehensive theory of change that delineates the interconnectedness of three key elements (Doussineau et al, 2021):

- Overall strategy goals: these address the primary challenges related to innovation within the country.
- Specific goals: these refer to more tangible bottlenecks or opportunities encountered by the country in its pursuit of innovation-driven change.
- Range of instruments: this encompasses the policy mix (as elaborated below), detailing how these instruments are intended to contribute to achieving the defined goals.

The intervention logic provides a coherent framework for understanding the strategic alignment between overarching goals, specific challenges, and the array of instruments deployed to support innovation. It serves as a roadmap for how these instruments are strategically employed to achieve the envisioned outcomes.

The 'S3-relevant policy mix' denotes the amalgamation of policies originating from diverse policy domains and sources, including both domestic entities and external donors. This combination of policies collectively contributes to the objectives and priorities outlined in the strategy. Various typologies exist based on factors such as the maturity and orientation of innovation systems and the perspective adopted to depict the policy mix. Classification methods include categorization according to types of interventions or the Technology Readiness Level (TRL). Notably, organizations like universities and Research and Technology Organizations (RTOs) form integral components of the broader policy mix (Doussineau et al, 2018).

The policy mix is a dynamic and multifaceted array of strategies, regulations, and support mechanisms that collectively drive the innovation agenda forward. It encompasses a spectrum of interventions, ranging from foundational research to technology deployment, with the active participation of institutions across various sectors. The policy mix is a nuanced approach that recognizes the complexity of fostering innovation and emphasizes the need for a well-coordinated, diversified set of interventions to address the diverse challenges and opportunities within the innovation landscape.

One pivotal tool for translating the input gathered during the Entrepreneurial Discovery Process (EDP) into actionable priorities is the 'S3 Priority Domain Roadmap' (Begovic et al, 2021). This roadmap serves as the culmination of contributions from domain-specific working groups, articulating plans in terms of both the envisioned future and the strategic pathways to reach that future.

A comprehensive S3 Priority Domain Roadmap, developed by the EDP working group dedicated to the specific domain (e.g., innovative nutritional ingredients in the agro-food chain), comprises following blocks:

- **Vision and visualisation**: This section describes how the country aims to position itself in the future within a specific area. It is important to clearly state this vision using measurable goals, considering economic factors like increasing the share of value-added from nutritional ingredients in the agri-food sector from 5% to 20% by 2030 and a 50% increase in exports during the same period. Additionally, societal challenges, such as improving public health through better nutrition, should be part of this vision. The intervention logic details the necessary changes to achieve this vision, including raising awareness of innovation in small and medium-sized enterprises, establishing better connections with relevant research in medical faculties, educating consumers about healthy diets, and ensuring the availability of financial support. Potential risks, like the possibility of losing innovative businesses to foreign countries, are also taken into account.
- **Strategic actions**: This section outlines ambitious collaborative efforts that bring together various stakeholders with a shared goal over an extended period. An illustrative example of such an initiative could involve the establishment of a novel value chain for nutritional ingredients. The mechanisms essential for achieving this objective, including the introduction of new training programs, improved technology transfer, risk capital frameworks, educational modules for consumers, and certification processes, are detailed. Identifying key actors, mapping existing assets and crucial projects, and defining trajectories for ongoing development are integral components of this strategic planning. A systematic plan is presented, outlining the sequential phases of intervention, complemented by indicators that facilitate ongoing monitoring and assessment of progress.
- **Policy mix**: This section distinguishes between currently employed and novel policy tools necessary to bolster the strategic interventions and comprehensive advancement of the domain. The primary emphasis is on scrutinizing research and innovation domains, encompassing pivotal mechanisms such as collaborative research and innovation projects. Any alterations in the overarching conditions, such as initiatives supporting export promotion, are effectively conveyed to the pertinent authorities overseeing these domains.

4.6.2 Outline of the EDP summary report

For clarity purposes, it is recommended that the EDP summary report for each priority domain be prepared on the basis of the approved reports with the conclusions from each of the thematic workshops. In this way, the otherwise scattered conclusions will be summarised in only one document per priority domain. The proposed structure of the EDP summary report for each preliminary priority domain is the following:

- Name and final definition of priority domains;
- SWOT analysis;
- Cross-innovation potential among priority domains;
- Long term vision and Strategic objectives for each priority domain;
- Input on policy mix for each priority domain;
- Roadmaps/action plans for implementation for each priority domain;
- Definition of Crosscutting areas with key EU and global initiatives e.g. Digital and green transformation, sustainable development and societal goals;
- Input on continuation of EDP.

In order to facilitate the preparation of the strategy document, it is recommended that the priority domains follow a common template for the EDP summary report, as presented in the annex.

4.6.3 General standards of the EDP summary report

The main sources of data for the EDP summary report are approved reports with conclusions from the EDP workshops. Other sources can be used to support these conclusions, including sources with validated information such as:

- published national sectoral analyses;
- recent national statistical databases;
- information from the Smart Specialisation platform of the European Commission;
- published macro-regional analyses of priority domains.

Any additional source used should be indicated. It would be optimal that the report is written both in native and English languages.

4.6.4 Special considerations on improving the quality of input on the policy mix

According to the S3 design framework, the EDP input for S3 is expected to reach a level of quality that facilitates seamless integration into the RIS3 strategy document. However, given that EDP is often conducted for the first time, the capacity and experience of involved stakeholders are typically insufficient to ensure the desired quality of outputs. This challenge is particularly common when EDP lacks support from the highest levels of government, which would otherwise guarantee the proactive participation of government representatives seasoned in policy-making during the EDP thematic workshops.

In such instances, the RIS3 Guide, although not an integral part of the S3 framework, recommends engaging policy-making experts to enhance the policy mix component of the EDP input for S3. This enhancement involves developing a cohesive policy mix, roadmaps, and action plan. The improvements should encompass broad action lines addressing challenges and opportunities identified in the EDP, specified delivery mechanisms and projects, measurable and achievable targets to evaluate results and impacts, defined timeframes, target groups, involved actors and their responsibilities, and an indication of funding sources.

To align with stakeholders' expectations, the approval of this enhanced document should be sought from the EDP working groups. This is especially crucial as numerous policy measures proposed by working group members might undergo modifications or be discontinued. Clear explanations of these changes should be provided, and the approval of the working groups should be obtained before progressing to the next stage.

5 Specifics of tailored continuous EDP

The purpose of the continuous EDP is to provide information needed to steer the implementation of the RIS3 strategy to make it more effective. This information still needs to come from the key quadruple helix stakeholders who participate in the continuous EDP working groups. For these working groups to fulfil their role, they need to be well positioned and integrated with other elements of the governance system and the monitoring and evaluation system.

In developing and implementing the continuous EDP, similar steps should be followed as in the implementation of EDP, but there are some specificities which are explained below.

5.1 Preparatory steps and training for the EDP

Ideally, if the coordinators were successful in the design phase, they should continue leading the working groups during implementation. This ensures continuity, leveraging the trust and connections established with stakeholders and preventing the loss of institutional memory.

The continuous EDP should be developed based on input from stakeholders gathered in EDP workshops. Additionally, current information on the local context, including other elements of the S3 governance and the monitoring and evaluation system, must be considered. This is essential for seamless integration into the broader S3 implementation system. Effective communication among the various elements is crucial, enabling working group coordinators to access policy actors implementing and refining instruments, as well as the monitoring and evaluation system for necessary data during EDP meetings. To facilitate this, agreed-upon management, documentation, and communication protocols should form the foundation for the development of working group rules.

This process should lead to the co-creation of a detailed, tailored continuous EDP work plan. This plan should clearly define main activities, tasks, responsible individuals, deadlines, and milestones. Based on this action plan, identified resources needed for implementation are outlined. Typically, funding is necessary for working group coordinators to proactively drive the process, involving a significant investment of time, travel, and potential costs for larger consultative EDP events.

The nature of continuous EDP differs from EDP in the design phase, affecting the associated costs. While the design phase can be managed as a project with known expenses, continuous EDP incurs less intensive but ongoing costs. Therefore, funding mechanisms should be adjusted accordingly. Continuous EDP is often included in the policy mix in the RIS3 document, providing stable funding sources in the long term. Once secured, continuous EDP should be sustained. Additionally, any capacity gaps should be addressed through targeted training initiatives.

5.2 Identification of members of working groups

After the selection of coordinators for each of the priority domains, other potential members of the working groups should be identified to ensure a similar quadruple helix structure where business sector provides at least 50% participants of the working group.

These appointed key players should have high integrity to avoid vested interests and thus maintain the integrity of the whole S3 process.

5.3 Plan for continuous EDP, working group definition and rules

In contrast to a sequence of thematic workshops typical of EDP in design phase, the continuous EDP meetings typical of the implementation phase all have similar and non-predefined agendas designed to monitor and steer the implementation of the strategy. These meetings take place more frequently, but with far fewer participants, usually only appointed members of the working group for each priority domain.

The size of continuous EDP working groups varies: larger groups of stakeholders are needed when strategically important issues are discussed and broader consensus is required, but EDP in narrow groups is appropriate when more operational and tactical decisions need to be made. Such meetings are easier to organise, more frequent but more flexible to schedule, and are particularly suitable for the implementation phase of S3. Typically, these narrow groups consist of a small number (up to 10) of approved and formally appointed stakeholders.

Smaller task forces can be formed for more specific tasks (e.g. development of instruments for sub-domains). If these instruments target only one stakeholder group (e.g. academia), it is not mandatory that the structure includes stakeholders from all 4 helixes.

The continuous EDP plan and the rules and procedures for the working groups should be prepared according to the above. Before the formal establishment of the continuous EDP working groups, the stakeholders should be consulted and approve the composition of the (narrow) working groups and the rules of the working groups. The coordinators and other members of the working groups should then be formally appointed by the S3 management.

5.4 Continuous EDP workshops and input for S3 implementation

Meetings and workshops should adhere to the rules and plan set by the working group. This encompasses following protocols for invitation, documentation, decision-making, management, and communication. Special emphasis should be placed on the smooth flow of information, including:

- Extracting information from the monitoring and evaluation system, which requires analysis to propose modifications of instruments.
- Gaining insights from other entities within the governance system on additional issues to be discussed.
- Effectively communicating decisions and conclusions to the governing bodies.
- Facilitating the exchange of information and soliciting feedback from stakeholders on policy instruments.
- Gathering information from stakeholders regarding altered needs and preferences.

6 Conclusions

The Entrepreneurial Discovery Process stands as a pivotal stage in both the design and implementation of Smart Specialisation. At this juncture, a diverse array of stakeholders collaboratively shares ideas and challenges related to priority areas. The EDP stage encapsulates the full spectrum of priority domains, profiling sub-areas, and designing pertinent policy actions. The participatory and transparent principles, integral to the Smart Specialisation process, become paramount in shaping the forthcoming strategy's implementation directions. This emphasis on detail in organizing the EDP stage is reflected in both the Smart Specialisation design and implementation frameworks.

This stage offers national and regional authorities the opportunity to tailor their stakeholder approach to the local context while adhering to the requirements and recommendations from the Smart Specialisation frameworks. Essential steps in the preparatory phase include allocating sufficient resources early on and proposing a detailed timeline that should be rigorously adhered to. National or regional Smart Specialisation teams should undergo EDP training, typically organized or supported by the Joint Research Centre, with particular emphasis on involving future EDP coordinators and facilitators in this training. This phase is also crucial for designing a targeted campaign with a clear message for stakeholders and policymakers.

Regarding the territorial dimension, it is essential to acknowledge that although a regional perspective in a stakeholder dialogue offers benefits in understanding local and regional challenges in priority areas, coordination between regional and national policies may be lacking, affecting implementation capacity. Overall, stakeholders in the EU enlargement and neighbourhood demonstrated a high response in the EDP stage, with strong political commitment from the involved economies. Maintaining such motivation is crucial in the implementation phase, which necessitates continuous stakeholder engagement.

The effectiveness of the EDP is contingent on the efforts of its working groups. To support their performance, adherence to recommendations regarding working group composition outlined in the S3 framework is crucial. Establishing rules based on a participatory and transparent approach and fostering a culture of dialogue, where all voices are heard, adds legitimacy to the decision-making process.

The COVID-19 pandemic prompted a shift in the EDP approach to allow for the involvement of stakeholders in a remote manner. Thus, a combination of fully remote and semi-remote/semi-presential EDP workshops was proposed and implemented by S3 teams since 2020. This approach proved feasible, with satisfactory results. However, it highlighted variations in stakeholder openness, suggesting that in-person dialogues featured more open debates among participants.

As emphasized by the Smart Specialisation framework, the role of the EDP is critical in both the design and implementation phases. Continuity of the EDP is a key focus, necessitating a flow of information through monitoring and evaluation mechanisms and governance reporting systems. Feedback from stakeholder meetings should seamlessly feed into governing structures, ensuring that any revision or action is undertaken appropriately. The frequency of meetings should align with the context, ideally occurring at least once to twice per year.

Considering the characteristics of transformational economies in the EU Enlargement and Neighbourhood Region, it is evident that the bottom-up approach in innovation policy development, well-represented in the EDP, requires careful governance and planning. The nature of Smart Specialisation underscores the crucial role of key stakeholders and ambassadors, essential for profiling ideas and facts in preliminary and final priority areas. In the implementation phase, their roles become even more critical, as they emerge as co-owners of the process, enhancing the country's competitiveness in designated priority areas. This environment should foster a win-win process for policymakers and the stakeholder community, supporting the knowledge-based competitiveness of the entire European continent.

Annexes

Annex 1: Template for Identification of stakeholders

Identification of stakeholders

for priority domain **[Name of preliminary priority domain]**

Nr	Name of stakeholder	Helix	Sub-domain	Inclusion criteria used	Region of origin	Ambassador status

Annex 2: Template for EDP plan and priority domain

EDP plan

for priority domain [Name of preliminary priority domain]

The Smart specialisation strategy aims to discover innovation potential, identify the priority domains for specialisations and to co-create measures that will optimize return on public investments in selected priorities. This is done through the process of 'entrepreneurial discovery' (EDP), i.e. dialogue involving key stakeholders for business, academia, government and civil society.

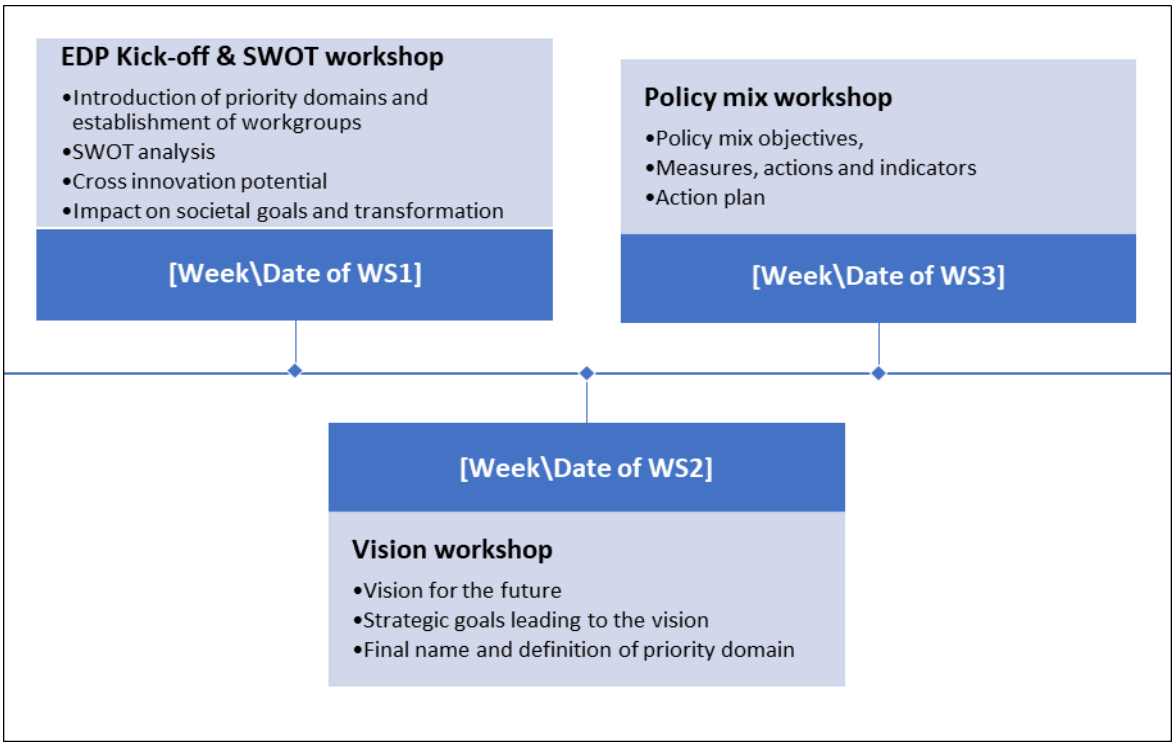
The core of stakeholder dialogue is a series of EDP workshops that will be organized for the [Name of preliminary priority domain] priority domain. The themes and deliverables of the EDP workshops are:

1. EDP workshop with introduction of priority domains, establishment of workgroups and adoption of EDP plan and rules
2. SWOT workshop delivering SWOT analysis
3. Vision workshop delivering Vision, strategic goals and final name and definition of priority domain
4. Policy mix workshop delivering policy mix with instruments, objectives with indicators and prioritisation of measures

To increase the fluidity of the process the EDP Kick-off and SWOT analysis workshops are merged and planed timeframe for execution of EDP workshops is the following:

- [Week\Date of WS1], EDP kick-off and SWOT analysis EDP workshop
- [Week\Date of WS2], Vision work EDP workshop
- [Week\Date of WS3], Policy mix EDP workshop

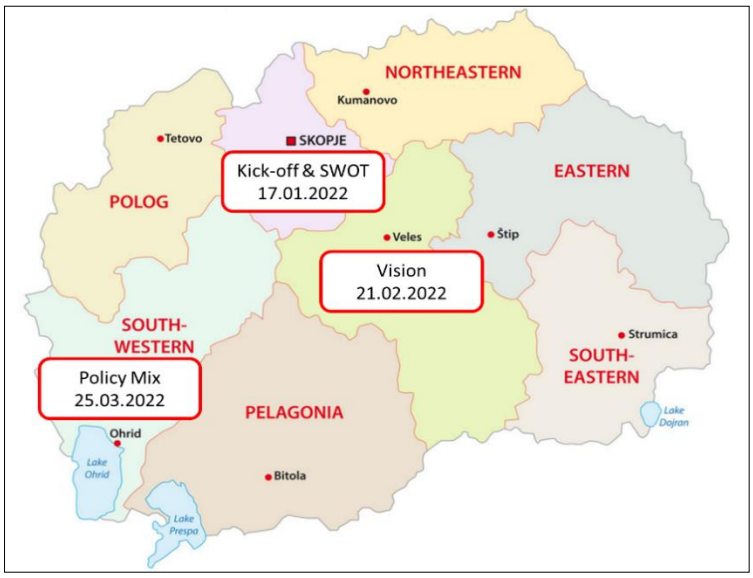
[Replace sample below with figure with timetable of thematic EDP workshops and required deliverables]



OPTION 1: In case EDP workshops will be conducted in different areas of the country

To enhance regional presence and increase proximity of the EDP workshops to stakeholders EDP workshops will be organised in different regions of [Name of country/region]: [Date and Place of WS1], [Date and Place of WS2] and [Date and Place of WS3]. The regional distribution of workshops with planned timing is presented in the map below:

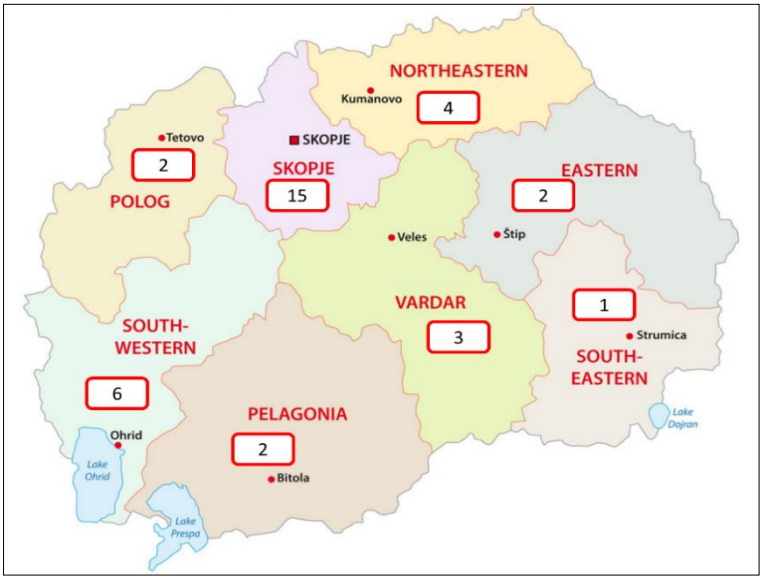
[Replace the sample below with figure demonstrating territorially distributed organisation of workshops]



OPTION 2: In case when a priority domain plans to conduct all workshop central

EDP workshops will be organised central in [Place where all EDP WSs will be conducted] however will be attended by stakeholders from [Number of regions] different regions of [Name of country/region]. The inclusion of stakeholder from different regions is demonstrated by the following map indicating territorial distribution of stakeholders:

[Replace the sample below with figure demonstrating territorially distributed organisation of workshops]



Annex 3: Template for the working group rules

Working group rules

for priority domain [Name of preliminary priority domain]

EDP is executed through the dialogue involving key stakeholders in each priority domain. These stakeholders form EDP working groups. All members of EDP working group participate in the execution of the EDP plan which shall be conducted according to standard elements and principles of Smart Specialisation process which include:

- Identification and participation of relevant stakeholders.
- Right evidence-base.
- Transparency and clear rules.
- Consequence and trust building.
- Managing hidden agendas.
- Lasting involvement.

To secure the integrity of EDP and conformance with above mentioned principles, the following rules of the working group are defined:

- Rules on participation
- Rules for decision-making process
- Rules for organising and implementing EDP workshops.

Rules on participation support the management and regulate the membership of working group:

- The EDP working group for priority domain is coordinated by [name of coordinator]. The coordinator has the following responsibilities [add what is appropriated e.g. planning, conducting workshops, documenting results, leading the decision-making process…].
- The EDP working group coordinator is supported by facilitator [name of facilitator]. The facilitator has the following responsibilities [add what is appropriated e.g. planning, conducting workshops, documenting results, leading the decision-making process…].
- While coordinator is mostly engaged in planning and ensuring that all EDP requirements are met, facilitator is more focused on setting up, organising and leading the EDP workshops.
- A stakeholder is legible to become a member this working group if one of the following inclusion criteria is met:
    - [List inclusion criteria used for identification of relevant stakeholders…]
- A stakeholder becomes a member of the working group by [choose /add options below]:
    - [formally accepting the invitation received by the working group coordinator]
    - [signing the presence list at the first EDP workshop they attend, etc.]
- A member of the working group maintains membership status by participating in [number of workshops] out of 3 EDP workshops.

Rules on decision making: A general rule is that all decisions must be supported by evidence derived from transparent and inclusive dialogue to avoid hidden agendas. Additional rules are:

- Only members of the working group participate in the decision-making process.
- The minimum quorum threshold for decision making is:
    - At least [number of members required for quorum] members of the working group for the decisions on the level of priority domain
    - (OPTIONAL when sub-domains are identified) minimum [number of members required for quorum] members of sub-domain for the decisions on the level of sub-domain
- The method(s) by which decisions are made are:
    - by [select between “consensus” or “consent”] of the whole working group for the decisions on the level of priority domain
    - (OPTIONAL when sub-domains are identified) by consent of the whole working group for decisions on the level of sub-domain

A set of **rules for organising and implementing EDP workshops** ensures that the basic principles and elements of stakeholder participation are followed throughout the EDP:

- EDP workshops should last [desired duration of workshop] hours, maximum [maximum duration of workshop] hours.
- Interval between workshops at least [desired duration of interval] weeks. Official written invitations with agendas should be sent at least [time period before workshop] weeks in advance. Preparatory materials should be sent [time period before workshop] days before the workshop.
- Approaches that can be used to conduct EDP workshops are [face-2-face, hybrid (online, etc)].
- The meeting minutes are obligatory, are prepared by coordinators and facilitators and sent to workgroup members for feedback / approval no later than [number of days, typically 5] days after each EDP workshops. Workgroup members have up to [number of days, typically 5] days to provide eventual feedback / approval.
- Report with proposed conclusions for each of the EDP workshops are based on approved meeting minutes and supporting evidence and are prepared by coordinators and facilitators and sent to workgroup members for feedback / approval no later than [number of days, typically 5] days after meeting minutes are approved. Workgroup members have up to [number of days, typically 5] days to provide eventual feedback.

Annex 4: Template for the definition of EDP working group

Definition of EDP working group

for priority domain [Name of preliminary priority domain]

The working group is composed of the most relevant stakeholders in priority domain. The composition of an EDP working group represents the quadruple helix, including stakeholders from business, academia, government and the civil society. Working group contains [total number of stakeholders] stakeholders listed in the table below:

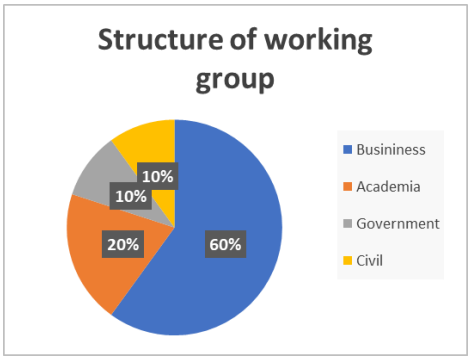
Nr	Name of stakeholder	Contact details	Helix	Sub-domain	Inclusion criteria used	Region of origin	Ambassador status	Date of admission into WG	Participated in EDP WS1	Participated in EDP WS2	Participated in EDP WS3

Members of the working group belong to at least one of the identified sub-domains, where each sub-domain contains of minimum 10 stakeholders:

1. [Sub-domain A] with [number of stakeholders in sub domain A] stakeholders
2. [Sub-domain B] with [number of stakeholders in sub domain B] stakeholders
3. [Sub-domain C] with [number of stakeholders in sub domain C] stakeholders
4. etc…

Working group is composed of relevant stakeholders representing the quadruple helix, where representatives from businesses make up for more than 50%. The exact composition is the following:

- [number of stakeholders from business] stakeholders from business
- [number of stakeholders from academia] stakeholders from academia
- [number of stakeholders from government] stakeholders from government
- [number of stakeholders from civil society] stakeholders from civil society



Annex 5: Template for list of participants at EDP workshops

LIST OF PARTICIPANTS

EDP thematic workshop [Kick off, SWOT, Vision, Policy Mix]

Priority domain: [Name of preliminary priority domain]

Date: [Date when the EDP workshop was conducted]

Place: [Place where the EDP workshop was conducted]

** In case of video call / signature is not needed and is replaced by screen shot.*

No.	Name and surname	Institution / Position	Contact Details (Telephone/Email)	Signature

Annex 6: Template for meeting minutes from the EDP workshops

MEETING MINUTES

EDP thematic workshop [Kick off, SWOT, Vision, Policy Mix]

Priority domain: [Name of preliminary priority domain]

General information

Place of the event:	[same as on the list of participants]
Date of the event:	[same as on the list of participants]
Coordinator & facilitators:	[official coordinator and facilitator and potential additional facilitators]
Minutes created by:	[authors]
Minutes created on:	[create date]
Minutes approved on:	[date of approval]

Workshop participants

[Based on the List of participants elaborate on the Number of participating members of the working group and other participants of the event]

Planned methodology of workshop

[Description of the planned scenario that should reflect usage of methods and techniques that stimulate equal stakeholder participation]

(only for Vision and Policy mix workshop) **Summary of the discussion on adoption of report with conclusions from previous workshop**

[Description of correspondence between workshops or dialogue within a thematic workshop and the decision-making process related to adoption of report with conclusions from previous workshop]

Summary of the discussion on the key topics

[Description of how the workshop was actually conducted. It should reflect ideas that were proposed by stakeholders, the dialogue that took place and the decision-making process.]

(only for Vision and Policy mix workshop) **Summary of the discussion on incremental or new findings on key topics already discussed in previous workshops**

[Description of correspondence between workshops or dialogue within a thematic workshop and the decision-making process related to key topics already discussed in previous workshops]

(only for SWOT and Vision workshop) **Summary of the discussion on Feedback on the execution of this EDP workshop and plan for the next one**

[Description of how the workshop was actually conducted. It should reflect ideas that were proposed by stakeholders, the dialogue that took place and the decision-making process.]

Annex 7: Template for the Kick-off and SWOT EDP workshop report

KICK-OFF & SWOT EDP workshop

REPORT WITH CONCLUSIONS

Priority domain: [Name of preliminary priority domain]

General information

Report created by:	[authors]
Report created on:	[create date]
Report approved on:	[date of approval]

Workshop participants

[Based on the List of participants reflect on the adequacy of the working group structure in terms of quad-helix, in terms of division of participant in sub-domains and in terms of regional representation]

Learnings on methodology of EDP workshops

[Elaborate on differences between the planned methodology and actually execution of workshop. Evaluate participation and adequacy of methodology for ensuring inclusion and equal engagement of stakeholders. Describe lessons learned and propose corrective actions for the next workshop]

Conclusions on SWOT

[Where sub-domains were identified present SWOT matrix for each priority sub-domain. Based on these matrices develop a SWOT matrix on the level of whole priority domain, identifying common issues and the most significant differences among sub-domains]

Conclusions on cross-innovation

[Present the most outstanding opportunities that were discovered regarding potential of cross-innovation. Indicate these opportunities with:

- Cross-innovation matrix indicating opportunities between vertical and horizontal domains
- Cross-innovation matrix indicating opportunities between vertical priority domains]

Conclusions on digital and green transformation

[Present a list of possible application in field of Digital and green transformation opportunities & benefits for users. See section “References to green and digital agenda”]

Conclusions on COVID-19 & health related issues

[Present a list of possible COVID & health related issues and opportunities]

Annex 8: Template for the Vision EDP workshop report

VISION EDP workshop REPORT WITH CONCLUSIONS

Priority domain: [Name of preliminary priority domain]

General information

Report created by:	[authors]
Report created on:	[create date]
Report approved on:	[date of approval]

Workshop participants

[Based on the List of participants reflect on the adequacy of the working group structure in terms of quad-helix, in terms of division of participant in sub-domains and in terms of regional representation]

Learnings on methodology of EDP workshops

[Elaborate on differences between the planned methodology and actually execution of workshop. Evaluate participation and adequacy of methodology for ensuring inclusion and equal engagement of stakeholders. Describe lessons learned and propose corrective actions for the next workshop]

Conclusions on Long term vision for the future

[Present the most credible proposals and the final agreed Vision statement for the priority domain]

Conclusions on strategic objectives

[Present the final agreed strategic goals leading to the long-term vision. These goals should be SMART, meaning that they are Specific, Measurable, Achievable, Relevant and Time-based.]

Conclusions on impact on sustainable development and societal goals

[Present the matrix of contribution and impact of strategic goals on the sustainable development goals. See section “References to societal and economic challenges”]

Conclusions on name and final definition of the domain

[Present details describing final definition of the domain and its sub-domains. See section “Guidelines for final definition and justification of priority domain”. Present the most credible proposals and the final agreed name of the domain.]

(Optional if relevant) Conclusion on Incremental/New findings on already discussed topics

[If there were any changes agreed within a workgroup, present new findings regarding SWOT, Matrix of Cross-innovation opportunities, list of possible application in field of Digital and green transformation and List of COVID-19 and health related issues and opportunities.

Annex 9: Template for the Policy mix EDP workshop report

POLICY MIX EDP workshop

REPORT WITH CONCLUSIONS

Priority domain: [Name of preliminary priority domain]

General information

Report created by:	[authors]
Report created on:	[create date]
Report approved on:	[date of approval]

Workshop participants

[Based on the List of participants reflect on the adequacy of the working group structure in terms of quad-helix, in terms of division of participant in sub-domains and in terms of regional representation]

Learnings on methodology of EDP workshops

[Elaborate on differences between the planned methodology and actually execution of workshop. Evaluate participation and adequacy of methodology for ensuring inclusion and equal engagement of stakeholders. Describe lessons learned and propose corrective actions for the next workshop]

Conclusions on policy mix

[Present the input for policy mix including:

- Specific goals supporting strategic goals (not measures, but SMART specific objectives)
  - policy actions – indication of possible forms of policy measures that support reaching the goals
  - indicators – indication of measurable characteristic to enable monitoring within implementation]

Conclusions on action plan for implementation

[Present the desired action plan for implementation of policy mix or at least indicate priorities]

Conclusions on continuation of EDP

[Present the preferences of stakeholders regarding the continuation of dialogue]

(Optional if/where relevant) Conclusion on Incremental/New findings on already discussed topics

[If there were any changes agreed within a workgroup, present new findings regarding SWOT, Vision statement and strategic goals, name and definition of the priority domain, Matrix of Cross-innovation opportunities, list of possible application in field of Digital and green transformation, List of COVID-19 and health related issues and opportunities and Matrix of contribution and impact of strategic goals on the sustainable development goals.

Annex 10: Template for the EDP summary report

EDP SUMMARY REPORT

AS INPUT FOR RIS3 DOCUMENT

Priority domain: [Name of preliminary priority domain]

General information

Report created by:	[authors]
Report created on:	[create date]
Report approved on:	[date of approval]

EDP Workshop participants

[Based on the Lists of participants reflect on the adequacy of the working group structure in terms of quad-helix, in terms of division of participant in sub-domains and in terms of regional representation in all EDP workshops]

Conclusions on name and final definition of the domain

[Present details describing final definition of the domain and its sub-domains. See section "Guidelines for final definition and justification of priority domain". Present the most credible proposals and the final agreed name of the domain.]

Conclusions on SWOT analysis

[Where sub-domains were identified present SWOT matrix for each priority sub-domain. Based on these matrices develop a SWOT matrix on the level of whole priority domain, identifying common issues and the most significant differences among sub-domains]

Conclusions on cross-innovation

[Present the most outstanding opportunities that were discovered regarding potential of cross-innovation. Indicate these opportunities with: • Cross-innovation matrix indicating opportunities between vertical and horizontal domains • Cross-innovation matrix indicating opportunities between vertical priority domains]

Final input on long term vision for the future

[Present the final agreed vision statement for the priority domain]

Final input on strategic objectives

[Present the final agreed strategic goals leading to the long-term vision. These goals should be SMART, meaning that they are Specific, Measurable, Achievable, Relevant and Time-based.]

Final input on policy mix

[Present the input for policy mix including:
- Specific goals supporting strategic goals (not measures, but SMART specific objectives)
  - policy actions – indication of possible forms of policy measures that support reaching the goals
  - indicators – indication of measurable characteristic to enable monitoring within implementation]

Final input on action plan for implementation

[Present the desired action plan for implementation of policy mix or at least indicate priorities]

Conclusions on digital and green transformation

[Present a list of possible application in field of Digital and green transformation opportunities & benefits for users. See section "References to green and digital agenda"]

Conclusions on impact on sustainable development and societal goals

[Present the matrix of contribution and impact of strategic goals on the sustainable development goals. See section "References to societal and economic challenges"]

Conclusions on COVID-19 & health related issues

[Present a list of possible COVID & health related issues and opportunities]

Final input on continuation of EDP

[Present the preferences of stakeholders regarding the continuation of dialogue]

Learnings on methodology of EDP workshops

[Elaborate on differences between the planned methodology and actually execution of workshop. Evaluate participation and adequacy of methodology for ensuring inclusion and equal engagement of stakeholders. Describe lessons learned and propose corrective actions for the next workshop]

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List of abbreviations and definitions

DG NEAR	Directorate-General for European Neighbourhood Policy and Enlargement Negotiations
EDP	Entrepreneurial discovery process
EU	European Union
ICT	Information and communication technologies
IPR	Intellectual property rights
IT	Information technology
JRC	Joint Research Centre
OECD	Organisation for Economic Co-operation and Development
SDGs	Sustainable development goals
SME	Small and medium-sized enterprise
R&D	Research and development
R&I	Research and innovation
RIS3	Research and innovation strategy for Smart Specialisation
RES	Renewable energy sources
S3	Smart Specialisation
S&T	Science and technology
STI	Science, technology and innovation

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