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Assessing Smart Specialisation:

# THE ENTREPRENEURIAL DISCOVERY PROCESS

Authors:  
Inmaculada Perianez-Forte  
James Wilson

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Contact information

Inmaculada Perianez-Forte

[Inmaculada.PERIANEZ-FORTE@ec.europa.eu](mailto:Inmaculada.PERIANEZ-FORTE@ec.europa.eu)

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## **Abstract**

The entrepreneurial discovery process (EDP) is widely conceived as an inclusive, evidence-based process of stakeholder engagement that produces information about the potential for new activities, thus enabling effective targeting of research and innovation policy. How this interactive process should be stimulated and organised remains highly context-dependent. This document analyses new evidence collected on the smart specialisation policy experience across European Union (EU) regions and countries during the 2014-2020 programming period as part of a broader analytical exercise carried out by the smart Specialisation Platform of the European Commission's Joint Research Centre (JRC). To this end, the document is developed in six sections. After an introduction, section 2 reviews existing literature related to the entrepreneurial discovery process with a specific focus on the mechanisms and practices used by countries and regions to foster entrepreneurial discovery processes within their Research and Innovation Strategies for Smart Specialisation (RIS3). Section 3 and 4 explain the research questions addressed by this study and the data and methodology applied. Section 5 presents and analyses the main findings of our study. Finally, section 6 provides some final thoughts and conclusions.

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## **Authors**

Inmaculada Perianez-Forte

James Wilson

## Executive summary

This report presents some insights based on new evidence collected on the smart specialisation policy experience across EU regions and countries. The entrepreneurial discovery logic has recently been described as meaning “that the targeted transformation will not follow a path that is decided from the top but will be discovered as the process unfolds”. Alongside the directionality implied by smart specialisation, in terms of targeting policy and funding towards specific priorities, its distinguishing feature is precisely this dynamic unfolding process of stakeholder collaboration, as already pointed out by other scholars. Yet, precisely, how stakeholder collaboration should be stimulated and organised remains vague and highly context dependent.

### Policy context

Stakeholder collaboration (entrepreneurial discovery process) is one of the key elements for smart specialisation strategies and a core element of the European Regional Development Fund (ERDF) Enabling Condition “Good governance of national or regional smart specialisation strategy” for the period 2021-2027. However, even after years of implementation it is a challenging concept for most European regions and countries. Also, the COVID-19 crisis requires that the entrepreneurial discovery process is adapted to new conditions where it is more difficult to have personal meetings. This report is part of a research project developed within the Territorial Development Unit of the JRC and co-financed by the European Commission’s Directorate-General for Regional and Urban Policy (DG REGIO) in the context of the Smart Specialisation Platform activities. The research project explored four main themes: smart specialisation governance, the entrepreneurial discovery process, monitoring and evaluation systems, and policy implementation measures.

### Key findings

Evidence collected suggest that the way in which the entrepreneurial discovery process should be stimulated and organised remains highly context-dependent. Existing institutions, culture and historical trajectory of innovation policy influence the ways countries and regions organise their entrepreneurial discovery processes. The ambiguity around the entrepreneurial discovery process, in theory and practice, stems from the diverse interpretations that can be made of what the desired process should look like, and from the diverse regional contexts in which it is to be implemented. Despite the resulting heterogeneity, both across entrepreneurial discovery processes and within entrepreneurial discovery processes themselves, evidence analysed suggests four broad sets of findings influencing the success of the entrepreneurial discovery.

- The first is **continuity**. The difficulty of maintaining interest in engagement, especially given the significant time resources implied, is well reflected across the cases analysed. While it appears easier to achieve when a region already has strong intermediary institutions such as cluster organisations, technology districts or development agencies, there are also cases that have managed to achieve sustained engagement through new institutions.
- The second set of core features concerns the **mechanisms and instruments** that are used to facilitate the entrepreneurial discovery process. Clear conclusions here are: 1) the importance of *intermediary institutions*, whether they be multi-stakeholder platforms such as clusters or government-led agencies or forums with a specific remit to facilitate the entrepreneurial discovery processes; and 2) the usefulness of *thematic groups or workshops* of some description in allowing depth of discussion and exploration. These can also be progressively targeted to specific priorities and sub-priorities to generate granularity and integrate increasingly niche knowledge.
- A third core element, closely related to the second, concerns the **organisation and coordination** of entrepreneurial discovery processes. An efficient organisation requires an important role of the government as well as *clear rules* to ensure *wide access, transparency and equal possibilities to influence the process* by all relevant stakeholders.
- Finally, a fourth core feature is the need to ensure **adequate capabilities** to effectively engage in the policy process among both public authorities and other stakeholders. The lack of skills in government, intermediary organisations and other relevant stakeholders constrains the efficient results of the discovery process. To overcome the lack of stakeholder’s skills and reinforce the importance of capacity building highlighted across the cases analysed, countries and regions should implement *specific measures to help stakeholders to develop the capacity needed to take part in the smart specialisation process*.

### Related and future JRC work

This report is part of a broader assessment exercise of the smart specialisation experience carried out by the JRC. This broad research project gathered evidence and provided recommendations on four important components of this policy concept: governance; entrepreneurial discovery process; monitoring and evaluation; and implementation instruments. Altogether, the next smart specialisation strategies for the new period 2021-2027 of the European structural funds offer the opportunity to enhance the effective functioning of the entrepreneurial discovery process by taking stock of the lessons learned over the past few years and the current crisis.

## 1 Introduction

Smart specialisation strategies are built on the idea that territories should prioritise research and innovation investments as a pathway to the structural transformation of their economies, and that they should do so through a process of entrepreneurial discovery that draws on the collective intelligence of businesses, universities, government bodies and other key territorial actors. The entrepreneurial discovery process is hence the “motor of the smart specialisation methodology” that is being implemented across Europe (Periañez Forte *et al*, 2016). However, while the entrepreneurial discovery process was required for the initial selection of priorities for investment under Thematic Objective 1 within the 2014-2020 EU Cohesion Policy, it has been argued that from the beginning there was not a commonly understood definition of the entrepreneurial discovery processes (Capello and Kroll, 2016). Indeed, from the outset of academic literature and policy discourse on smart specialisation, around a decade ago, the ‘entrepreneurial’ process through which territorial strategic focus is ‘discovered’ has been something of a black box. The lack of a rigorous conceptualisation of the entrepreneurial discovery process (Benner, 2019) has been mirrored in the lack of a common practical understanding (Capello and Kroll, 2016).

In Foray *et al.*'s (2009) early scoping of the smart specialisation concept as part of the Knowledge for Growth Expert Group they conceptualise the entrepreneurial discovery process as “a learning process to discover the research and innovation domains in which a region can hope to excel”, and in which “entrepreneurial actors are likely to play leading roles in discovering promising areas of future specialisation”. Influenced by Hausmann and Rodrik's (2003) work on discovery as a process with high social value but limited private incentives, they consider the need for public policy measures to play a corrective role in supporting these processes of engagement of local entrepreneurs. This is the foundation of the European smart specialisation experiment over the last decade, throughout which there has been a consistent focus on the centrality of the entrepreneurial discovery process as “putting into place a process whereby such a dynamic of new speciality development ... can be facilitated” (Foray, 2015).

The proposal for a regulation of the European Structural funds for the programming period 2021-2027<sup>1</sup>, considers stakeholder collaboration (entrepreneurial discovery process) as one of the key elements for smart specialisation strategies and a core element of the European Regional Development Fund (ERDF) Enabling Condition “Good governance of national or regional smart specialisation strategy” for the period 2021-2027. However, still, after years of implementation it is a challenging concept for most European regions and countries. Moreover, at present, the COVID-19 crisis puts pressure on policy makers to adapt their entrepreneurial discovery process to the new conditions where it is more difficult to have personal meetings.

The aim of this paper is to examine, within the framework of a project developed by the JRC smart specialisation platform, what are the main factors influencing the effectiveness of the entrepreneurial discovery process organised across European countries and regions. The focus will be on the mechanisms and tools used to organise the discovery process. To this end, section two offers a review of existing literature related to the entrepreneurial discovery process, focused on the mechanisms and practices used by countries and regions to foster entrepreneurial discovery processes (EDP) within their smart specialisation strategies. Section 3 and 4 explains the research questions addressed by this study and the data and methodology applied. Section 5 presents and analysis the main findings of our study. Finally, section 6 provides some final thoughts and conclusions.

## 2 Recent debates around key elements of the entrepreneurial discovery concept

The entrepreneurial discovery process is the central element of smart specialisation strategies as it should determine how regional priorities for research and innovation investment are selected and how they evolve over time. It is conceived as an inclusive, evidence-based process of stakeholder engagement that produces information about the potential for new activities, thus enabling effective targeting of research and innovation policy (Foray,

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<sup>1</sup> Proposal for a regulation of the European parliament and of the council on the European Regional Development Fund and on the Cohesion Fund for the programming period 2021-2027

2014; Hausmann and Rodrik, 2003). As such, it should be a continuous process, beginning with the initial identification of the priorities of a smart specialisation, and extending into the implementation of the strategy where priorities are progressively refined and policies adapted (Marinelli and Perianez-Forte, 2017). However, while entrepreneurial discovery processes were required for the initial selection of priorities for investment under Thematic Objective 1 within the 2014-2020 EU Cohesion Policy, it has been argued that from the beginning there was not a commonly understood definition of what an entrepreneurial discovery process should be (Capello and Kroll, 2016).

### ***From academic theory to policy practice***

Foray has more recently described the entrepreneurial discovery logic as meaning “that the targeted transformation will not follow a path that is decided from the top but will be discovered as the process unfolds” (Foray, 2019). Alongside the directionality implied by smart specialisation, in terms of targeting policy and funding towards specific priorities, its distinguishing feature is precisely this dynamic unfolding process. However, as several authors have pointed out, the dynamism of entrepreneurial discovery in itself is not an original idea, and it has historically occurred spontaneously in regions as new paths are developed and structural change takes place (Karlsen, 2019; Pinto *et al.*, 2019). What is novel is the formalisation of this dynamism as an explicit policy process. Indeed, for most public administrations, injecting dynamism into public policy engagement with stakeholders from across the triple- or quadruple-helix requires a fundamental shift in paradigm, from a ‘planning’ logic to a ‘process’ logic (Aranguren *et al.*, 2017).

Yet precisely how this unfolding process should be stimulated and organised remains vague and highly context dependent. In this sense the ambiguity around the entrepreneurial discovery process, in both theory and practice, stems from the diverse interpretations that can be made of what the desired process should look like, and also from the diverse regional contexts in which it is to be implemented.

Interpretations of the entrepreneurial discovery process have usually had in common some degree of bottom-up participatory dynamic that is oriented towards prioritizing innovation on investments, and is operationalised through mechanisms such as focus groups, committees, stakeholder surveys, etc. (Pinto *et al.*, 2019). The European Commission’s implementation guide signals that this process should be “evidence-based” and should pay “attention to market dynamics” (Gianelle *et al.*, 2016). Benner (2019) has also recently proposed a more detailed working definition as:

*a systematic effort of public-private dialogue that draws on quantitative and qualitative evidence, includes the pooling of knowledge either multilaterally (e.g. in conferences or focus groups) or bilaterally (e.g. in interviews), focuses on prioritization and action planning, and is meant to codify an emerging regional consensus on cross-sectoral economic development.*

Attempts to conceptualise the concept still leave significant scope for interpretation regarding the level of granularity at which innovation investments should ultimately be prioritised, when the entrepreneurial discovery process should take place, who should be involved, how it should be organised, how it should feedback into policy decisions, etc. In this sense, the last programming period for EU structural funds can be characterised as one of intense practical experimentation in territorial strategy-making, which has taken place under only loose guidelines.

In the context of this decade of experimentation, Hassink and Gong (2019) recently opened a reflective debate on the concept and practice of smart specialisation by framing six critical questions. They argue that while the entrepreneurial discovery process “is in principle a good tool to select regional sectoral priorities”, in practice the existence of vested interest groups and strong path dependence make it “a rather delusional hope” (Hassink and Gong, 2019). Foray’s (2019) response is interesting as it points to a more nuanced understanding of the



entrepreneurial discovery process that combines “a planning mode and a self-discovery mode” (Hassink and Gong, 2019), consistent with earlier arguments for a combined bottom-up and top-down process (Kroll, 2015; Kleibrink *et al.*, 2017). Moreover, an important distinction is made with regards the timing and evolution of the entrepreneurial discovery process as not taking place “at the step of priority area choice (as was previously thought)”, but “afterwards in the way in which the transformative activity is constructed and developed” (Foray, 2019). This reinforces conceptual understanding of the entrepreneurial discovery process as a continuous process that extends into the implementation of the strategy, where priorities are progressively refined and policies adapted (Aranguren *et al.*, 2017; Marinelli and Perianez-Forte, 2017).

However, this more nuanced conceptual understanding raises pertinent questions about the state of practical understanding of the entrepreneurial discovery process, given that the focus of most attention until now has been on entrepreneurial discovery in the strategy design phase. In this regard, one of ‘six additional questions’ added to the debate by Benner (2020) is “how to focus more on the process than on the paper?”<sup>2</sup> He notes the largescale participatory effort that many regions have put into the development of their initial smart specialisation documents or plans, but questions the attention that is then paid to the participatory process during the subsequent implementation, citing what Marques and Morgan (2018) label an “intellectual bias [of] policy design over policy delivery”. This leads to a series of questions around the practical aspects of implementing a continuous, dynamic entrepreneurial discovery process, including how to incentivise participation, build trust, codify and process information, and avoid capture by vested interests and/or lock-in (Benner, 2000).<sup>3</sup> In the light of such questions, the next sub-sections review the emerging literature on practical experiences with the entrepreneurial discovery process and highlight some of the key factors influencing the success of the entrepreneurial discovery process. The aim is to search for some further insights on practical mechanisms and tools.

## **2.1 Emerging literature and practical experiences on entrepreneurial discovery processes: organisation and mechanisms**

Perhaps unsurprisingly, given that smart specialisation strategies are a manifestation of place-based innovation policies that are inherently path dependent (Asheim and Gertler, 2005; Barca *et al.*, 2012; Cooke and Morgan, 1998; Valdaliso *et al.*, 2014), the most striking feature of analysis of experiences with the entrepreneurial discovery processes in practice is their heterogeneity. This is highlighted in the small number of multi-regional studies that have explored different elements of smart specialisation design and implementation (Aranguren *et al.*, 2019a; Cyijanovic *et al.*, 2020; Laranja *et al.*, 2020; Roman *et al.*, 2020; Tripl *et al.*, 2019).

Tripl *et al.* (2019) compared smart specialisation practices in 15 regions, which were classified as less-developed, intermediate and advanced in terms of their innovation performance. Among their findings were the strong impact of smart specialisation on innovation practices in less-developed regions and the emergence of enhanced entrepreneurial search and discovery processes in advanced regions during the initial design phase. Based on a subset of 8 regions from the same study,<sup>4</sup> Aranguren *et al.* (2019a) found that “actors, structures and power relationships within the regions exhibit path dependence, which is seen to condition RIS3 decision-making”, and that government or government agencies were playing a dominant role within the entrepreneurial discovery process in most cases. This points to a lack of sophistication (and innovation) in the mechanisms for engaging wider groups of stakeholders in the entrepreneurial discovery process in ways that move beyond existing, top-down policy engagement. Moreover, it raises concerns around the sustainment of engagement as the strategy starts to be implemented, something that is reflected too in Tripl *et al.*’s (2019) conclusion, when looking forward to implementation, that “the apparent lack of appropriate tools to deliver the smart specialisation ambitions has been a source of concern across the regions analysed”.

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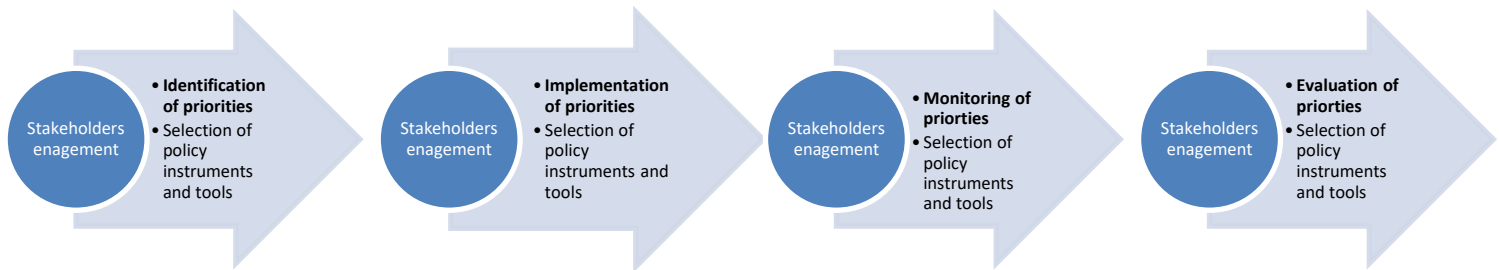
<sup>2</sup> See also Foray’s (2020) response.

<sup>3</sup> Several related points around the practical implementation of a continuous entrepreneurial discovery process – for example on vested interests and lock-in – are also made by Hassink and Gong (2019) in the paper that sparked this debate, and by a range of other authors cited therein (e.g. Grillitsch, 2016; Magro and Wilson, 2019; Sotarauta, 2018).

<sup>4</sup> The FP7 project *Smart Specialisation for Regional Innovation* that was active between 2013 and 2016.

## 2.2 Continuous entrepreneurial discovery process?

The entrepreneurial discovery process should be a continuous process, beginning with the initial identification of the priorities of a smart specialisation strategy, and extending stakeholders' participation into the implementation of the strategy where priorities are progressively refined and policies adapted (Marinelli and Perianez-Forte, 2017). To understand the continuous nature of the entrepreneurial discovery process requires looking at how stakeholders are engaged during the identification, definition, and re-definition of investment priorities. It also requires reflecting on the best mechanisms to be implemented throughout the policy cycle that will enable stakeholders to be kept engaged during the whole smart specialisation process (See figure 1).



**Figure 1.** Smart specialisation strategy driven by the entrepreneurial discovery process

Source: Authors' adaptation based on Lasswell, H.D. (1956).

The challenge of the transition from design to implementation is also a key theme of the assessment report on the European Commission's support for the development and implementation of smart specialisation (Pellegrin and Catalano, 2020). It notes that EU support was concentrated almost exclusively in the design phase, leaving a range of issues unaddressed in the implementation phase. Indeed, fears around the capacity for a continuous implementation of the entrepreneurial discovery process are re-enforced in some multi-regional studies that have been able to analyse the entrepreneurial discovery process beyond the initial design phase.

Laranja *et al.* (2020), for example, assess the implementation of smart specialisation at national and regional levels in Portugal. While platforms or thematic discussion-groups have recently been created in almost all regions, the level of engagement is found to be relatively superficial and lacking in private-sector participation. Moreover, the authors conclude that "we cannot say that there are continuous entrepreneurial discovery processes working ... our impression is that the main motivation [for the late creation of the platforms/groups] is not to launch a continuous entrepreneurial discovery process, but to undertake a "tick the box" exercise at the start of the process for revision and eventual re-design of smart specialisation for the 2021-27 programming period" (Laranja *et al.*, 2020).

In a similar vein, Cyijanovic *et al.* (2020) analyse stakeholder engagement in 8 countries and regions from Central and Eastern Europe, arguing that "even where CEE countries have been able to use and develop new strategy development tools and involve new stakeholders in their strategy design, the entrepreneurial discovery process has proved difficult to continue during policy implementation" (Cyijanovic *et al.*, 2020). They did, nevertheless, uncover cases where continuity in the entrepreneurial discovery process was observed, through dedicated mechanisms put in place to sustain the engagement of key stakeholders. For example, in the case of South Moravia the mechanism was permanent working groups under a steering committee coordinated by "an association between public authorities and four universities" (Ibid., p. 9), while in the case of Slovenia it was Strategic Research and Innovation Partnerships (SRIPs) that bring together key stakeholders in each of the identified priority areas (see also Wostner, 2017 and Pinto *et al.*, 2019).

### **2.3 Long-term mechanisms for sustained stakeholder engagement**

The importance of establishing long-term mechanisms around which to organise sustained stakeholder engagement is also highlighted in a study focused on the implementation of a continuous entrepreneurial discovery process in 17 Finnish regions (Roman *et al.*, 2020). While the specifics of the mechanisms developed display considerable heterogeneity, the authors can group them into three aggregate dimensions:

- The development of specific frameworks and tools.
- The establishment of horizontal and vertical innovation networks.
- The integration of smart specialisation dynamics into the regional development cycle.

The first two of these categories are in line with the distinction made by Ghinoi *et al.* (2020) in a framework for entrepreneurial discovery process governance that distinguishes three types of mechanisms for generating diversified specialisation: (i) cluster initiatives, as key for knowledge transfer and a bottom-up approach; (ii) sharing infrastructures (including roundtables and workshops), as key participatory tools supporting transformative capacity; and (iii) (formal and informal) collaboration networks, which support both intra-regional and inter-regional connectedness.

It is nevertheless difficult to arrive at a uniform distinction between different types of mechanisms that is translatable to practice in different regional contexts. Interpretations of the mechanisms themselves differ (e.g. the definition of a cluster initiative), and the categories tend to overlap and interact with one another (e.g. cluster initiatives can be considered a type of collaboration network, and they frequently employ roundtables or workshops). Indeed, the fuzzy understanding of mechanisms for the entrepreneurial discovery process is reflected notably in confusion around the distinction between smart specialisation and cluster policies. Foray *et al.* (2011) were careful to argue that smart specialisation strategies are not the same as cluster policies, but that clusters can be an outcome or emergent property of a smart specialisation strategy. Yet it has also been argued that existing cluster dynamics and cluster organisations have strong synergies with the requirements of an entrepreneurial discovery process (Aranguren and Wilson, 2013; European Commission, 2013; Karlsen, 2019; Todeva, 2015; Wilson, 2018), an issue taken up in the recent debate between Hassink and Gong (2019) and Foray (2019). Practical experiences in Germany, the Basque Country, Wales, and many other places certainly suggest that past and existing cluster organisations and/or policies frequently provide foundations for the mechanisms used to construct an entrepreneurial discovery process (Aranguren *et al.*, 2016, 2019b; Koschatsky, 2017; Pugh, 2018).

### **2.4 Selection of mechanisms: a highly context-dependent choice**

Overall, it is clear from the literature that the choice of mechanisms to facilitate the sustained stakeholder engagement required for an entrepreneurial discovery process will depend strongly on the specific institutional context and past/existing policy mechanisms. Indeed, following Kroll (2019), the obstacles that need to be overcome to implement an effective entrepreneurial discovery process have been shown to be region specific. This diversity of approach is strongly evident in the studies that have analysed specific contexts in depth. Mieszkowski and Kardas (2015), for example, analysed the potential of three groups of existing mechanisms:

- Foresight programmes.
- Strategic research and development programmes.
- And sectoral research programmes – in facilitating the entrepreneurial discovery process in Poland.

Amidst considerable heterogeneity in the involvement of different groups of actors across these initiatives, Mieszkowski and Kardas (2015) found that sectoral research programmes most closely approximated a bottom-up, demand-driven entrepreneurial discovery process approach in the Polish context.

In this line, some scholars already anticipated that a smart specialisation strategy driven by the entrepreneurial discovery process requires a combination of different policy instruments (Foray 2014; McCann and Argiles 2016,

OECD 2013). This was well illustrated by the results of the *Interreg project "Beyond EDP"* launched in 2016 with 11 partners from nine European countries. This project aimed at taking stock of the experiences European regions have made with entrepreneurial discovery processes. One of the conclusions was that a combination of policy instruments is required to ensure a continuous entrepreneurial discovery process. The selection of the mechanisms/instruments used by the participating regions to keep stakeholders engaged depended on the policy phase in which stakeholder's contribution was required:

- In the *agenda-setting phase*, evidence-based practices were identified as valuable data to inform discussions on priorities (e.g. SWOT analysis, mapping of regional capacities, stakeholder competences and potentials; studies on scientific, technological and economic trends).
- In the *policy formulation and decision-making phases*, inclusive mechanisms to ensure a bottom-up approach and broad participation of stakeholders were important (e.g. focus groups, committees and public platforms).
- In the *implementation phase*, the involvement of stakeholders in the management of project calls is crucial for the realization of priorities.
- Finally, in the *monitoring and evaluation phases*, interactive and inclusive mechanisms for a "continuous reflection on market opportunities, as well as a periodic re-assessment of the investment priorities previously identified" (Perianez-Forte, Marinelli & Foray, 2016).

Thus in different contexts, different nuances come to the fore in terms of how mechanisms are designed, function and evolve over time; from focus groups that pioneer participatory dialogue around R&D policy in Eastern Macedonia and Thrace (Pinto et al., 2019; Santini et al., 2016), to thematic steering groups engaging heterogenous groupings of actors under common 'rules of the game' in the Basque Country (Aranguren et al, 2016, 2019b), or the nuanced combination of informal and formal networks in Lapland (Ghinoi et al., 2020). Moreover, Benner (2019) finds that while the entrepreneurial discovery process serves to re-enforce existing institutions in some cases (Lower Austria and South Tyrol), in others it can prompt institutional change (Slovenia and Croatia). All over, the entrepreneurial discovery process has in most cases been institutionalised and implemented on a systematic basis to build bridges between public – private actors

## **2.5 Capacities deficit for the development of a dynamic and sustained entrepreneurial discovery process**

Finally, it is worth noting that many of the analyses of practical experiences point to a deficit in capacities for the development of a dynamic and sustained entrepreneurial discovery process. Guzzo and Perianez (2019) suggest that it is necessary to build capacities among relevant stakeholders to enhance their level of engagement in the policy process. These authors argue that on many occasions actors are not particularly familiar with smart specialisation or more generally with participation in policy making processes. Stakeholders might be willing to participate but are unable to do so because they do not have the required skills and resources. Laranja *et al* (2020), for example, cite a deficit of human resources in the management teams of the mechanisms put in place, while Capello and Kroll (2016) and Marques and Morgan (2018) highlight the limited capacities of implementing agencies. Moreover, Pellegrin and Catalano (2020) find that "EC support is characterised by a difficulty in reflecting the differentiated capacities of regions to implement RIS3 and absorb support." The need for capacity building is not surprising given the paradigm shift that is required from a planning logic to a process logic, from top-down power dynamics to the integration of bottom-up participation, and from a narrow cast of actors to a much wider one. In this regard, Aranguren et al. (2017) point to the specific need for developing more distributed leadership capabilities and to finding the right mix of leaderships for each context and moment.

### 3 The research questions

This research project looked at how entrepreneurial discovery processes are regulated across EU countries and regions. The specific focus was on the tools and mechanisms used by countries and regions to foster efficient entrepreneurial discovery processes within their smart specialisation strategies. It examined the extent to which these mechanisms are enabling policy makers to obtain dynamic information related to emerging areas of innovation and the suitability of these policy support measures.

By exploring those elements and the changes introduced by the smart specialisation experience, the study addressed the following research questions:

- What policy tools and mechanisms have proved to be most effective: 1) to ensure the necessary framework conditions for an efficient entrepreneurial discovery exercise? 2) to obtain information related to emerging areas of innovation, the performance of existing ones, and the suitability of the adopted supporting measures?
- What mechanisms are most useful to clarify/agree upon stakeholders' roles, the objectives of entrepreneurial discovery processes and the expected results and outputs (e.g. regulation, meetings, committees' reports, etc.)?
- How was the input of stakeholders collected during the strategies' development (design, implementation, follow-up and revision)? And how did those inputs feed into decision-making processes?

### 4 Methodology and data

The analysis of this report draws on three complementary types of information:

1) Literature review, as reflected in Section 2;

2) Survey data, including 79 valid responses from people belonging to the public administration and involved in smart specialisation in 19 EU Countries (9 responses from national authorities and 70 from regional ones). The survey included five questions related to the entrepreneurial discovery process: (i) the instruments used; (ii) the quality of stakeholder engagement; (iii) the level of participation of different stakeholders; (iv) the importance of different types of contribution; and (v) the effectiveness of the entrepreneurial discovery process in different dimensions;

3) 18 case study reports across 7 EU countries and 18 EU territorial entities, 5 at the national level and 13 at the regional one (See table 1). These reports were produced by national experts using a common set of guidelines. The part of these reports focused entrepreneurial discovery process addressed the following dimensions: (i) understanding of the continuous entrepreneurial discovery process concept; (ii) the organisation of the entrepreneurial discovery process; (iii) the mobilisation and engagement of stakeholders; and (v) capacity building.

**Table 1** Case Study Reports

<b>Region</b>	<b>Administrative level</b>
<b>FI</b> National 'Six City' Strategy	Regional
Helsinki-Uusimma	National
Lapland	Regional
Ostrobothnia	Regional
<b>DE</b> North Rhine-Westphalia	Regional
<b>HU</b> National Strategy	National
<b>IT</b> Ambruzzo	Regional

	Emilia Romagna	Regional
	Campania	Regional
	Lombardy	National
	Tuscany	Regional
<b>PO</b>	National Strategy	Regional
	Mazowieckie	Regional
<b>SP</b>	National Strategy	Regional
	Catalonia	Regional
	Galicia	National
	Valencian Community	Regional
<b>SO</b>	Slovenia	National

The analysis presented in the next section combines the case analysis with survey data.

## 5 Evidence from the case studies and survey

The evidence collected generate four broad sets of findings in terms of factors influencing the success of the entrepreneurial discovery process and the selection of the mechanisms used for stakeholder mobilisation and engagement. Firstly, relating to the way the entrepreneurial discovery process is understood as a continuous process; secondly, concerning the types of stakeholders engaged in the process and the mechanisms selected; thirdly, the type of organisation required for the entrepreneurial discovery process as a whole; and finally, relating to the capacities required for an efficient discovery process. There is considerable heterogeneity in these factors, but a combination of the survey results and case analysis enable the drawing of some overall lessons.

### 5.1 Understanding of the continuous entrepreneurial discovery process concept

The evidence collected from the cases suggests that there is still no universal understanding of what the continuous entrepreneurial discovery process should look like in practice. Indeed, the language of entrepreneurial discovery process is not uniformly applied. The four Finnish cases note, for example, that the term entrepreneurial discovery process has not been explicitly used, with a preference for language emphasising elements such as “cooperation”, “entrepreneurial spirit” or “doing things together”.

To understand the variation in understanding of a continuous entrepreneurial discovery process it is useful to first understand the heterogeneous starting points of regions when embarking on a smart specialisation process. The case analyses of the five Italian regions illustrate this well. While in Ambruzzo this type of stakeholder-centred process for developing research and innovation policy was entirely new, Campania could build on some existing processes and traditions, and Emilia Romagna, Lombardy and Tuscany all had fairly sophisticated institutional dynamics already in place (e.g. high tech networks in Emilia Romagna, high tech districts and technology clusters in Lombardy, innovation poles in Tuscany).

Indeed, the starting point appears to be a reasonable predictor of the approach taken in terms of understanding the entrepreneurial discovery process as a continuous process. A majority of the smart specialisation strategies analysed are based on a single design phase, usually reflected in some form of strategy document that is then implemented. Seven of those cases point to weak and/or fragmented dialogue between stakeholders once the design phase has finished, while five are characterised by evidence of strong and/or systematic continuous dialogue during implementation. In some cases, this continuous dialogue is strongly supported by pre-existing institutions (Emilia Romagna, Lombardy, Tuscany), while others have built new processes and/or institutions (Slovenia, Ostrobothnia). The case of the Valencian Community is particularly interesting because the scope of the

entrepreneurial discovery process is observed to have broadened beyond its initial objective in the design phase to become a tool for participation and continuous analysis of measures and policies.

There are also five cases that can be classified as a multi-stage strategy, whereby an initially designed smart specialisation strategy was revised at a discrete point in time. In the cases of Helsinki-Uusimaa, Lapland and Mazowiekie, this redesign process sat alongside the observation of strong and/or systematic continuous dialogue among stakeholders during implementation, while in the cases of the Six Cities Strategy and Galicia that continuous dialogue was observed to be weak and/or fragmented. Indeed, Galicia is an example of a region where the mobilisation of stakeholders in the initial design of the S3 (in 2013) represented an entirely new step, which was then repeated in an intermediate evaluation (in 2019), but without a continuous process of engagement in place in-between.

To understand whether and how stakeholders are kept involved during the different phases of the smart specialisation process, it is also important to look at the type of stakeholders invited and the type of mechanisms/organisation put in place to engage them during the policy cycle. These factors provide some insights on the efforts made by public administrations to facilitate a broad participation and new portfolio of stakeholders in the policy cycle.

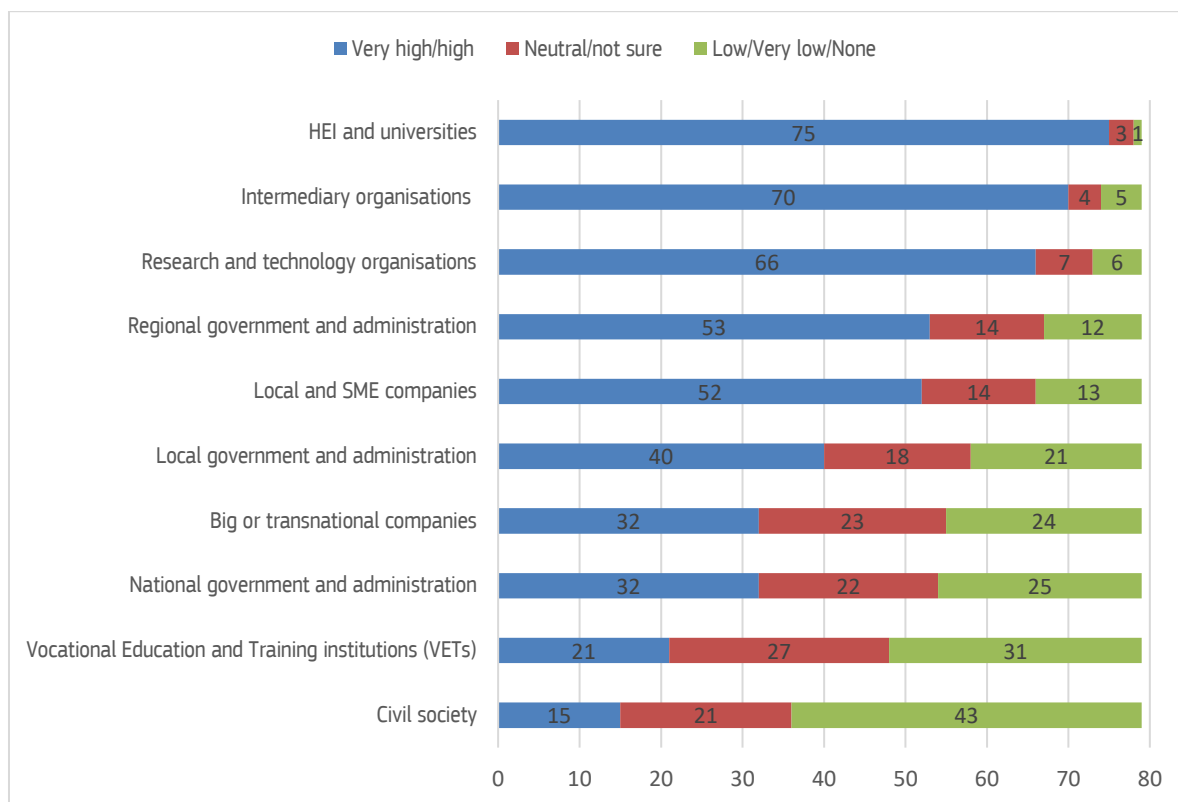
## **5.2 Mobilisation and engagement of stakeholders**

If we zoom further in on the specifics of stakeholder mobilisation and engagement within the entrepreneurial discovery process, there are two broad sets of findings. Firstly, relating to which types of stakeholders are engaged, and secondly relating to the mechanisms that are used for their engagement.

### **5.2.1 Types of stakeholders**

Evidence from the survey provides a general overview of the mobilisation of different types of stakeholders within entrepreneurial discovery processes across Europe (see Figure 2). Higher Education Institutions (HEIs), Intermediary organisations, and Research and Technology organisations (RTOs) stand out, with above 80% of respondents indicating that they have a very high or high participation in the smart specialisation process. In terms of participation, it seems that the entrepreneurial discover process remains mainly a triple-helix type of interaction (Marinelli and Perianez-Forte, 2017) where academia, industry and government have normally been more involved than other social actors (See figure 2).

**Figure 2.** Level of stakeholders' participation in the RIS3 strategy



Source: authors' elaboration based on survey data.

The high perceived involvement of intermediate organisations (such as clusters) is consistent with the cases and it reflects their efficiency as bridges between individual businesses and collective strategic processes. The high involvement of HEIs and RTOs is also unsurprising given the research and innovation focus of smart specialisation strategies. Analysis of the cases also reveals their involvement as universally strong, although it is possible to identify a spectrum. At one end of the spectrum are cases like Catalonia, Helsinki-Uusimaa and Lapland, where universities and research organisations are seen to have played a dominant role in the entrepreneurial discovery process from the start, with some signs of an evolution to gradually open up to other actors. At the other end of the spectrum are the Italian cases or North Rhine-Westphalia, where the involvement of HEIs and RTOs is balanced by that of strong business-focused intermediaries.

Figure 2 also demonstrates that regional government and local and SME companies are perceived to have high or very high participation by around 65% of respondents. These are both slightly surprising results, for different reasons. The former is perhaps lower than expected from the case analysis, where almost all the cases analysed point to a very strong role for regional government or its agencies in the entrepreneurial discovery process. The latter is higher than expected, because there is widespread acknowledgement of the challenges involved in engaging smaller, local firms that are often time- and resource- constrained in strategic processes. Nevertheless, several of the cases, for example Galicia, Valencian Community, Helsinki-Uusimaa or Six Cities, also demonstrate that advances are starting to be made in the engagement of SMEs, consistent with this result. Deeper research in these cases would be interesting to analyse the instruments and communication strategies used to support SME participation.

The even lower perceived participation of national governments and local governments in the entrepreneurial discovery process is also consistent with analysis in many of the cases, which have highlighted the challenges of multilevel governance. In the case of Spain, for example, it is clear from both the national case analysis and the three regional analyses (Catalonia, Galicia, Valencian Community) that there has been little systematic involvement of the national government within the entrepreneurial discovery process at regional levels, except for through the relatively weak mechanism of the *Red IDI agency* as a tool to improve strategic coordination. The Hungarian and Polish cases provide a counter example where the national government has played a strong role, although in the Hungarian case this has been largely 'instead of' rather than 'alongside' the regional or local levels to date. There



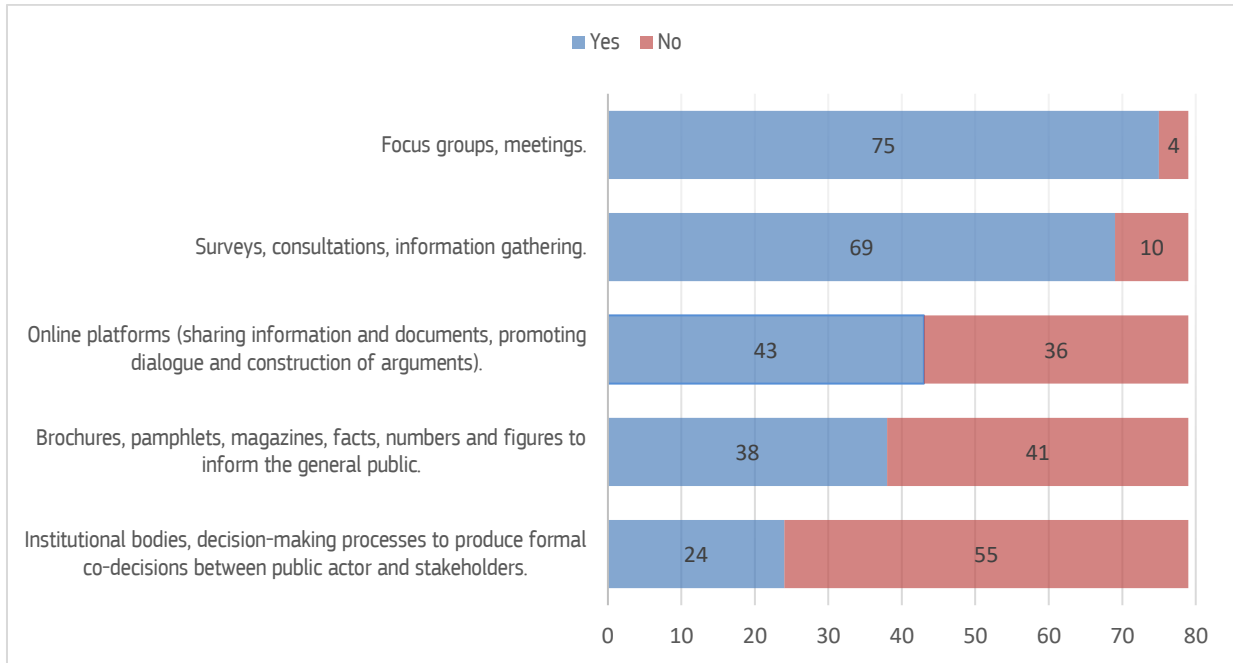
is also hardly any mention of the local level in the cases analysed, except for the cases of the Six Cities Strategy and Helsinki-Uusimaa, which do offer very interesting insights on how to integrate different levels of governance through mechanisms such as *city coordinators* and instruments such as *fast experiments* at local levels.

Finally, the most significant gaps in perceived participation concern vocational education and training institutions and civil society. Again, this is consistent with the case analyses, where there is hardly any explicit mention of vocational training and only a few cases that note concern with civil society. In Emilia Romagna increased awareness was observed around social innovation and the integration of civil society, while Helsinki-Uusimaa includes *citizens* as a focus area and demonstrates the potential of integrating civil society through SME fast experiments, and the Six Cities Strategy in Finland suggests the potential in changing mindsets from products/projects to problems/solutions. However, as pointed out by Guzzo and Periañez (2019) those regional authorities that have experienced the involvement of civil society actors in entrepreneurial discovery processes, positively value their contribution. These regional authorities also recognise that they have often underestimated the interest of civil society in participating in policy-making processes and would like to promote its greater involvement in the future.

### **5.2.2 Types of Instruments**

The cases also highlight a wide range of different instruments that are used in the process of mobilising and engaging stakeholders in the entrepreneurial discovery process. The most frequently cited instruments across the case analyses were focus groups, workshops and thematic forums, which is broadly in line with results from the survey, where 94% of respondents also cited focus groups or meetings (Figure 3). This is very much in line with previous studies. For instance, the project the Region of Eastern Macedonia and Thrace and beyond (Mark Boden *et al*, 2016) where one of the findings was that the use of focus groups was important for the mobilisation and engagement of regional stakeholders to explore opportunities, gaps and barriers.

**Figure 3.** Instruments used to promote stakeholder involvement



Source: authors' elaboration based on survey data.

While the wide range of instruments and the different interpretations that could be given to many of them make it difficult to generalise, four key messages emerge from the combined survey and case evidence.

- Firstly, focus groups, working groups, workshops and forums of some description stand out as more used instrument to engage stakeholders in the entrepreneurial discovery process, which is no surprise given the potential that they offer for deeper interaction.
- Secondly, online platforms appear less popular in general, and in several of the cases there was mention that web-based engagement had not been very effective in terms of uptake. Again, this is perhaps unsurprising, although given the accelerated learning around digital forms of engagement that has taken place in the context of the COVID-19 pandemic during 2020 it is also likely that this perception is changing or will change. In this direction, a recent study carried out in Alentejo by Laranja et al. (2020) point out that *“Digitalisation of the EDP allows for more regular interactions, even if it lacks the ‘human touch’ of meeting physically. Many EDP workshops fail to ensure follow up after the event, but this was avoided in the case of the online workshops in Alentejo. It also allows for a potentially more inclusive process as people can join online events from wherever they are based; a particular advantage for large and remote regions such as Alentejo. As we enter the ‘new normal’, which although is still far from clear, the EDP can surely be improved and strengthened by experimenting with and building on new opportunities in the digital world.”*
- Thirdly, the relatively low perceived use of brochures, pamphlets, magazines, facts, numbers and figures to inform the general public, alongside comments in the cases of Galicia, Helsinki-Ususimaa and Lapland in particular, suggest that the communication and dissemination of entrepreneurial discovery process processes among a wider public than those directly engaged has not been a priority.
- Finally, in terms of incentives to engage through these instruments, while many of the cases cite privileged information about funding calls as a key incentive, there is also mention in some cases about the natural commitment to a common cause.

The evidence collected suggests that the following policy actions influence the effectiveness of the

entrepreneurial discovery process organised:

- Promoting the use of **thematic groups or workshops** reflecting their usefulness in allowing depth of discussion and exploration. These can also be progressively targeted to specific priorities and sub-priorities to generate granularity and integrate increasingly niche knowledge.
- Increasing the use of **web-based tools or platforms**. Given the steep learning that has taken place in the use of digital engagement tools during 2020, it seems worth revisiting their potential, particularly in phases of the entrepreneurial discovery process where lighter forms of engagement are required.
- It is also important to promote **activities of wider awareness raising, dissemination or communication** among the general public. The use of entrepreneurial discovery processes beyond the realms of those directly involved suggests an opportunity to better exploit the wider value of smart specialisation strategies within regions.

### 5.3 Organisation of the entrepreneurial discovery process

Turning to the organisation of the entrepreneurial discovery process, the focus of the case analysis has been on the structure, role, processes, and resources that characterise the entrepreneurial discovery process. There is recognition in interviews across several of the cases of how challenging it is to organise an entrepreneurial discovery process, especially with regard to the heavy **time and resource demands** of intensive stakeholder engagement. This point relates back to the above discussion on the different approaches to a continuous entrepreneurial discovery process, where the inherent trade-off is summed up neatly in the case of Tuscany: *The great commitment and effort required, both in terms of financial and human resources for the organisation of the various initiatives, is such that it is widely agreed that this type of activities cannot be carried out on a continuous basis.*

In Tuscany, this argument underlies the adopted mix of *light forms of territorial engagement* focused on awareness raising with *intense periods of exportation activities*. While not expressed in such an explicit way in other cases, the choice and organisation of engagement mechanisms over time mirrors this pattern in several other strategies. For example, the bi-annual implementation of an intense series of interviews that characterises Ostrobothnia's *connectivity model*, the explicit set-up of a two-stage strategy with intense periods for design and then re-design in Galicia, or the focus on lighter forms of *awareness raising or dissemination* during the entrepreneurial discovery process implementation phase in many of the other cases.

In several of the cases there is also explicit mention of the role that **rules of engagement** do or do not play in the organisation of the entrepreneurial discovery process. Among the Italian cases, for example, while in Tuscany *the clear codification of the rules of engagement of the various actors involved were considered as highly effective and operationally efficient*, the Lombardy experience suggested that *the lack of a set of codified rules of engagement allows great operational flexibility*, while noting the *trade-off with accountability*. There were similarly diverse approaches in the Finnish cases, where the Helsinki-Uusimaa's entrepreneurial discovery process organisation was considered to be a very informal and open process *without any form of rules*, in contrast to the more formal approach centred on engagement through interviews and then discussion of results in Ostrobothnia's entrepreneurial discovery process. The two Polish cases also stand out for their very clear articulation of the rules of engagement in the new working group structures created for the development of the entrepreneurial discovery process.

Evidence suggest that in most cases it seems important to establish some **rules of engagement**. These can be more or less formal and more or less flexible, depending on the specific context, but some overall guidelines are important in terms of managing the expectations of different actors and setting the tone for continuity.

Providing guidance and a clear set of codified rules of engagement for the role of the different actors involved in the entrepreneurial discovery process and the organisation of these activities (e.g. either formal or informal) seem to be welcomed by most participants as influencing the effectiveness of the process.

However, amidst the heterogeneity around the specifics of how each territory is organising its entrepreneurial discovery process, two common elements can be identified:

- The first is the *key role played by intermediaries in organising the entrepreneurial discovery process* in all the cases analysed. In some cases, these intermediaries pre-dated the smart specialisation strategy and have been harnessed for the design and/or implementation phases of the entrepreneurial discovery process, while in other cases these intermediaries have been newly created with the smart specialisation strategy. A differentiating factor concerns the nature of the intermediaries, which in some cases are independent multi-actor platforms (clusters, technology districts, platforms, business associations), while in other cases are government-led agents charged with playing an intermediary role.
- The second common element that stands out from the case analyses is the central role that *funding calls* play as a mechanism for adapting policy in the organisation of the entrepreneurial discovery process. Almost all the cases highlight funding calls – typically for projects – as playing a central role in connecting policymakers with other stakeholders within the entrepreneurial discovery process. Several cases emphasise how funding calls are used as a tool to collect stakeholder feedback and information in a dynamic process that leads to the adaptation of the calls themselves. This is framed variously in terms of processes of consultation, engagement, influencing or co-design. As such, funding calls clearly provide an important mechanism to link the emerging results of discovery processes within the priority areas with policy decision-making. While such practices appear widespread, examples from Lombardy, the Valencian Community and North Rhine-Westphalia are illustrative.

Policy actions supporting the use of **funding calls** to link the entrepreneurial discovery process, with policy decision-making can positively influence the effectiveness of the entrepreneurial discovery process. Funding calls are a key tool for quickly adjusting the direction of innovation policy towards supporting emerging priorities.

In Lombardy, the preparation activities for the *two-year work programme* detailing the operational applications of the specialisation areas and used for the implementation of calls is found to be *based on intensive collaborative practice* which articulates the specialisation applications in a way that facilitates *significant granularity*. Similarly, in the Valencian Community there is evidence that emerging discoveries from *multi-step engagement processes* through *seed groups* are shaping decision-making related to future calls, and in North Rhine-Westphalia calls under the *Lead Market Programme* are regularly re-defined by incorporating entrepreneurial discovery processes views transmitted through the intermediary *Lead Market Agency*.

Finally, it is also worth highlighting the role that funding calls are playing in some regions to connect SMEs with the entrepreneurial discovery process. Galicia, for example, has introduced the new *SME Connect* programme to fund market-oriented R&D and innovation projects that are aligned to the challenges and priorities of the smart specialisation. There is also strong emphasis in the Finnish cases of Helsinki-Uusimaa and the Six Cities Strategy on the speed at which funding calls are able to be adapted in line with the entrepreneurial discovery processes, especially through targeting funding to SMEs for fast experiments.

## 5.4 Capacity building

When it comes to capacity building the case analysis highlights a trend in terms of there being strong recognition of the importance for capacity building, but few actual measures explicitly directed towards it. There are some examples of formal activities, such as training activities designed to build capacity in managing the strategy in Lombardy or the 8-region LARS project to foster international learning around a common system and share good practices in Ostrobothnia. There are also cases where there are clear responsibilities for capacity building, such as the *SRIPs coordinators* in Slovenia or the *Lead Market Agency* in North Rhine-Westphalia, but where no dedicated training beyond internal processes has taken place. Indeed, in most cases, the activities of the entrepreneurial discovery processes play a more informal role in capacity-building, relying on *learning by doing*. In the Six Cities case, for example, it is argued that the *most important skill for the entrepreneurial discovery processes is the ability to listen*, and that *this is developed through knowledge exchange*, such that the *whole strategy implementation has been described as a huge learning process*.

Some of the cases also identify deficits as regards specific capacities, for example with regards communication in the case of Lapland or organisational learning within the regional council in the case of Ostrobothnia. More generally in that regard it is interesting to consider evidence from the survey, which sheds light on the perceived quality of the contribution of different stakeholders to the entrepreneurial discovery process. The perception is good overall, with 76% of respondents rating as “excellent or good” the quality of the information provided as part of the smart specialisation process. However, there is interesting variation when considering more specific contributions. While 89% of respondents indicated that stakeholders had an “excellent or good” level of technical/specialised skills, that percentage drops to 53% for skills to participate in policy decision-making processes. This is perhaps unsurprising given the novelty of the type of dynamic policy engagement associated with the entrepreneurial discovery process and suggests that there is still a long way to go in terms of capacity building among participants. On the positive side, however, capacities among policy-makers themselves are valued highly, with 74% of respondents rating the level of public officials’ capacity to collect and assess crucial information to inform policy decision processes as “excellent or good”.

Ensuring the **right skills and resources** for the operationalisation and continuity of the entrepreneurial discovery process is also critical. Promoting capacity building initiatives for all quadruple –helix actors is central for promoting greater stakeholder engagement. Public administrations should promote training and supporting staff in developing networking and operational skills which are essential to engage with relevant actors and experts, to effectively manage working sessions with stakeholders and to design and implement effective policy instruments. Supporting the development of interpersonal skills are also central to interact well with others, build trust and solve conflicts. So as skills for effective communication, using adequate tools and messages tailored to the target audience, are required to provide stakeholders with information on project results and feedback on policy implementation.

## 6 Conclusions

The success of the entrepreneurial discovery process is very much context-dependent. The overriding impression of the entrepreneurial discovery process across the 18 cases analysed is one of heterogeneity, both across and within processes (in terms of variation according to different priority areas, moments in time, etc.). This should be considered a strength, as a key premise of place-based policies is that they must adapt themselves to the context. Indeed, while an effective entrepreneurial discovery process relies on an adequate institutional context, capable of regularly engaging key stakeholders and filtering the emerging information in ways that aid policy decision-making, there are many ways of organising the specifics of this, depending on the existing institutions, culture and historical trajectory of innovation policy.

Nevertheless, the combination of rich case analysis with survey data make it possible to **propose some core features or dimensions that are likely to influence the success of entrepreneurial discovery processes.**

1. The first is **continuity**, that is, stakeholder's engagement throughout the policy cycle. Indeed, continuity has been argued to be a key element of the entrepreneurial discovery process (Perianez-Forte *et al*, 2016). Recently, it has been pointed out that adopting a digital approach can ensure not only the continuity of the policy in difficult times but can also be a way to improve participation in the smart specialisation governance model in the post-corona crisis (Laranja *et al* 2021).

The analysis here suggests a distinction can be made between facilitating systematic engagement of stakeholders in the entrepreneurial discovery process throughout the design and implementation phases of the strategy, and more fragmented or sporadic engagement that usually tails off after the initial design of the strategy. The difficulty of maintaining interest in engagement, especially given the significant time resources implied, is well reflected across the cases. While it appears easier to achieve when a region already has strong intermediary institutions such as cluster organisations, technology districts or development agencies, there are also cases that have managed to achieve sustained engagement through new institutions. In both cases it seems important to establish some rules of engagement.

2. A second set of core features concerns the **mechanisms and instruments** that are used to facilitate the entrepreneurial discovery process. A clear conclusion here is the importance of involvement of *intermediary institutions* to ensure stakeholders' participation in the entrepreneurial discovery process. These intermediary institutions could be multi-stakeholder platforms such as clusters or technology districts, or government-led agencies or forums with a specific remit to facilitate the entrepreneurial discovery processes, or indeed a mix of the two. Alongside the chosen mix of intermediary institutions, that provide stability and continuity to the process, are more specific mechanisms that facilitate the process of discovery itself and the link to policy. The use of *thematic groups or workshops* of some description is extremely common, reflecting their usefulness in allowing depth of discussion and exploration. These can also be progressively targeted to specific priorities and sub-priorities to generate granularity and integrate increasingly niche knowledge.
3. A third core element, closely related to the second one, concerns the **organisation and coordination** of entrepreneurial discovery processes. Based on the case study analysis, an efficient organisation requires an important role of the government as well as *clear rules* to ensure *wide access, transparency and equal possibility to influence the process* by all relevant stakeholders. These findings were also in line with the conclusions obtained in the policy discussions organised by smart specialisation platform under the Policy Learning and Exchange Workshops in 2018/2019 (Guzzo and Perianez 2019).

What appears to be most critical is the ability to design and implement a process that manages the tensions between the resources required to engage and the benefits from engagement. This can be done through a clever *choice and organisation of engagement mechanisms over time in a way that mixes intense periods of exploration with lighter forms of engagement*. In this regard, some cases have shown that explicit phases of re-design in a multi-stage strategy can be a helpful tool when combined with lighter processes of engagement and dissemination that bridge the design activities.

In terms of explicitly linking the entrepreneurial discovery process with policy decision-making, *funding calls* are a central mechanism that are being used to fulfil multiple functions. Most obviously they are a key tool for quickly adjusting the direction of innovation policy towards supporting emerging priorities. However, they can play an even more dynamic role when they are used also as a consultation mechanism to collect stakeholder feedback and make adjustments in real-time, and their role in connecting SMEs in particular with the entrepreneurial discovery process has been highlighted in several cases.

Paradoxically it is the lighter forms of engagement where there appears to be the most scope for immediate improvement. While almost all of the cases analysed had found ways to effectively organise the more intense periods of engagement involved in identifying priorities and designing the strategy, gaps are often to be found in terms of keeping engagement alive in a less intense way as the implementation develops. While different forms of *web-based tools or platforms* were often cited they rarely appeared to have been effective. Given the steep learning that has taken place in the use of digital engagement tools during 2020, however, it seems worth revisiting their potential, particularly in phases of the entrepreneurial discovery processes where lighter forms of engagement are required. Activities of wider *awareness raising, dissemination or communication among the general public*, taking the entrepreneurial discovery processes beyond the realms of those directly involved also appear to be quite weak, which suggests an opportunity to better exploit the wider value of smart specialisation strategies within regions.

4. Finally, a fourth core feature is the need to ensure ***adequate capabilities*** in both public authorities and relevant stakeholders to effectively engage in the policy process. The lack of skills in government, intermediary organisations and other relevant stakeholders constrains the efficient results of the discovery process. The need to ensure adequate skills among the public and private actors involved in the entrepreneurial discovery process is widely acknowledged by policy makers. Guzzo and Perianez (2019) argued that smart specialisation is very demanding in terms of policy capacity for public authorities and relevant stakeholders. In the smart specialisation policy context, the ability to effectively engage with the private sector, along with coordination and political capacities, are as crucial as analytical and operational capacities. To overcome the lack of stakeholder's skills and reinforce the importance of capacity building also highlighted across the case analysis, countries and regions should implement *specific measures to help stakeholders to develop the capacities needed to take part in the smart specialisation process*.

Altogether, the next smart specialisation strategies for the new period 2021-2027 of the European structural funds offer the opportunity to enhance the effective functioning of the entrepreneurial discovery process by taking stock of the lessons learned over the past few years and during the current crisis. The findings and recommendations for policy action presented in this report could inspire Member States and Regions when designing their next smart specialisation strategies and therefore, contribute to fulfil the enabling condition "Good governance of national or regional smart specialisation strategy" imposed on governments for the period 2021-2027 programming period.

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