

ACTION PLAN

Improving the monitoring system
including indicators for soft innovation



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Part I – General information

Project: PASSPARTOOL

Partner organisation(s) concerned: ARTI - Agenzia Regionale per la Tecnologia e l'Innovazione

Country: Italy

NUTS2 region: Puglia

Contact person: Maria Jennifer Grisorio

Email address: m.grisorio@arti.puglia.it

Phone number: +390809674220

Part II – Policy context

The Action Plan aims to impact:

- Investment for Growth and Jobs programme
- European Territorial Cooperation (Interreg) programme
- Other regional development policy instrument

Name of the policy instrument addressed

Smart Specialisation Strategy for Puglia Region 2021-2027

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

ARTI – the Apulian Regional Agency for Technology and Innovation had originally selected the Priority Axis 1 "Strengthening Research, Technological Development and Innovation" of the ERDF Regional Operational Programme of Puglia 2014-2020 (ROP 14-20) as the policy instrument to be improved within the Passpartool project. However, through the development of Passpartool, it emerged that the right instrument to focus on, was the forthcoming Smart Specialisation Strategy 2021-2027 (which is, in itself, closely connected to the ROP).

The ROP 14-20 pursued mainly a traditional and "RDTI-based" approach to innovation policy thereby deploying instruments with a strong focus on technology-supply as an outcome of innovation.

The preparatory activities for the new Smart Specialisation Strategy, building on the results of Passpartool project, highlighted the need to adopt different approaches: the regional context is strongly characterized by SMEs whose innovative efforts do not (and cannot) rely on specific investment on RDTI. Many Apulian SMEs innovate by swiftly adapting their organisational structures to market demands, by developing new designs, by repurposing products or production processes and by adopting new materials. In other words, many Apulian SMEs pursue "Non-R&D innovation" and therefore current policy instruments may not be relevant for such firms.

In order to design and measure the effectiveness of policies supporting non-R&D innovation, it is necessary to identify a set of appropriate indicators and test a participative monitoring and evaluation model, involving the different stakeholders. As a matter of fact, while non-R&D and social innovation are of utmost relevance in Puglia region, the tools and indicators currently available are mainly oriented towards measures of technological innovation, in terms of input, output and results.

Within this context, the development of the Smart Specialisation 2021-2027, represents an opportunity to understand and monitor different innovative dynamics with the aim to develop more targeted policy instruments.

As it shall be explained in subsequent sections of the Action Plan, ARTI has developed a sophisticated monitoring system for the S3 2014-2020, which has been recognised as a good practice by the European Commission Joint Research Centre. The monitoring system relies on a set of surveys which generate a complete picture of applicants, beneficiaries and projects funded by regional grants.

ARTI and the regional government want to build on this successful experience taking into account the lessons of the Passpartool project, which has broadened ARTI's view of both monitoring and innovation policy.

The Action Plan is centred around two activities, both aimed at improving the S3 monitoring system, namely:

- The development of tools to capture non-R&D innovation in applicants, beneficiaries and projects financed by regional grants
- The development of a baseline survey of innovative dynamics and innovation needs in Apulian SMEs.

These actions aim at improving the monitoring and design of non-R&D innovation instruments within the Apulian Smart Specialisation Strategy (S3), thereby supporting the development of the forthcoming Operational Programme 2021-2027.

According to the new governance model of RIS3 (updated and formally adopted with the regional act in July 2021), the S3 Observatory is established at the ARTI Regional Agency and its activities are governed by a Supervisory Committee composed of the Director of the Research and International Relations Section of the Puglia Region, the Director of the Economic Development Department, the Managing Authority of the POR FESR-FSE and the President of ARTI.

The activities of the S3 Observatory are:

- Ensure the connection of the S3 with the regional territory, ensuring the continuity of the entrepreneurial discovery process (EDP), in close collaboration with the other regional strategic agencies and in line with the provisions of criterion 4 of the enabling condition 1 "Good governance of national or regional smart specialisation strategy".
- Centralize the collection of data on regional measures implementing S3, based on regional OPs, on projects with Apulian participation within the European Territorial Cooperation and on European programs with direct funding such as Horizon Europe.
- Carry out periodic monitoring of the implementation and effectiveness of S3, in collaboration with intermediate bodies such as Puglia Sviluppo and InnoVaPuglia, and ensure the exploitation of the results of monitoring and evaluation for the purposes of the entrepreneurial discovery process and the review of areas of specialization, in line with the provisions of criterion 3 of enabling condition 1 "Good governance of national or regional smart specialisation strategy".
- Prepare a triennial report on the state of implementation of S3, with possible proposals to amend the Smart Specialisation Strategy paper, including the review of areas of specialisation, and the formulation of policy recommendations.

As the region enters an extremely complex time, in which large amounts of resources need to be invested to ensure the post-pandemic recovery through digital and environmental transitions, it is critical to have the right analytical instruments to design policies and follow them up.

Part III – Details of the actions envisaged

ACTION 1

Name of the action: Capturing non-R&D innovation in beneficiaries of Smart Specialisation instruments

1. Relevance to the project

To clarify how the action proposed is linked to the Passpartool project, we will proceed in three steps. We will:

- 1) first explain how the Apulian S3 Monitoring system is structured
- 2) highlight its gaps, as emerged throughout the Passpartool project
- 3) highlight how the action propose can help fill these gaps.

Step 1. The Apulia Monitoring System

The Apulia Monitoring System for Smart Specialisation has been featured in the EC-JRC MOOC on Monitoring Smart Specialisation back in 2017, given its thorough exploration of inputs, outcomes and outputs of policy initiatives. The system is based on a set of questionnaires covering projects and beneficiaries of key instruments funded under TO1 of the regional Operational Programme 2014-2020.

Concretely, the monitoring system contains:

- An ex-ante and ex-post project questionnaires
- and
- An ex-ante questionnaire for applicants and an ex-post one for beneficiaries

Through the ex-ante project questionnaire, organisations applying for a grant identify the S3 priority and sub-priority they contribute to and provide some basic information about what they plan to do. The ex-post questionnaire gets delivered at the end project (typically two to three years after the grant is awarded). The questionnaire is the same for all S3 priority areas but varies within each call. This is because each call has its own objectives, which need to be monitored unambiguously. commercialisation.

Moving to the applicants/beneficiaries questionnaires, applicants/beneficiaries are asked the same questions at two different points in time (during the application and at the end of the project). The questionnaires depend both on the S3 priority and on the call and have a modular structure comprising:

- a general part (the same for all calls and priorities), capturing the economic and innovation profile of the organisation applying;
- a call-specific elements and,
- a priority/sub-priority-specific elements (within each call).

Step 2. The gaps emerged through the Passpartool project

The Apulian S3 monitoring system is resource intensive in its design and implementation phase, as it requires advanced competences in economic and industrial analysis.

It is foreseen that a similar system will be implemented for the OP 2021-2027 and there are currently efforts to learn and improve from the past.

On the one hand, existing calls will evolve, hence the questionnaires will need to be adjusted and empirical evidence in Apulia has highlighted the importance of developing new calls stimulating non-R&D innovation (the latter is crucial in less knowledge-intensive sectors, which account for a large share of the employment and value added in the region).

The activities conducted within the Passpartool project have highlighted – in line with the empirical evidence collected in the region – that:

- 1) New calls need to be issued or old calls need to be adjusted to foster non-R&D innovation in firms
- 2) New monitoring tools need to be developed, as the old ones, will not suffice

Step 3. How this Action addresses the gaps

Passpartool has provided the opportunity to develop a deeper understanding of various types of Non-R&D innovation. The conceptual and empirical reflection during the thematic workshops, study visits and monitoring café, will be the basis to develop further the monitoring questionnaires addressed to projects and beneficiaries on topics such as, SME, cultural and social innovation (the first action proposed will explore both project and beneficiaries' questionnaires, however, it will focus largely on the latter).

It is essential to understand which characteristics in firms (or other stakeholders) need to be captured to understand whether the policy is exerting its desired effects. It is also important to understand how non-R&D innovation, its different components, is signalled across beneficiaries (in particular beneficiaries interested towards cultural innovation may behave differently from those centred on social or organisational innovation). Last but not least, it is important to reflect on the specific dynamics of non-R&D innovation in the different S3 priorities.

2. Good Practices that have inspired the action

The following experiences presented by partners within the interregional learning activities have been instrumental to develop the proposed action:

- The Thematic Workshops (and in particular Thematic Workshop 1 on non-R&D innovation.)
- The Regional Innovation Survey, from Fundecyt PCTEX in Extremadura
- The Innovation Monitoring from the Northern Netherlands Alliance.

A total of four **Thematic Workshops** (TWs) were organised within Passpartool project. The workshops offered the opportunity to explore conceptually different dimensions of non-R&D innovation policy. These activities allowed to consolidate some key findings, which will underpin the actions proposed in this AP. In particular, the TWs clarified that:

- There is a need to address the complementarity between R&D and non-R&D innovation by promoting them in bundles. The actions proposed in this AP, aim precisely at capturing new forms of innovation, to build a full knowledge based to explore such complementarity.
- There is a need to promote learning between and within firms. Understanding non-R&D innovation means, de facto, capturing the outcomes of learning processes that would otherwise go undetected.

- It is important to invest in long-term mutual relationships based on shared interests when engaging stakeholders in the monitoring process. This principle will be key in the development of these actions. ARTI will seek to implement a parsimonious monitoring tool, which will require minimum efforts from applicants and beneficiaries.

The Regional Innovation Survey in Extremadura was established in 2008, as a joint initiative of FUNDECYT-PCTEX and the University of Extremadura (UEX). It aims at describing and analysing innovation processes of regional SMEs, focussing on Micro-SMEs in their activity of the previous three years.

The survey has the following specific objectives (SO):

- SO1: To describe the innovation level of regional companies
- SO2: To analyse why and how companies develop their innovation processes
- SO3: To measure knowledge and relevance of entities for innovation (SECTI)
- SO4: To identify the main obstacles for innovation
- SO5: To observe organisational differences between innovators and non-innovators companies.

In its 2020 edition, the survey collected 369 valid answers out of a population of 4.633 companies located in Extremadura.

A report is annually delivered which provides: time series dating back to 2009, comparative information at the national and regional level and a profile of regional innovative enterprises. This information is in turn used to support recommendations to the public administration, companies and researchers.

The NNL Innovation Monitoring is a yearly survey born out of the need to understand in greater depth innovative dynamics of local SMEs. The survey is a flexible tool, which gets updated on a yearly basis, in light of the locally emerging needs.

SMEs taking part to the survey are incentivised, as they receive a benchmark report which is useful for their activities. At the same time, SMEs are offered the opportunity to join an expert panel and take part to a stakeholders committee. The survey is structured in largely closed questions, so that it takes less than 20 minutes for respondents to fill it in. The survey is administered digitally, and a PhD is employed to run it and analyse it. As such the costs are kept low.

The soft innovation measures include:

- a) organizational innovation (New practices, new partners, and new ways of organizing)
- b) societal orientation (Health & well-being, Clean water, Clean energy, Sustainable agriculture).
- c) human capital (Creativity to come up with incremental and radical ideas)
- d) ecosystem thinking (firm-centered vs. ecosystem oriented & dependence on ecosystem)

Interestingly, it is through the Innovation Monitor that the Passpartool partner NNL found that there was a need among SMEs to have a subsidy scheme for organisational innovations. The Innovation Monitor also found that the most successful SME's are those that also partake in organisational innovation.

3. Nature of the action and steps for implementation

The ultimate aim of this action is to introduce in the monitoring system of RIS3 2021-2027 new indicators able to capture the dynamics of non-R&D innovation. The information collected with these new indicators allows to better understand these dynamics and then to introduce new interventions to be implemented within RIS3 addressed to increase Sme's innovative capacity.

The proposed action involves the following steps:

- 1) Review the key instruments within the Apulia S3 and Operational Programme that can actually support non-R&D innovation and that are likely to remain active in the forthcoming OP.
- 2) Review the monitoring questionnaires associated to those instruments.
- 3) Reflect on which type of non-R&D innovation are closer to each instrument, possibly with experts in the various S3 fields.
- 4) Propose a set of questions for both projects and beneficiaries' questionnaires
- 5) Test the proposed questions
- 6) Finalise the questions and present them to relevant policy makers for approval
- 7) Development of new monitoring indicators for the S3 and OP to help policy makers improve decision making to be adopted within the Puglia S3 Monitoring system.

4. Stakeholders involved

The development of new questionnaires will involve:

- 1) The Managing Authority
- 2) Department of Economic Development of Puglia Region
- 3) Research and International Relations Unit
- 4) The Intermediary Organisation: PugliaSviluppo
- 5) The Intermediary Organisation: InnovaPuglia
- 6) Youth Policies Unit
- 7) Experts in the different S3 priorities
- 8) Beneficiaries to test the new questions.

5. Risks and mitigation strategy of the action

Although the action is technically demanding, it is considered of low risks, given that ARTI has the internal capacity to manage the project.

The most important way to minimise risk is to develop a clear timeline and identify the key tasks for monitoring progress, as indicated in the timeframe.

As indicators for monitoring the implementation of Action 1:

- n. of meetings with stakeholders: 3
- n. of firms involved in testing the questionnaires: 15

6. Timeframe

- 1) Development of 3 questionnaires – Timeline: September- December 2022
- 2) Test of 3 questionnaires - Timeline: January-March 2023
- 3) Review of 3 questionnaires - Timeline: March 2023
- 4) Formal approval of 3 questionnaires- Timeline: May 2023
- 5) Adoption of the questionnaires within the S3 monitoring system: June 2023

7. Indicative costs

Three main human resources are necessary for carrying out this activity:

- n. 1 policy analyst (economist) working 30% for 12 months;

- n. 1 IT technical specialist for the preparation of the database structure working 30% for 12 months;
- n. 1 junior statistician for preparation of the contents of the questionnaire and data elaboration working 50% for 12 months

Approximately the overall amount of the resources is equal to 45.000 euros

8. Indicative funding sources

The source of the funding is represented by regional financial resources dedicated to the functioning of S3 observatory.

ACTION 2

Name of the action: Understanding non-R&D innovation in Apulian SMEs in pilot sectors

1. Relevance to the project

ARTI, the Apulian Innovation Agency, has – over the years- developed a set of monitoring activities to capture innovation dynamics in the region.

However, it does not yet have a full mapping process to understand non-R&D innovation in the territory. The latter has become increasingly important in the current policy framework, in which the increasing attention to societal challenges requires not only new products and new ways of producing, but also new business models and new collaborative structures across segments of society. An example will clarify this affirmation: within this framework of sustainability and circular economy, it is not sufficient to focus on traditional RDTI activities. Issues such as industrial symbiosis, or the creation of prosumers as a new actors cannot be captured by focussing on traditional RDTI activities, as they have permeating effect across organisations and societies. Not only it is important to articulate the innovative dynamics that these new trends generate, it is also essential to study whether firms (and local stakeholders more in general), are able to articulate clearly their new needs in facing such complex challenges.

With this action, ARTI proposes to develop a new analytical tool to map non-R&D innovative activities in Apulian SMEs, targeting it to specific sectors and involving Clusters in its creation and delivery. Clusters are well placed intermediaries between SMEs and the public administration, as they understand both worlds. Moreover, given their sectorial orientation, they allow the development of targeted analytical and monitoring tools, as they fully understand the specific innovation dynamics of the different sectors. The tool will be implemented within the S3 Observatory described above. The better understanding of innovation needs throughout the EDP process will ultimately improve the design of instruments in support of SMEs Non R&D innovation.

2. Good Practices that have inspired the action

The following experiences have been instrumental to develop the proposed action.

- The Thematic Workshop entitled Non- R&D innovation (22nd June 2020, virtual mode)
- The Regional Innovation Survey, from Fundecyt PCTEX in Extremadura
- The Innovation Monitor from the Northern Netherlands Alliance.

As mentioned above, the thematic workshops offered the opportunity to explore conceptually different dimensions of non-R&D innovation policy. One key learning that will be exploited in this activity is that on the importance of investing in long-term mutual relationships based on shared interests when engaging stakeholders in the monitoring process (the presentation by Dr Dimitrios Pontikakis highlighted that non-R&D innovation may emerge from unexpected circumstances and actors. This is why a close relationship with stakeholders is necessary to capture the activities at stake, which otherwise risk going unnoticed). This action will build on pre-existing relationships with key entrepreneurial institutions (clusters and firms) to devise an analytical tool comprising surveys and participatory activities to be deployed periodically. For such proposal to be viable, it is essential that the actions be of value to the firms, else respondents will disengage and the survey will not provide reliable data.

The Regional Innovation Survey in Extremadura was established in 2008, as a joint initiative of FUNDECYT-PCTEX and the University of Extremadura (UEx). It aims at describing and analysing innovation processes of regional SMEs, focussing on Micro-SMEs in their activity of the previous three years.

The survey has the following specific objectives (SO):

- SO1: To describe the innovation level of regional companies
- SO2: To analyse why and how companies develop their innovation processes
- SO3: To measure knowledge and relevance of entities for innovation (SECTI)
- SO4: To identify the main obstacles for innovation
- SO5: To observe organisational differences between innovators and non-innovators companies

In its 2020 edition, the survey collected 369 valid answers out of a population of 4633 companies located in Extremadura.

A report is annually delivered which provides: time series dating back to 2009, comparative information at the national and regional level and a profile of regional innovative enterprises. This information is in turn used to support recommendations to the public administration, companies and researchers.

For ARTI, this GP is interesting as it provides inspiration on how to analyse companies' innovation processes and obstacles to innovation. These aspects need to be explored and understood to improve the support to SMEs. Engaging SMEs in innovative activities (whether R&D or non-R&D based is a critical challenge for Apulia).

The NNL innovation monitoring is, as described above, a yearly survey born out of the need to understand in greater depth innovative dynamics of local SMEs. The survey is a flexible tool, which gets updated on a yearly basis, in light of the locally emerging needs.

SMEs taking part to the survey are incentivised, as they receive a benchmark report which is useful for their activities. At the same time, SMEs are offered the opportunity to join an expert panel and take part to a stakeholders committee. The survey is structured in largely closed questions, so that it takes less than 20 minutes for respondents to fill it in. The survey is administered digitally, and a PhD is employed to run it and analyse it. As such the costs are kept low.

The soft innovation measures include:

- (a) organizational innovation (New practices, new partners, and new ways of organizing)
- (b) societal orientation (Health & well-being, Clean water, Clean energy, Sustainable agriculture).
- (c) human capital (Creativity to come up with incremental and radical ideas)
- (d) ecosystem thinking (firm-centered vs. ecosystem oriented & dependence on ecosystem)

Interestingly, it is through the Innovation Monitor that the Passpartool partner NNL found that there was a need among SMEs to have a subsidy scheme for organisational innovations. The Innovation Monitor also found that the most successful SME's are those that also partake in organisational innovation.

The most important aspect of the NNL for this action is that it is periodic. In other words, the same respondents take part over time (though new ones can join). In exchange they get a benchmark report that rewards their effort. In other words, there is a mutually beneficial exchange. With this action ARTI aims at devising a survey that will engage local firms and actors periodically in a mutually rewarding exercise. ARTI will need to reflect on how to build a commitment with firms.

3. Nature of the action and steps for implementation

The proposed action involves the following steps:

- 1) Select the sector or area in which to pilot the tool.

- 2) Organise an exploratory focus group with key actors in the sector to explore key non-R&D innovation dimensions
- 3) Draft a questionnaire
- 4) Test the questionnaire
- 5) Receive and discuss feedback
- 6) Finalise survey
- 7) Present it to key policy actors to stress its value for policy processes.
- 8) Officially adopt the tool with the aim to mainstream it within the S3 Observatory as a part of the EDP process and offering specific insights (on each S3 priority) to policy makers, thereby improving the definitions of instruments

4. Stakeholders involved

The development of the analytical tool will involve the following actors:

1. Intermediary Sme's organisations which will be involved in Phase 2, 3 and 4 of the Action
 - ADI – Association for the Industrial Design
 - CNA-Puglia
 - Artisans Association
 - Confcommercio - Organization at local level of the enterprises of commerce, tourism and services,
2. Institutional actors will be mainly involved in the phase of definition of the contents of the survey and in the formal adoption within the S3 observatory
 - The Managing Authority
 - Department of Economic Development of Puglia Region
 - Research and International Research Unit.

5. Risks and mitigation strategy of the action

Although the action is technically demanding, it is considered of low risks, given that ARTI has the internal capacity to manage the project and has accessed external expertise for technical support.

The most important way to minimise risk is to develop a clear timeline and identify the key tasks for monitoring progress. As indicated in the time frame.

6. Timeframe

- 1) Exploratory focus group - Timeline: September-December 2022
- 2) First draft of the survey -Timeline: January-March 2023
- 3) Test of the survey -Timeline: April-May 2023
- 4) Formal approval of the survey- Timeline: June 2023

7. Indicative costs

Three main human resources are necessary for carrying out this activity:

- n. 1 policy analyst (economist) working 50% for 12 months;
- n. 1 economist working 50% for 12 months;
- n. 1 junior statistician for preparation of the contents of the questionnaire and data elaboration working 50% for 12 months

Approximately the overall amount of the resources are equal to 35.000 euros

8. Indicative funding sources

The source of the funding is represented by regional financial resources dedicated to the functioning of S3 Observatory

Date:	30/06/2022
Signature:	Prof. Vito Albino 
Function:	President
Organisation:	ARTI – Agenzia Regionale per la Tecnologia e l'Innovazione
Stamp of the organisation:	