



NMP-REG
**DELIVERING NANOTECHNOLOGIES, ADVANCED MATERIALS AND
PRODUCTION TO REGIONAL MANUFACTURING**

ACTION PLAN FOR NORTE REGION, PORTUGAL



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PART I – GENERAL INFORMATION

ABOUT THE NMP-REG PROJECT

Nanotechnologies, new Materials and Production technologies (NMP) represent a group of technologies with innovative impacts on a wide range of industrial sectors. They are an important part of the so called “Key Enabling Technologies” (KET), considered by the European Union (EU) of strategic importance for regions to manage a successful shift towards a knowledge-based economy¹. The EU believes these technologies can reverse negative growth trends in manufacturing and foster growth and jobs.

The statements are clear, but the road from intent to transfer, application and exploitation of NMP in manufacturing is long. NMP is dealt with in research. However, the common challenge is ensure that innovation actors cooperate to deliver research results to the manufacturing sector, with subsequent benefits for regional growth.

This is the context of NMP-REG (Delivering Nanotechnologies, advanced Materials and Production to REGional manufacturing), a European Territorial Cooperation project cofinanced by the European Regional Development Fund (ERDF), through the Interreg Europe Programme.

NMP-REG groups seven partners from five regions located in five different countries², who are facing this regional development challenge together. Their overall objective is to improve regional policies for the delivery of innovation in NMP to manufacturing. NMP-REG focuses on policy actions that can support innovation delivery, using coordinated action from key players.

NMP-REG attempts to accomplish this goal through the exchange of experiences and good practices among partners within a framework of interregional activities, communication and stakeholder engagement. In this context, partners develop Action Plans that result in improved policy instruments supporting NMP-based innovation in each of the regions participating in the project.

¹ Communication "Preparing for our future: Developing a common strategy for key enabling technologies in the EU" COM(2009)512

² NMP-REG partners from Norte (Portugal): CCDR-Norte (Norte Regional Coordination and Development Commission) and INL (International Iberian Nanotechnology Laboratory); from Tuscany (Italy): ASEV (Agency for the development of the Empolese Valdelsa); from Flanders (Belgium): FIE (Flanders Innovation and Entrepreneurship); from North Rhine-Westphalia (Germany): NMWP.NRW (NanoMicroMaterialsPhotonics.NRW Cluster); from Bucharest-Ilfov (Romania): UEFISCDI (Executive Agency for Higher Education, Research, Development and Innovation Funding) and UPB (University Politehnica of Bucharest).

ABOUT THE NORTE NMP-REG ACTION PLAN

Each of the five regions participating in NMP-REG produces one Action Plan, providing details on how the lessons learnt from the interregional cooperation will be exploited in order to improve the policy instrument tackled within that region.

The present document corresponds to the NMP-REG Action Plan for Norte region. It was drafted by CCDR-Norte (Norte Regional Coordination and Development Commission), with the support of INL (International Iberian Nanotechnology Laboratory).

The development of Norte Action Plan has been based on the principles of (i) interregional cooperation between NMP-REG partners and (ii) participation of the main actors of Norte involved in NMP-based innovation delivery to regional industry. For the former, cooperation has been supported by a series of interregional learning events, bilateral exchanges of experiences and share of good practices. For the latter, participation has been supported mainly through setting up a Regional Stakeholder Group (RSG), which met every semester in order to guide the project.

This document is structured in four main parts. After the introductory section, the second part provides an overview of the territorial context and the policy instrument addressed by the Action Plan. The third part provides an overview of the actions envisaged by the Action Plan. The fourth and last part corresponds to the main content of the Action Plan, presenting each action, specifying its background, activities, players involved, timeframe and corresponding costs.

PROJECT	NMP-REG: Delivering Nanotechnologies, advanced Materials and Production to REGional manufacturing
PARTNER ORGANISATION	Norte Regional Coordination and Development Commission (CCDR-Norte)
OTHER PARTNER ORGANISATIONS INVOLVED	International Iberian Nanotechnology Laboratory (INL)
COUNTRY	Portugal
NUTS II REGION	Norte
CONTACT PERSON	Pedro Mória pedro.moia@ccdr-n.pt (+351) 22 608 6348

PART II – POLICY CONTEXT

This section includes a brief overview of the territorial context and the policy instrument addressed by this action plan.

The action plan covers **the Portuguese Norte NUTS II region**. Within EU Cohesion Policy, different operational programmes support projects in Norte, covering a wide range of regional development needs. This action plan is focused on the **Regional Operational Programme Norte 2014-2020** (also known as “Norte 2020”), in particular, on the measures of this programme supporting knowledge-transfer to industry.

NORTE IS A LARGE AND INDUSTRIAL REGION...

Norte region is the main Portuguese NUTS II region in terms of population, employment and economic activity, with about 3,6 million inhabitants (2017), more than 1,7 million employees (2017), and a GDP of 57,2 billion euros (2016). Despite an increasing share of the services sector, industry remains crucial for the economy of Norte, corresponding to 27% of the regional GVA (2016) and 26% of the regional employment (2016).

...WITH STRONG EXPORT ORIENTATION AND INTENSITY...

On the other hand, Norte is the most significant Portuguese NUTS II region in terms of exports of goods. In 2017 Norte was responsible for 40% of total national exports, generating a trade surplus of 5.753 million euros. The value of the exported goods corresponded to over 39% of the region’s GDP in 2017.

...BUT STILL A LAGGING TERRITORY...

Despite the importance of its economy, Norte’s regional levels of GDP per capita are the lowest in Portugal, lagging significantly behind the EU28 and national averages (65% and 84% of the two averages respectively, in 2016). This qualifies Norte as a “less developed region” in the context of EU Cohesion Policy.

...WITH CONSIDERABLE INNOVATION CHALLENGES...

Norte is a “moderate innovator”, according to the Regional Innovation Scoreboard 2017. The region has made significant progress in terms of resource-related indicators, such as R&D expenditure (which rose from 0,22% to 1,37% of GDP between 2000 and 2016). However, it still performs poorly in several innovation output indicators. Only a small number of SMEs develop R&D activities in the region. On the other hand, enterprises show low levels of R&D competences and collaboration with the scientific

and technological system. This leads to difficulties in the access to new knowledge, which in turn translates into poor innovation intensity and underachieving economic valorisation of new ideas.

...WHICH NEED TO BE ADDRESSED BY PUBLIC POLICY

In this context, it is important to facilitate technology-to-market processes in Norte region, especially targeted at the priority domains of the regional smart specialisation strategy for research and innovation (RIS3). Industry will have to play a key role in the solution.

The Regional Operational Programme Norte 2014-2020 aims to address these challenges, by providing a mix of support measures to business investment in research and innovation. Investment Priority 1b is particularly relevant for this purpose, as it supports:

- (i) Research and technological development (R&TD) projects led by companies
- (ii) Demonstrative projects of advanced technologies and pilot lines
- (iii) Large scale mobilising R&TD programmes
- (iv) Protection of intellectual and industrial property
- (v) Creation of business R&TD centres, and
- (vi) Internationalisation of business R&D.

Companies are the target group of these measures, even though entities of the scientific and technological system are also eligible in the framework of consortia led by firms. This investment priority of the Regional Operational Programme is the main policy instrument that the action plan aims to impact.

NAME OF THE POLICY INSTRUMENT ADDRESSED	Regional Operational Programme Norte 2014-2020, with a focus on Investment Priority 1b (Promotion of business investment in research and innovation)
INVESTMENT FOR GROWTH AND JOBS PROGRAMME	YES
EUROPEAN TERRITORIAL COOPERATION PROGRAMME	NO
OTHER REGIONAL DEVELOPMENT POLICY INSTRUMENT	The focus of the action plan is on one single policy instrument. Nevertheless, the scope of some of the actions may represent an impact on other policy instruments operating in the region.

PART III – OVERVIEW OF THE ACTIONS ENVISAGED

This section includes a brief overview of the actions included in the Action Plan. These actions were drafted according to a set of broad guiding principles:

- **Stakeholder input.** The actions aim at tackling specific regional challenges and needs identified during the Regional Stakeholder Group meetings organised by CCDR-Norte and INL during Phase 1 of NMP-REG.
- **Interregional learning.** The actions aim at drawing on the lessons learnt from the different interregional exchange activities carried out thanks to NMP-REG.
- **Policy instrument improvement.** The actions focus on achieving improvements in one specific policy instrument selected for Norte within NMP-REG.
- **Feasibility.** A limited number of actions was defined and their scope was controlled, in order to increase the likelihood of their implementation, without compromising the purposes of the Action Plan and NMP-REG mission.

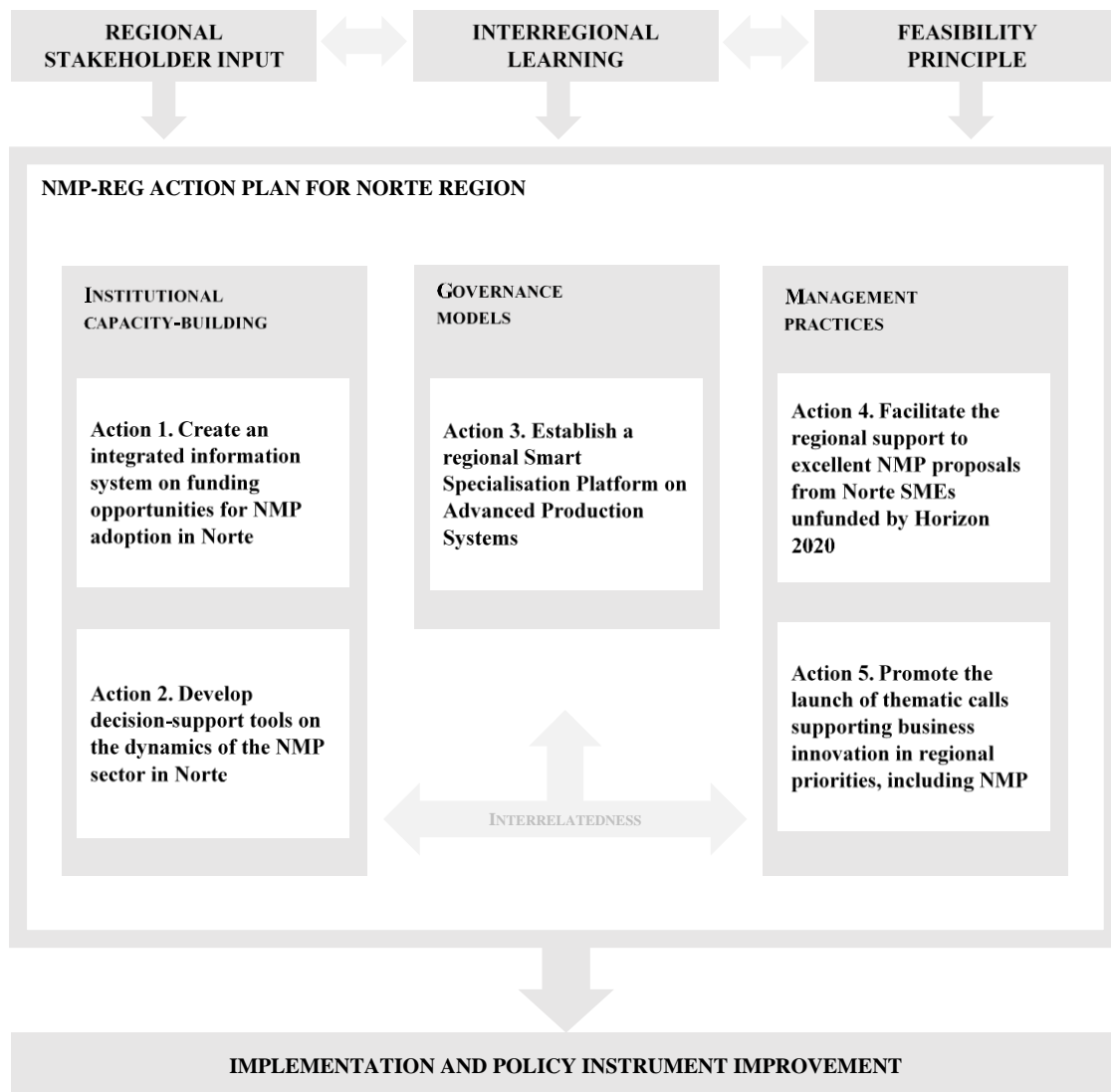
The NMP-REG Action Plan for Norte includes five actions:

- Action 1.** Create an integrated information system on funding opportunities for NMP adoption in Norte
- Action 2.** Develop decision-support tools on the dynamics of the NMP sector in Norte
- Action 3.** Establish the regional Smart Specialisation Platform on Advanced Production Systems
- Action 4.** Facilitate the regional support to excellent NMP proposals from Norte SMEs unfunded by Horizon 2020
- Action 5.** Promote the launch of thematic calls supporting business innovation in regional priorities, including NMP

These actions focus on different dimensions of policy improvement, namely: institutional capacity-building (actions 1 and 2), governance models (action 3) and management practices (actions 4 and 5). Despite the different focus, the five actions are deeply interrelated and constitute a coherent framework for the improvement of the policy instrument.

The following diagram gives an overview of the actions envisaged, and their connection to the above mentioned guiding principles.

Figure 1. Overview of the NMP-REG Action Plan for Norte Region



These five actions are presented in detail in the following section. For each action there is an identification of the needs addressed, the policy improvement that is aimed at, the lessons from the project supporting it, and of its activities, players, timeframe and costs.

PART IV – DETAILS OF THE ACTIONS ENVISAGED

	<p>ACTION 1. CREATE AN INTEGRATED INFORMATION SYSTEM ON FUNDING OPPORTUNITIES FOR NMP ADOPTION IN NORTE</p>
<p>NEED ADDRESSED</p>	<p>Public support to NMP development and adoption by industry in Norte region is highly fragmented. Different administration levels provide several types of policy instruments for the same territory. These instruments frequently overlap in terms of objectives and potential beneficiaries. However, each instrument has its own timings, eligibilities, requirements and application procedures. Integrated and up-to-date information about these funding instruments is not available, as each has its own governance structure and communication channels.</p> <p>In this context, many potential beneficiaries of public support for NMP development and adoption in Norte are not fully exploiting the opportunities available to them. Potential beneficiaries might be unaware of the existence of certain policy instruments. They might be uninformed about the launch of an important call for projects. Or they just might feel incapable of keeping up with the dynamics, requirements and complexity of the funding opportunities. This is especially the case with smaller businesses and start-ups (which account for the overwhelming majority of firms in Norte), without dedicated staff to preparing proposals for public support.</p> <p>This situation limits the range of beneficiaries for the policy instruments designed, limiting the extent of the results and the impact of public policies that aim to foster technological innovation in regional industry.</p> <p>This action addresses the identified lack of structured, integrated and practical information about the different funding opportunities supporting NMP adoption in Norte Region.</p>
<p>OVERVIEW (POLICY IMPROVEMENT)</p>	<p>This action focuses on developing capacity building mechanisms, especially from the perspective of potential beneficiaries of the policy instrument addressed by NMP-REG in Norte.</p> <p>The suggested improvement will be achieved by designing, creating and disseminating information about funding opportunities for NMP development and adoption by the regional industry. This information will be integrated, accessible, practical and permanently up-to-date.</p> <p>The mechanisms developed in this action will include information about the policy instrument addressed by NMP-REG in Norte. The dissemination of results will focus</p>

	<p>on the potential beneficiaries of this instrument (especially SMEs from Norte region), dedicating particular attention to the accessibility and user-friendliness of the information provided. This will expectedly empower the demand for this instrument. The capacity building process here envisaged will hopefully result in more and higher quality applications to this instrument, which in turn will lead to better projects supported in the region contributing to the public policy goals.</p>
<p>BACKGROUND (LESSONS LEARNT)</p>	<p>Regional/national input:</p> <p>During the regional stakeholder meetings of NMP-REG, stakeholders from Norte region identified a wide range of specific needs and challenges regarding what should be improved in order to enhance NMP-based innovation. One of the challenges identified was the lack of structured and integrated information about EU funding opportunities.</p> <p>Regarding solutions to achieve improvements in policy instruments, NMP-REG stakeholders identified, among others, the relevance of fostering the dissemination of practical and user-friendly information on funding schemes and project results.</p> <p>Interregional input:</p> <p>The following lessons learnt from NMP-REG interregional activities were particularly relevant to draft this action:</p> <ul style="list-style-type: none"> • The experience of the Italian region of Tuscany with managing policy instruments supporting business innovation. Tuscany created an “alert” service for the Regional Technological District members, focused on EU funding opportunities for NMP. Interactions with NMP-REG partner ASEV were especially important to learn about this good practice, and its potential transferability to Norte. • The experience of the Romanian region of Bucharest-Ilfov with developing online tools for a specific policy instrument. Bucharest-Ilfov created a series of online guides³ focusing on simple and practical advice for potential beneficiaries of their regional operational programme. Interactions with NMP-REG partners UEFISCDI and UPB and their stakeholder ADR-BI (Bucharest-Ilfov Regional Development Agency) were especially important to learn about this good practice, and its potential transferability to Norte.
<p>ACTIVITIES</p>	<p>The implementation of this action will involve the following activities:</p>

³ Examples of such guides can be found here: <http://proiecte.regioadrbi.ro/>

	<ol style="list-style-type: none"> 1. Carry out a mapping of existing funding opportunities for NMP development and adoption in Norte region. This mapping will take into account different EU funding opportunities available – whether managed at regional, national or European level – that can support projects in Norte. Basic preliminary information will be collected for each instrument (e.g. eligible projects, eligible beneficiaries, available budget). 2. Establish and test a framework for periodic information collection about each funding opportunity. This framework will specify all the relevant metadata for the establishment of a simple information system, including the identification of data sources, data collection procedures and periodicity, contacts and database fields. Testing this framework will result on a database supporting ensuing activities. 3. Design, develop and publish an accessible online tool or catalogue containing the collected information. Such tool or catalogue will focus on providing integrated and user-friendly information about funding opportunities to beneficiaries from Norte. 4. Disseminate the results, especially to potential beneficiaries of Norte 2020 as policy instrument selected by NMP-REG. These potential beneficiaries are mainly SMEs located in Norte with the potential to innovate through NMP. This dissemination will particularly target smaller businesses and start-ups. 5. Evaluate the impacts and adjust the information collection and dissemination system. Capacity-building from the perspective of potential beneficiaries of the policy instruments will be assessed mainly through consultation of the NMP-REG regional stakeholder group. This will include an assessment of the continuity of this action beyond the implementation phase of NMP-REG.
PLAYERS	<ul style="list-style-type: none"> • CCDR-Norte: coordination and overall implementation • National Innovation Agency (ANI): support to information collection, result dissemination and impact evaluation regarding business innovation measures • NMP-REG Norte Regional Stakeholder Group members: support to the first test of results, adjusting the information collection and dissemination system, and disseminating results

TIMEFRAME	Activity	2019		2020		2021	
		Sem. 1	Sem. 2	Sem. 1	Sem. 2	Sem. 1	Sem. 2
	1	•	•				
	2			•			
	3			•			
	4				•		
	5					•	•
COSTS AND FUNDING SOURCES	<p>This action is integrated in the activity plans of the players involved, being therefore implemented using their internal resources.</p> <p>There is a likely need to contract external support to implement the creation of an online tool. The estimated total cost of service contracts for this purpose is 10.000 euros. The funding source for this potentially needed external support is the Norte Regional Operational Programme 2014-2020.</p>						
MONITORING	<p>The implementation of the Action Plan will be monitored through a system that includes the following specific indicators for this action:</p> <ul style="list-style-type: none"> • Number of reports mapping existing funding opportunities: 1 • Number of tools or catalogues published online: 1 • Number of downloads/accesses to the online tools or catalogues: 1.000 (12 months after publishing) • Number of stakeholders from the NMP-REG RSG acknowledging a positive impact of the mechanisms created on the policy instrument: 10 (12 months after publishing) <p>These indicators will be monitored quarterly. A brief progress report will be prepared on a yearly basis, as part of the NMP-REG monitoring system.</p>						

	<p>ACTION 2. DEVELOP DECISION-SUPPORT TOOLS ON THE DYNAMICS OF THE NMP SECTOR IN NORTE</p>
<p>NEED ADDRESSED</p>	<p>There is currently a lack of strategic and solid knowledge about the specific dynamics of the NMP sector in Norte region. Policy makers and other agents from the innovation ecosystem have access to very limited – or no – information about, for example, how many regional businesses are adopting NMP, which industries have interest in adopting NMP, who exactly are the service providers in this field, or which NMP projects are being developed in the region.</p> <p>The insufficiency of the available information is limiting the action of public bodies, universities, research and technological organisations, clusters and business associations. With better information, public bodies could improve their action regarding innovation policies and public funds management. Universities and research and technological organisations could better adapt their services to regional specificities regarding knowledge transfer in this field. Clusters and business associations could improve their action regarding matching service providers and businesses wishing to innovate through NMP. Companies could more easily become aware of opportunities to innovate through NMP and find the best partners for that purpose.</p> <p>The action addresses the above mentioned knowledge gap, which is limiting the performance of the Norte regional innovation ecosystem regarding NMP. This knowledge gap is related to – but considerably different from – the gap addressed by the first action of this action plan. The first action focuses on a lack of practical knowledge about funding opportunities aimed at potential beneficiaries, especially private businesses. This second action is aimed at tackling knowledge gaps particularly limiting from a perspective of public decision-making.</p>
<p>OVERVIEW (POLICY IMPROVEMENT)</p>	<p>This action focuses on developing capacity building mechanisms, especially from the perspective of decision-makers relevant for the policy instrument implementation addressed by NMP-REG in Norte.</p> <p>This improvement will be achieved by designing, creating and disseminating information centred on the specific dynamics of the NMP sector in Norte region. This information will be accessible, decision-driven and up-do-date. It will include, for example, insights on the potential business demand for NMP in Norte and the effective NMP penetration in the regional industry; a mapping of service providers in this field; and territorial evidence on public funding support given to NMP projects in the region.</p>

	<p>This information will support the activity of agents of the regional innovation ecosystem, in particular, public bodies responsible for innovation delivery policies, including the managing authority of the policy instrument addressed by NMP-REG. In particular, this will lead to an increased capacity of the Managing Authority to manage its policy instrument, as it will provide tools supporting the monitoring system and evidence-based decisions. This will in turn hopefully result in an improved adjustment between the policy instrument and the specificities of NMP-based innovation in Norte.</p>
<p>BACKGROUND (LESSONS LEARNT)</p>	<p>Regional/national input:</p> <p>During the regional stakeholder meetings of NMP-REG, stakeholders from Norte region identified a wide range of specific needs and challenges regarding what should be improved in order to enhance NMP-based innovation. One of the challenges identified was the lack of sound evidence about regional specificities and the local context of NMP adoption by companies.</p> <p>Regarding solutions to achieve improvements in policy instruments, NMP-REG stakeholders identified, among others, the establishment, monitoring and dissemination of a set of performance regional indicators regarding this topic. Some stakeholders mentioned they could provide data or support data collection activities. For example, a cluster managing body was willing to launch a specific consultation of its associated members for this purpose.</p> <p>Interregional input:</p> <p>The following lessons learnt from NMP-REG interregional activities were particularly relevant to draft this action:</p> <ul style="list-style-type: none"> • The experience of the Italian region of Tuscany with managing policy instruments supporting business innovation. Tuscany created a “Catalogue for Advanced Services”, identifying services recognised as “qualified to support the innovation processes and competitiveness in SMEs”. This Catalogue was considered a NMP-REG Good Practice. Interactions with NMP-REG partner ASEV and their stakeholder Regione Toscana (Managing Authority of the Regional Operational Programme) were particularly important to learn about this good practice, and its potential transferability to Norte. • The experience of the Romanian region of Bucharest-Ilfov with developing soft tools supporting their regional innovation ecosystem. In this context, the

	<p>information provided by the “Romanian Entrepreneurial Ecosystem” website⁴ was particularly interesting. Interactions with NMP-REG partners UEFISCDI and UPB and their stakeholder ADR-BI (Bucharest-Ilfov Regional Development Agency) were especially important to learn about this good practice, and its potential transferability to Norte.</p>
<p>ACTIVITIES</p>	<p>The implementation of action 2 will involve the following activities:</p> <ol style="list-style-type: none"> 1. Collect secondary data about the dynamics of the NMP sector in Norte region. Possible secondary data sources include the statistics office, thematic publications and project databases. Data will be collected on topics such as regional businesses already adopting NMP, industries with interest in adopting NMP, existent service providers in this field and NMP projects being supported in the region. 2. Carry out a stakeholder survey for data collection not covered by secondary sources. Primary data collection will be important to gather information such as the willingness of regional industries to adopt NMP, and the identification of key sectors. 3. Design, develop and publish analyses focused on the collected data to support decision-making and monitoring of policy instruments. These will provide insights on the potential business demand for NMP in Norte and the effective NMP penetration in the regional industry; a mapping of service providers in this field; and territorial evidence on public funding support given to NMP projects in the region. 4. Disseminate the analyses in the form of reports targeting key stakeholders, in particular, the MA of the policy instrument selected by NMP-REG. These will provide tools supporting its monitoring system and its evidence-based decisions. 5. Evaluate the impacts and decide on further activities within this action. Capacity-building from the perspective of decision-makers and other innovation ecosystem agents will be assessed mainly through consultation of the NMP-REG regional stakeholder group. This will include an assessment of the continuity of this action beyond the implementation phase of NMP-REG.
<p>PLAYERS</p>	<ul style="list-style-type: none"> • CCDR-Norte and INL: coordination and overall implementation

⁴ The “Romanian Entrepreneurial Ecosystem” website provides entrepreneurship data and a mapping of business facilitators, among other types of information. It is available here: <http://ree.uefiscdi.ro/>.

	<ul style="list-style-type: none"> • INESC TEC: technical support to survey design and data collection and analysis • NMP-REG Norte Regional Stakeholder Group members: collaborating with primary data collection and evaluation of impacts, and supporting the dissemination of results. 						
TIMEFRAME	Activity	2019		2020		2021	
		Sem. 1	Sem. 2	Sem. 1	Sem. 2	Sem. 1	Sem. 2
	1	•	•				
	2		•				
	3			•	•		
	4				•	•	
	5					•	•
COSTS AND FUNDING SOURCES	<p>This action is integrated in the activity plans of the players involved, being therefore implemented using their internal resources.</p> <p>Nevertheless, if funding becomes available to contract external support, the players will upscale each activity requirements, namely, in terms of the extent of data collection, the depth of analyses, the format of publications and the mechanisms for dissemination of results.</p>						
MONITORING	<p>The implementation of the Action Plan will be monitored through a system that includes the following specific indicators for this action:</p> <ul style="list-style-type: none"> • Number of stakeholder surveys carried out: 1 • Number of reports focused on the dynamics of NMP in Norte published: 1 • Number of downloads of the published reports: 500 (12 months after publishing) • Number of stakeholders from the NMP-REG RSG acknowledging a positive impact of the mechanisms created on the policy instrument: 10 (12 months after publishing) 						

	<p>These indicators will be monitored quarterly. A brief progress report will be prepared on a yearly basis, as part of the NMP-REG monitoring system.</p>
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	<p>ACTION 3. ESTABLISH THE REGIONAL SMART SPECIALISATION PLATFORM ON ADVANCED PRODUCTION SYSTEMS</p>
<p>NEED ADDRESSED</p>	<p>Having a Research and Innovation Strategy for Smart Specialisation (RIS3) in place is currently a prerequisite for regions to provide EU support to innovation measures through the Structural Funds.</p> <p>In this context, a regional RIS3 was developed for Norte in 2014. Eight priorities were established in this strategy, one of them being “Advanced Production Systems”. The scope of this priority in the regional RIS3 is very similar to the one of NMP. Therefore, this strategic framework has been a keystone for NMP-based innovation projects in the region for the past years. In order to receive funding from the Regional Operational Programme, such projects have, in general, to demonstrate their alignment with regional RIS3 priorities.</p> <p>As economic circumstances evolve within and outside a region, there is the need to regularly adapt and update the RIS3. Hence there is a recognised need to critically review Norte RIS3 priorities and results, as almost 5 years have gone by since it was established. This includes a revision of the regional strategy regarding Key Enabling Technologies, which NMP are part of.</p> <p>The governance model of Norte RIS3 includes an advisory board expected to meet in plenary or in sections oriented to priority areas of regional smart specialisation. Each of these sections – known as Smart Specialisation Platforms (SSP) – is expected to include business associations, clusters, universities, research and technological organisations and public bodies. These platforms aim at ensuring a multi-institutional and multi-sectoral regional response for the monitoring, evaluation and adapting of the regional strategy, seeking to boost cooperation and networks, innovation and internationalisation.</p> <p>One of the foreseen SSP focuses on “Advanced Production Systems”, and it is expected to draft recommendations supporting the revision and update of the RIS3 in this domain, among other tasks. However, the SSP for “Advanced Production Systems” has not been set up yet in Norte. This situation limits the capacity of the region to review and adapt its strategy regarding NMP in the context of smart specialisation.</p>
<p>OVERVIEW (POLICY IMPROVEMENT)</p>	<p>This action focuses on providing a support mechanism to a key strategic planning process within the policy instrument addressed by NMP-REG in Norte.</p>

	<p>More specifically, the action aims at (i) supporting the full implementation of Norte RIS3 governance model and (ii) strengthening the regional strategy for NMP through the SSP on “Advanced Production Systems”.</p> <p>This improvement will be achieved by promoting the connection between the Regional Stakeholder Group (RSG) established in Norte for the NMP-REG project and the SSP on “Advanced Production Systems” envisaged in the Norte RIS3 governance model.</p> <p>NMP-REG established a RSG in Norte joining clusters, universities, research and technological organisations and public bodies relevant for the regional development challenge addressed by the project. These agents have been meeting regularly since 2016, fostering a mutual learning process around the topic of NMP specialisation and adoption in Norte.</p> <p>As envisaged for the SSP on “Advanced Production Systems” the RSG of the NMP-REG project also aims at engaging regional organisations representative of the quadruple helix, in an entrepreneurial discovery process.</p> <p>It is clear that the SSP for “Advanced Production Systems” could benefit from the stakeholder dynamics started by NMP-REG in Norte. Recognising this potential, this action aims at supporting the creation of this SSP from the experience of the RSG. This will contribute to the implementation of Norte RIS3 governance model. In turn, it will also result in an improved regional capacity to critically review and update the RIS3, strengthening the regional strategy for NMP.</p>
<p>BACKGROUND (LESSONS LEARNT)</p>	<p>Regional/national input:</p> <p>During the regional stakeholder meetings of NMP-REG, stakeholders from Norte identified a wide range of specific needs and challenges regarding what should be improved in order to enhance NMP-based innovation. Some of these challenges included the constitution of the SSP for “Advanced Production Systems”.</p> <p>Stakeholders stated that the RSG could be considered as “an embryo” of the regional platform for smart specialisation on “Advanced Production Systems”. They also underlined the promotion of a stronger stakeholder involvement in the reviewing procedures of the regional RIS3 and in the definition of future policy instruments.</p> <p>Interregional input:</p> <p>The experience of the Italian region of Tuscany with its regional RIS3 was particularly relevant to draft this action. Tuscany recently undertook a RIS3 midterm review. For this purpose the region launched a wide-ranging consultation process,</p>

	<p>involving the industrial sector and intermediate players. Interactions with NMP-REG partner ASEV were particularly important to learn about this good practice, and its potential transferability to Norte.</p> <p>Additionally, inputs from the NMP-REG Interregional Learning Event held in Belgium were quite relevant for this action. This event included several discussions on the update of RIS3 and consolidating NMP priorities in RIS3, especially during a workshop on this topic organised by ERRIN (European Regions Research and Innovation Network).</p>
<p>ACTIVITIES</p>	<p>The implementation of this action will involve the following activities:</p> <ol style="list-style-type: none"> 1. Create a directory of organisations and contact points for a regional platform for smart specialisation on “Advanced Production Systems”. This includes sharing contact details of NMP-REG regional stakeholders with the regional policy unit responsible for animating such platform⁵. 2. Formally establish the regional platform for smart specialisation on “Advanced Production Systems”, building on the structure and experience of the NMP-REG stakeholder group. 3. Outline, approve and carry out a specific work programme for the new regional platform, including the collection of recommendations and proposals for the RIS3 review in Norte. 4. Monitor the activities, outputs and results of the regional platform for “Advanced Production Systems” and decide on further activities within this action.
<p>PLAYERS</p>	<ul style="list-style-type: none"> • CCDR-Norte: coordination and overall implementation • NMP-REG Norte RSG members: participation in the regional platform for smart specialisation and support to the implementation of its work programme • Norte Regional Innovation Council: receive and approve proposals regarding RIS3 review and update

⁵ Respecting EU General Data Protection Regulation

TIMEFRAME	Activity	2019		2020		2021	
		Sem. 1	Sem. 2	Sem. 1	Sem. 2	Sem. 1	Sem. 2
	1	•					
	2		•	•			
	3			•			
	4				•	•	•
COSTS AND FUNDING SOURCES	This action is integrated in the activity plans of the players involved, being therefore implemented using their internal resources.						
MONITORING	<p>The implementation of the Action Plan will be monitored through a system that includes the following specific indicators for this action:</p> <ul style="list-style-type: none"> • Number of stakeholder meetings focused on NMP or advanced production systems held in Norte after finishing NMP-REG Phase 1: 2 • Number of NMP-REG stakeholders formally integrated in the Norte SSP on “Advanced Production Systems”: 10 • Number of reports with proposals for review of the RIS3 regarding NMP/Advanced Production Systems submitted to the Regional Innovation Council: 1 • SSP on “Advanced Production Systems” established: yes <p>These indicators will be monitored quarterly. A brief progress report will be prepared on a yearly basis, as part of the NMP-REG monitoring system.</p>						

	<p>ACTION 4. FACILITATE THE REGIONAL SUPPORT TO EXCELLENT NMP PROPOSALS FROM NORTE SMES UNFUNDED BY HORIZON 2020</p>
<p>NEED ADDRESSED</p>	<p>Regional innovation in Norte has been highly dependent on European Union (EU) support. However, different EU support mechanisms acting in the region reveal a considerable lack of articulation. This brings particular challenges to potential beneficiaries and to the efficiency of innovation policies in Norte.</p> <p>In this context, synergies between Structural Funds (SF) programmes and Horizon 2020 (H2020) are considered particularly relevant regarding NMP-based innovation in Norte. These synergies have however been limited, as SF and H2020 currently present very few coordination mechanisms. Different governance structures, focus and timing of calls, programme requirements, application procedures, selection criteria and evaluation processes make this coordination harder.</p> <p>On the other hand, every year dozens of organisations in Norte invest costly resources and time applying to the H2020 programme. H2020 is highly competitive and presents limited funding compared to high demand. Therefore many excellent proposals from Norte that deserve funding from H2020 are not funded. Some of these organisations - with excellent but unsuccessful proposals - then turn to other sources of funding, including SF programmes at national or regional level. However, all efforts and results from their application to H2020 – namely in terms of the excellent classification awarded by H2020 experts – are not considered by the application and evaluation procedures of SF programmes.</p> <p>This action addresses the identified lack of articulation between SF and H2020, particularly regarding measures that support projects focused on NMP development and adoption in Norte Region.</p>
<p>OVERVIEW (POLICY IMPROVEMENT)</p>	<p>This action focuses on introducing a direct change at the management level of the policy instrument addressed by NMP-REG in Norte.</p> <p>This improvement will be achieved by integrating, in the application and evaluation procedures of the regional policy instrument, a mechanism that values NMP proposals from Norte that have fulfilled excellence criteria from H2020 but cannot be supported by that EU-level programme.</p> <p>This articulation mechanism between H2020 and a SF programme will be implemented through the launch of one or more calls for projects at the regional level, that adopt the “Seal of Excellence” as an admissibility or evaluation criterion for project selection. These calls will involve funding from the ROP.</p>

	<p>The “Seal of Excellence” is a high-quality label awarded by the European Commission to projects submitted to H2020, which were deemed to deserve funding but did not receive it due to budget limits. It recognises the value of the proposal and supports the search for alternative funding.</p> <p>Such mechanism is expected to contribute to improve synergies between H2020 and Cohesion Policy instruments at the regional level. It can represent a considerable advantage to organisations from Norte that invested resources and time applying to H2020 with excellent but unfunded proposals in the field of NMP. With this policy improvement, such proposals could, in theory, more easily find alternative funding at the regional level. On the other hand, consideration of the “Seal of Excellence” should allow the regional managing authority to take advantage of the high-level evaluation system from H2020, easing their task of identifying promising proposals for funding. These benefits should in turn result on increased efficiency of innovation policies in Norte.</p>
<p>BACKGROUND (LESSONS LEARNT)</p>	<p>Regional/national input:</p> <p>During the regional stakeholder meetings of NMP-REG, stakeholders from Norte identified a wide range of specific needs and challenges regarding what should be improved in order to enhance NMP-based innovation. Some of these challenges included (i) a lack of harmonisation of procedures and evaluation criteria between regional/national instruments and EU-level instruments supporting the same type of projects in the same territories; (ii) the intense competitiveness of centrally-managed EU programmes and the difficulties in obtaining funding at national/regional level for projects with merit already recognised at the European level; and (iii) a need to optimise project application and appraisal methodologies for SF programmes, so that processes can become faster, more predictable and less rigid.</p> <p>Regarding solutions to achieve improvements in policy instruments, NMP-REG stakeholders identified, among others, the promotion of coordination between regional, national and European-level instruments.</p> <p>Interregional input:</p> <p>The experience of the Italian region of Tuscany with managing policy instruments supporting business innovation was particularly relevant to draft this action.</p> <p>Tuscany has already taken into consideration the “Seal of Excellence” in project selection procedures for their regional operational programme. In some innovation-support calls, a proposal holding the “Seal of Excellence” is rewarded with</p>

additional points in the evaluation scoring. Nevertheless, a new evaluation procedure is applied.

Interactions with NMP-REG partner ASEV and their stakeholder Regione Toscana (Managing Authority of the Regional Operational Programme) were particularly important to learn about this good practice, and its potential transferability to Norte. In this context, several meetings and exchange of documents took place.

The Portuguese National Innovation Agency (ANI) was involved in these interregional interactions with Tuscany, as this institution would have to play a key role in the launch of a call adopting the “Seal of Excellence” in Portugal. ANI has been a key stakeholder for NMP-REG, participating in most of the interregional learning events.

Preparatory activities:

A sequence of preparatory activities were developed by the Norte NMP-REG team during the first phase of the project, prior to implementation of this action:

- a) **Check the feasibility of adopting the “Seal of Excellence” as a criterion for project selection in regional calls supporting technological innovation in Norte.** The NMP-REG team held several bilateral meetings with key stakeholders and different units from the Managing Authority responsible for the policy instrument selected in Norte. In these meetings, the team presented this action, and engaged in fruitful discussions about its pertinence and feasibility. Both were confirmed, despite the recognition of particular challenges, such as state aid rules and RIS3 alignment.
- b) **Share – with relevant bodies at regional and national level involved in drafting calls – the lessons learnt from NMP-REG.** The NMP-REG team from Norte shared the experience of Tuscany with the “Seal of Excellence” with relevant bodies at regional and national level. Engagement with ANI was particularly relevant at this stage. ANI actively participated in interregional exchange activities with Tuscany, including a bilateral exchange session focused on the “Seal of Excellence” during an NMP-REG event held in Belgium, in January 2018.

ACTIVITIES

The implementation of this action focuses on facilitating a regional support to excellent projects from Norte unfunded by Horizon 2020, through the launch of one or more calls for projects at the regional level that adopt the “Seal of Excellence” as an admissibility or evaluation criterion for project selection.

	<p>Actual implementation of this action started after the preparatory activities described in the previous point. Such implementation considers the following activities:</p> <ol style="list-style-type: none"> 1. Prepare and launch a call for proposals supporting business innovation in Norte considering the “Seal of Excellence” as a criterion for project selection. 2. Carry out all required steps for project selection and formal approval of proposals submitted to the call. 3. Monitor the results of the call and of the supported projects, in particular, projects focusing on NMP adoption by SMEs. <p>This action has been already partially implemented. As of March 2019, the first activity has been carried out, and the second activity is underway.</p> <p>On 31 July 2018, a call was launched to support R&D projects from Portuguese SMEs that hold the “Seal of Excellence”. Norte is one of the eligible regions, and the selected policy instrument within NMP-REG (Regional Operational Programme) is one of the financing instruments⁶. The call supports projects aligned with RIS3 priorities, including “Advanced Production Systems” in Norte region, where NMP stands out. The call includes a methodology of correspondence with the evaluation carried out by Horizon 2020. This methodology was designed by ANI. ANI is also the intermediate body responsible for project selection for this call. Both ANI and the Managing Authority of the Norte Regional Operational Programme participated in the launch of this call, jointly carried out by a network of institutions focused on the incentives system for businesses within cohesion policy in Portugal. The call results are still not known, as the project selection process is still ongoing.</p>
<p>PLAYERS</p>	<ul style="list-style-type: none"> • CCDR-Norte: coordination and overall implementation of activities that do not overlap specific competences of the SF management bodies • Managing Authority of the Regional Operational Programme: preparation and launch of calls and approval of funding for proposals • National Innovation Agency (ANI): design of project appraisal methodologies and evaluation of proposals for funding as an intermediate body • Portuguese Incentives System Network: preparation and launch of calls articulating different Operational Programmes

⁶ The call can be consulted here:
http://norte2020.pt/sites/default/files/public/AAC_19_SI_2018_SME_Instrument_F2_27072018.pdf

TIMEFRAME	Activity	2018		2019		2020		2021	
		Sem. 1	Sem. 2	Sem. 1	Sem. 2	Sem. 1	Sem. 2	Sem. 1	Sem. 2
	1	•	•						
2		•	•						
3			•	•	•	•	•		
COSTS AND FUNDING SOURCES	<p>This action is integrated in the activity plans of the players involved, being therefore implemented using their internal resources.</p> <p>The call linked to this action allocates 1,5 M€ of support specifically to Norte, and earmarks an additional 5,0 M€ of funding to three less-developed Portuguese regions, including Norte (without prior allocation per region).</p> <p>This call is funded by the European Regional Development Fund (ERDF), through two Operational Programmes. Norte Regional Operational Programme (Norte 2020) supports the amount allocated exclusively to Norte Region. The Operational Programme for Competitiveness and Internationalisation (Compete 2020), which is not bound to a single region, supports the amount allocated to the three less-developed Portuguese regions, including Norte.</p>								
MONITORING	<p>The implementation of the Action Plan will be monitored through a system that includes the following specific indicators for this action:</p> <ul style="list-style-type: none"> • Number of calls launched for projects from Norte, that adopt the “Seal of Excellence” as a criterion for project selection: 1 • ERDF funding approved to NMP projects from Norte holding the “Seal of Excellence”: 2 M€ • Increase in GVA of SMEs from Norte supported through the call adopting the “Seal of Excellence” as a criterion for project selection: 20% <p>These indicators will be monitored quarterly. A brief progress report will be prepared on a yearly basis, as part of the NMP-REG monitoring system.</p>								

	<p>ACTION 5. PROMOTE THE LAUNCH OF THEMATIC CALLS SUPPORTING BUSINESS INNOVATION IN REGIONAL PRIORITIES, INCLUDING NMP</p>
<p>NEED ADDRESSED</p>	<p>In the 2014-2020 programming period, in Portugal, no thematic competitive calls from the structural funds focusing on single smart specialisation priorities have been launched yet. This means that each call for business innovation support in Norte has been accepting proposals from completely different fields and totally different features. For example, a project for an innovative touristic service in a rural area could be competing for funding, under the same call, with a project focused on industrial innovation through the introduction of nanotechnologies in a production process.</p> <p>This situation brings particular challenges to NMP projects in Norte. Projects on this topic frequently start on a disadvantaged position when competing for funding with other types of projects. This is due to the fact that NMP have certain particularities that make them different from other fields, such as their long time-to-market, their strong financial capital intensity, their multidisciplinary, their human capital requirements or their association to safety and health concerns. Consequently, as they are frequently associated to a higher uncertainty/risk, projects in NMP often find more difficulties to access funding, because banks – and even public investors – seek to minimise risk and maximise reward.</p>
<p>OVERVIEW (POLICY IMPROVEMENT)</p>	<p>Action 4 focuses on introducing a direct change at the management level of the policy instrument addressed by NMP-REG in Norte.</p> <p>The improvement will be achieved by promoting the launch of specific thematic calls supporting business innovation in Norte. Each call should focus on a single smart specialisation priority, thus avoiding placing in direct competition projects of very distinct nature. Considering the current priorities of the regional RIS3, calls focused on “Advanced Production Systems” are particularly relevant for NMP adoption by the regional industry, as the scope of this priority is very similar to the one of NMP. The policy instrument addressed by NMP-REG would support such calls.</p> <p>The launch of calls limited to business innovation proposals on “Advanced Production Systems” ensures, on the one hand, the earmarking of specific funding for this priority. On the other hand, it guarantees that each proposal will be evaluated and ranked against proposals of a similar kind. This increase of project comparability will, in turn, facilitate the project selection process and expectedly increase its quality. Finally, this change will also hopefully lead to more good quality NMP-based innovation projects in the region.</p>

**BACKGROUND
(LESSONS
LEARNED)**

Regional/national input:

During the regional stakeholder meetings of NMP-REG, stakeholders from Norte identified a wide range of specific needs and challenges regarding what should be improved in order to enhance NMP-based innovation. Some of these challenges emerged from the fact that NMP projects are competing for funding directly with projects from completely different areas, such as tourism. This situation is seen as unfavourable for NMP because of the particularities of this field, including a longer time-to-market, higher capital intensity and more complex regulatory framework.

Regarding solutions to achieve improvements in policy instruments, NMP-REG stakeholders recognised the potential of launching thematic calls, focused on single regional priorities. However, a stakeholder pointed out the existence of risks if this option is followed, as launching such calls would imply making choices regarding the distribution of resources between different fields/priorities. If this process is not properly supported and overseen, there is a risk of biased allocations in favour of more politically-influential (rather than strategically aligned) fields.

Interregional input:

The following lessons learnt from NMP-REG interregional activities were particularly relevant to draft this action:

- The experience of the German region of North-Rhine-Westphalia (NRW) with its customer-oriented policy design. NRW implemented an across-the-board system of competitive calls as a basis for an innovation policy that is both target oriented and flexible in adapting to changing framework conditions. This system includes calls focused on certain thematic clusters, or future lead markets. Two evaluations carried out for the 2007-2013 period illustrated that this model can be considered a national success model. In the current programming period, these thematic competitive calls were tailored to the lead markets which became part of the region's smart specialisation strategy.
- Tuscany has also experience with thematic calls. In this Italian region there are two types of thematic calls: one type that rewards projects from specific sectors with some extra points and the other one that has specific amounts of funding established for each sector.

Interactions with the above mentioned NMP-REG partners were especially important to learn about the implementation of thematic calls in these regions and to identify success and risk factors.

Success factors include a high level of transparency regarding the selection of projects and the composition of juries, a reduced number of calls focused on few priorities, an effective culture of consultation and evaluation, and a long-term clear planning of topics, deadlines and responsible actors. Risk factors mostly relate to the absence of proper prior assessments of demand from potential beneficiaries, a lack of evidence-based support to the establishment of priorities and allocations, the adoption of strict frameworks in the drafting of calls and a focus on short-term goals.

Preparatory activities:

A sequence of preparatory activities were developed by the Norte NMP-REG team during the first phase of the project, prior to implementation of this action:

- a) **Check the feasibility of launching thematic regional calls focused on a single RIS3 priority** instead of supporting all priorities in every call. The NMP-REG team held several bilateral meetings with key stakeholders and different units from the Managing Authority responsible for the policy instrument selected in Norte. In these meetings, the team presented this action, and engaged in fruitful discussions about its pertinence and feasibility. Both were confirmed, despite the recognition of particular challenges, such as the evidence-based support needed to a prior allocation of funds per smart specialisation priority.
- b) **Share – with relevant bodies at regional and national level involved in drafting calls – the lessons learnt from NMP-REG.** The NMP-REG team from Norte shared the experience of NRW, Flanders and Tuscany with relevant bodies at regional and national level. Engagement with the Portuguese National Innovation Agency (ANI) was particularly relevant. ANI actively participated in interregional exchange activities, including a workshop during an NMP-REG event held in Bucharest, in July 2018, in which the launch of thematic calls was discussed.

ACTIVITIES

The implementation of this action focuses on promoting the launch of specific thematic calls supporting business innovation in the NMP sector in Norte.

Actual implementation started after the preparatory activities described in the previous point. Such implementation considers the following activities:

1. **Draft and submit a formal recommendation to the Norte Regional Innovation Council regarding the launch of thematic calls.** This recommendation should be produced by a regional smart specialisation platform, as envisaged in the Norte RIS3 governance model.

	<p>2. Support the preparation and launch of a call supporting business innovation in Norte limited to projects on “Advanced Production Systems”. This call should include funding from the Regional Operational Programme. Considering the scope of this thematic priority in Norte RIS3, NMP-based projects should represent the bulk of successful applications to this call.</p> <p>3. Carry out all required steps for project selection and formal approval of proposals submitted to the call. This includes all necessary articulation procedures between the Managing Authority and the Intermediate Body appraising proposals.</p> <p>4. Monitor the results of the call and decide on further activities within this action, including additional thematic calls. Assessment of results will include not only output-related aspects, such as the number of projects or allocated funding, but also impact-related aspects, such as real benefits brought to supported businesses.</p>						
PLAYERS	<ul style="list-style-type: none"> • CCDR-Norte: coordination and overall implementation of activities that do not overlap specific competences of the SF management bodies • Managing Authority of the Regional Operational Programme: preparation and launch of calls and approval of funding for proposals • National Innovation Agency (ANI): design of project appraisal methodologies and evaluation of proposals for funding as an intermediate body • Portuguese Incentives System Network: preparation and launch of calls articulating different Operational Programmes 						
TIMEFRAME	Activity	2019		2020		2021	
		Sem. 1	Sem. 2	Sem. 1	Sem. 2	Sem. 1	Sem. 2
	1		•				
	2			•			
	3				•	•	
4					•	•	

<p>COSTS AND FUNDING SOURCES</p>	<p>This action is integrated in the activity plans of the players involved, being therefore implemented using their internal resources.</p> <p>The calls linked to this action will allocate an amount of support specifically to innovation projects from Norte focused on “Advanced Production Systems”. Competitive calls supporting innovation projects in Norte are funded by the European Regional Development Fund (ERDF), through two Operational Programmes. Considering the RIS3-based approach of this action, the Regional Operational Programme will be the main funding source of calls considered here.</p>
<p>MONITORING</p>	<p>The implementation of the Action Plan will be monitored through a system that includes the following specific indicators for this action:</p> <ul style="list-style-type: none"> • Number of competitive calls launched for projects from Norte, limited to the RIS3 priority “Advanced Production Systems”: 1 • ERDF funding approved to NMP projects from Norte selected through thematic calls: 2 M€ • Increase in GVA of SMEs supported through the call: 20% <p>These indicators will be monitored quarterly. A brief progress report will be prepared on a yearly basis, as part of the NMP-REG monitoring system.</p>

Part V – Approval of the Action Plan

This action plan will be implemented and monitored by CCDR-Norte.

Date: 10th of May of 2019

A VICE-PRESIDENTE DA CCDR-N

Ester Silva

(Ester Silva, Presidency of CCDR-Norte)