REGIONAL ACTION PLAN

CLUSTERIX 2.0 – NEW MODELS OF INNOVATION FOR STRATEGIC CLUSTER PARTNERSHIPS

North-East Regional Development Agency

CUPRINS

REGIONAL ACTION PLAN FOR

THE DEVELOPMENT OF CLUSTERS WITHIN NORTH-EAST REGION

Part I – GENERAL INFORMATION

Project:	Clusterix 2.0 – New Models of Innovation for Strategic Cluster Partnerships
Partner organization:	North-East Regional Development Agency
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Part II – POLICY CONTEXT

THE Action Plan will impact on:

☒ "Investments for growth and jobs" programme

☐ European territorial cooperation programme

☒ Other instrument of regional development policy

The policy instruments addressed

The first and main policy instrument envisaged by Clusterix 2.0 project (through the application form) is the Regional Operational Programme 2014-2020 of the North-East Region, Priority Axis 1 – Promotion of technologic transfer. This instrument funds:

- creation and development of innovation and technologic transfer (ITT) infrastructures, including scientific and technological parks, respectively construction, modernization, extension and endowment with necessary equipment and software;
- procurement of specific technological services, including specialized business consultance;
- investments for SMEs to implement a research-innovation outcome in partnership with an ITT.

The eligible beneficiaries of this priority axis are:

- Infrastructures of innovation and technology transfer accredited according to the legislation in force;
- Scientific and technological parks accredited according to the legislation in force;
- SMEs in partnership with ITT.

The Ministry of Regional Development and Public Administration (MRDPA) has the role of Managing Authority for the Regional Operational Program 2014-2020 and the North-East Regional Development Agency is Intermediate Body (IB) for the implementation of Priority Axis 1 of the ROP in the North-East Region.

At the time of elaboration of the action plan (31.12.2018) the status of the projects submitted under this axis was the following:

Investment Priority 1.1, Operation A - Support for Innovation and Technological Transfer Entities	- Allocated budget: 6,432,350 Euro - 1 project submitted with a total value of 28.3 million Lei (6.06 mil. Euro), project assessed as compliant and eligible, now in the selection phase
Investment Priority 1.1, Operation B - Supporting scientific and technological parks	- Allocated budget: 6,364,371 Euro - Call for proposals opened on 13 August 2018 with deadline for submitting projects on 13 February 2019 at 12.00 - no project submitted;
Investment Priority 1.1, Operation C - Investments for SMEs to implement a research-innovation result in partnership with an ITT	- Allocated budget: 5,325,126 Euro - 32 projects submitted with a total value of 37.14 million lei (7.95 million Euro) out of which 20 projects were withdrawn/rejected, 12 projects being in the selection phase
Investment Priority 1.2 - Increasing innovation in companies by supporting multisectoral approaches	- Allocated budget: 58,823,532 Euro - Priority resulting from the implementation of the "Lagging Regions Initiative" in Romania, ROP 2014-2020, call for the North-East and North-West development regions. - The Applicant's Guide has been submitted for consultation until 28.09.2018. - The list of projects is pre-identified at the regional level - The call for projects will most likely be opened in 2019

The second policy instrument targeted under the Action Plan is the **National Research-Development-Innovation Program III for the period 2015-2020**, which includes five other programs:

- **P1 - Development of the national research and development system** (financing of doctoral / post-doctoral research projects, stimulation of young independent teams, awarding of research results, complex projects for the reintegration of diaspora researchers, investment projects in R&D infrastructure of regional, national or pan-European interest, specialization projects in scientific and technological fields, etc.).
- **P2 - Increasing the competitiveness of the Romanian economy through research, development and innovation** (projects that provide support for the development of new prototypes / pilot installations, prototypes, technology, methods for outsourced research in partnership with public research organizations, for manufacturing / application / operation of products, new technologies / systems to the economic operators or other category of beneficiary of the project, ***organization and development of innovative clusters – targeted by Action 1 of the plan, policy instrument 4.b of the project***).
- **P3 - European and International Cooperation**, a program that supports participation in international research projects in order to facilitate the mobility of researchers and their access to programs and research institutions not available in Romania.

- P4 - Fundamental and frontier research, which aims at maintaining and developing niche fields where Romanian fundamental research has competitive advantage and critical mass of researchers.
- P5 - Research in areas of strategic interest, support program led by institutions with the role of scientific coordination in areas of strategic interest for formation and development of research institutions and national components in areas of strategic interest for Romania.

Each program contains sub-programs, where project proposals have been organized in such a way as to implement funding instruments by project types for specific target groups and specific types of activities. The total budget of the National Plan for Research-Development-Innovation III for the whole period is of maximum ***15 billion lei (about 3.2 billion Euro)*** and is secured of funds from the state budget, external non-reimbursable funds and partners' contributions to projects.

For the elaboration of the Action Plan, it was required to carry out an analysis of the clusters in the region, the main stakeholders under the project, in order to better understand the current situation and the problems they are facing with, and last but not least, to be able to prepare them and inform about future calls for projects that will be launched also within the policy instrument addressed by the project.

Because the North-East Regional Development Agency is an Intermediate Body delegated by the Ministry of Regional Development and Public Administration (Managing Authority) for the implementation of the Regional Operational Program 2014-2020 in the North-East Region - the policy instrument within the project, the Action Plan will be endorsed by the Director General of the Agency.

Part III – REGIONAL ACTION PLAN

Following the analysis of the relevant regional clusters and the problems they face with, the actions proposed by the North-East Regional Development Agency through the Regional Action Plan aim at eliminating some of the barriers that can be overcame by specific and rapid actions that can cause important changes in the way clusters will develop and will act with impact on the regional economic context and will approach the policy instrument addressed.

During the experience sharing sessions under the Clusterix 2.0 project, interested regional stakeholders have shown interest to the "HOW" aspect of good practices that can be attributed to their own interest and/or adapted to the context in which they operate and, from this perspective, North-East RDA – as partner under the project – should focus on providing the leadership for reflecting the mechanisms which stood at the basis of these practices. Compared to other clusters in the partner regions of the project, there are big differences in ensuring efficient cluster management, innovation potential and competencies as well as the type of innovation produced by cluster members, the way other members are attracted in the cluster and motivating them to opt to join such an associative structure and effective human resource management to outline just a few of the issues faced by clusters in the North East Region.

ACTION 1 – Pilot mapping of innovation skills in SME members of the Astrico Nord-Est Textile Cluster

1. Context (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

Organizational innovation audit evaluates the degree of maturity of a company's innovation system by analyzing internal processes and practices and determining the strengths, weaknesses, and best ways to

improve innovation performance. This service is designed to provide an objective estimate of the innovation capacity within an entity (organization, department, team) and to provide objective information on the processes, tools and policies of a firm by comparing them with best practices in the organizational innovation field.

During the implementation of the project, one of the examples of good practice promoted within the partnership concerned support for mapping (competency mapping) as a tool for systematically identifying skills and competence-based innovation within a group of companies and research and development organizations in a region. The implementation tool and methodology has been developed by IMG Innovation-Management-Group GmbH in collaboration with the Lower Austria Mechatronics Cluster since 2011 and represents a fast-track approach to specific analysis of the competencies of companies and research institutes to identify innovative potential for economic growth. Broadly speaking, this instrument is aimed at:

- analysis of business model (business model canvas) completed with a SWOT analysis of the current business;
- analyzing the business value chain, collecting data on existing competencies, resources and skills;
- identifying business opportunities outside the current business sphere that fit the company's existing skills.

The first project with 10 companies was co-funded by Ecoplus, the regional government and the Lower Austria's Chamber of Commerce. Thus, over 90 organizations have gone through the skills mapping process, resulting in over 900 business opportunities and over 500 competencies for new business creation on a personalized web platform.

Convinced by the efficiency of this method, IDM Sudtirol - through close collaboration with IMG - began its own SME mapping program in 2015. In the first phase, cluster managers were made familiar with the method, and in the second phase (2016), a voucher of Eur 10,000 for innovation was activated so as to cover 70% of the costs of the skills mapping process using public money. After public funding was secured, IDM Sudtirol identified and involved 10 companies (SMEs) in the "Competence Mapping South Tyrol" business development program.

This good practice was firstly presented by IDM SudTirol at the kick-off meeting in Bolzano in April 2016 and was discussed much more in detail at the meeting held in Gyor, Hungary, in February 2017. IDM organized a workshop for project partners and stakeholders from 9-11 October 2018 in view of transferring this good practice in October 2018.

2. Action (please list and describe the actions to be implemented)

Performing innovation audits for 24 SMEs, members of the Astrico Nord-Est Textile Cluster
Following the good practice described above and the participation of one of the members of the cluster management organization in the IDM Mapping Workshop in Bolzano, South Tyrol, Italy, the innovation audits will be carried out based also on the principles of the IMG Mapping Tool developed by IDT SudTirol specifically:

- Competencies portfolio analysis – finding bundles of specific resources and skills within a company which enable it to solve certain types of challenges successfully from a customer's point of view AND can be transferred to similar problems outside their core business;

- Resources - that a company owns or has more or less exclusively access to (*physical resources* - like R&D equipment, manufacturing systems, ICT infrastructure, *intellectual resources* - specific knowledge, patents, certificates, management systems and *external resources* - like long-lasting relationships with experts, leading clients and supplier of specific infrastructure, goods and services, etc)
- Skills - those specific skills that enables a company to get competitive advantages.

The main element taken from the "competence mapping" in order to be included into this pilot mapping of innovation skills action will be ***the company's value-chain analysis matrix*** because it is rather important to have in mind the main value chain characteristics of an industry the innovation network belongs to. For the companies in the textile sector the cluster is active into the following value chain schemes will be used for analysis:

	R&D & innovation	Production & assembling	Order acquisition & order transaction	After sales service & maintenance
Physical resource	Infrastructure for R&D	Infrastructure for production	Infrastructure for sales & marketing	Infrastructure for service & maintenance
Immaterial resources	R&D and innovation know- how	Production know- how	Employee & marketing- & sales know-how	Service & maintenance know- how
Access to external resources	External R&D and innovation partner	External production resources	External order process resources	External service & maintenance resources
Specific skills	R&D and innovation skills	Production & assembling skills	Order acquisition & order transaction skill	Service skills

Profit margin

To increase the innovation degree of the 24 cluster member companies, the innovation audits will be organized teamed with a cluster management representative and an external expert. These audits will take the form of individual interviews with each SME and will sample the main dimensions of innovation competencies at the enterprise level according to the competence mapping methodology. Each audit will be followed by a report and individual recommendations. The results will be aggregated and will be a useful input in the process of drafting the implementation plan. On the other hand, innovation audits will highlight the need for professional assistance and training in transferring knowledge, whether it is innovation management or the generation of publicly funded projects, IPR, etc. These trainings will then be centrally organized at the cluster level to ensure the participation of as many members as possible.

The main objective of this competence mapping process is the elaboration of the strategic research-development-innovation agenda and the strategy of cluster expansion and internationalization. On the other hand, it is also envisaged the extension of the existing cluster components and competencies of the cluster's existing working groups and the establishment of a RDI working group as well as of thematic research cores that will lead to the development of joint CDI projects in partnership at the cluster level as well as the development of new or significantly improved products/technologies/ services with the potential to be inserted on the domestic and external markets by members of the innovation cluster.

Based on the results obtained, this pilot process based on competence mapping can also be replicated in other clusters in the North-East Region of Romania.

3. Players involved (please indicate the organisations in the region who are involved in the development and implementation of the action and explain their role)

   - ASTRICO NORD-EST Association (the management entity of ASTRICO Nord-Est Textile Cluster) – as implementor of the action within cluster's own structure;
   - North-East Regional Development Agency, catalyst organization of the cluster

4. Timeframe
   31 July 2019 (May 2019 – public procurement of external consultant, evaluation and selection, awarding and signature of the contract; June 2019 – implementation of the innovation audits, delivery of individual reports and recommendations; July – aggregation of results and elaboration of final report)

5. Costs (if relevant)
   The costs will be committed by Astrico Nord-Est Association estimated to Lei 30,000 (approx. Euro 6,400) for hiring and payment of an external consultant to perform the auditing services for all the 24 companies' members of the cluster.

6. Funding sources (if relevant):
   National Plan for Research, Development and Innovation 2015-2020, PNIII – Increased Competitiveness of Romanian Economy through Research, Development and Innovation, Subprogram 2.1. Competitiveness through Research, Development and Innovation – Cluster organization and development – Innovative clusters (Policy Instrument 4.b in Clusterix 2.0)

ACTION 2 – Elaboration and implementation of a training curriculum on innovation for clusters and their members

1. Context (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

In the global economy, innovation cycles are becoming shorter and companies have to always keep up with the state-of-the-art in innovation and come up with new products, services and solutions. Current customers no longer want just a product or solution. They ask companies to solve their problems. And the conclusion can only be one: to survive in this global environment of competitiveness, the only option for companies is innovation.

For a company that does not innovate, all its products or services are ultimately nothing but commodities. When this happens, the company does not have any margin to spend on research and development to launch new products or anything else that could give it a competitive advantage. At this point, customers will start choosing the competition and the company will enter a low-cost race that will mean cost or profit reduction and the business will go into a classic spiral of bankruptcy. So the very important aspect for companies, including cluster members, is understanding the importance of innovation, what does innovation mean and how do they "light the spark" of innovation in a company?

Because innovation and entrepreneurship are necessities of society and economy, this can be done with the help of people who make these two notions a normal thing and a continuous phenomenon, a daily activity applied to their work within the organizations they belong to.

But in order to innovate, you need to understand what this concept means. What is innovation? What is innovation management? What is the innovation of a process or a product, but of a service? Creating a culture of innovation means first of all to understand the terminology and processes that lead to innovation in everything they have specific and essential.

During 5-7 September 2017, in the framework of the workshop which took place in Kolding and Billund (Denmark), it was presented the importance of strategic use of design in finding new innovative ideas and developing products, production methods and business strategies - always centered on the user. Thus, many companies in the South Denmark region have opted for a clear differentiation strategy, using strategic design as a key way to become more competitive. Strategic design use is a growth and job-generating factor to help companies improve all aspects, from production to product and from strategy to process. Over the past 4 years, the Design2Innovate Cluster (D2I, established in 2011) has introduced design and design methods to over 500 companies with over 1,500 employees and managers. D2I has started from the premise that design generates growth and that those companies that use business design are more profitable. Another basic principle is that clustering is an effective means of business development. Thus, D2I combines design with cluster development and believes that those companies that are part of clusters are more innovative.

On the other hand, Ecoplus of Lower Austria presented at the project meeting held in Clermont-Ferrand, France during May 22-24, 2018 the good practice on the 2 year-duration modular training FoP-Net - Future of Production Network for training and qualification of SME employees by introducing the innovative Industry 4.0 concept. Implemented with the support of the Chamber of Commerce and the Austrian Federation of Industries and 100% funded by regional funds (training companies paid for training materials and accommodation only), the training program consisted of 8 modules as follows:

- Industry 4.0 (general introduction)
- personal development (time management, change management, creativity techniques, training for trainers);
- Man-machine interaction (human-machine interaction and collaboration, collaborative robotics, technological management, technological research, social media in the recruitment process, new knowledge management techniques and transfer, augmented reality)
- production (user-centered production planning, production management)
- Data Security (Big Data Analytics, IT & Industrial Security, Data View, Semantics Data Models)
- Internet of Things (real-time communication in virtual and mobile environments, mobile application development, machine-to-machine business scenarios, Blockchain)
- Digital business (introduction to innovation management, service innovation, trends and chances)
- 3D printing: introduction to 3D printing in metal, additive manufacturing in practice, industrial applications Bionic Design, 3DP

The program included not only the training but also the opportunity to learn from the top companies' best practices and to engage in collaborative projects related to skills/competences and qualification needs in the future.

2. Action (please list and describe the actions to be implemented)

Pilot training course introducing the notions and terminology of innovation

A training curriculum designed for managers and staff of SME member clusters in the North-East Region will be developed and implemented, with duration of 7 hours (6-hour training course, 1-hour evaluation), structured on the following modules:

- What is innovation and the need for innovation (definitions and notions of innovation, innovative activities, innovative companies)
- Basic components and types of innovation. Carrying out product innovation, process innovation, marketing innovation and organizational innovation through strategic use of design specifically of:
  - Design as styling (used for styling and finish of company products);
  - Design as an innovation process - an integral part of the company's innovation process;
  - Design as an integral part of business strategy of a company
- Strategic innovation (necessity, innovation strategies, typology and components, strategize about how to create a culture to support Industry 4.0 and innovation)
- Innovation management (basic principles, methods, list requirements for a factory or system to be considered Industry 4.0)
- Research-development-innovation within a company (fundamental, applicative, development)
- Process of technological transfer (definitions and notions).

The objective of the training course is to help create a better understanding of the innovation process among SMEs and to improve students' knowledge and skills to master and support this process. Going throughout this course will allow students:

- To know and operate in a collaborative environment for initiating and carrying out specific innovation activities;
- Create a collaborative group with which to initiate, develop and promote joint innovation projects;
- To better interpret the current situation, the course and the evolution of the business environment to which it is part and where it is desired to implement innovation;
- To act better individually or in team for organizing innovation projects;
- Ensure the performance of a project to promote innovation on the market.

At the end of this course, the learner will be tested on the basis of a grid (multiple choice) test to prove that he/she is able to define the following notions:

- the need for innovation;
- notions of innovation;
- models of the innovation process;
- types of innovation;
- principles and methods of innovation management;
- typologies of research-development-innovation
- notions of technology transfer

Due to the fact that companies are not very interested in investing in research and innovation, activities that could ensure higher incomes and a stronger position on the market, this course can stimulate understanding the importance of RDI and ensure that this deficit is covered by increasing access to the funds offered by the ROP 2014-2020 which, through Axis 1, offers the financing of the creation / development of innovation and technological transfer entities capable of providing innovation services to the private sector and also supports the financing of projects with a multi-sectoral approach in order to

stimulate the research-innovation capacity, to capitalize on this innovation and to align with the community development trends.

3. Players involved (please indicate the organisations in the region who are involved in the development and implementation of the action and explain their role)
   - North-East Regional Development Agency (elaboration of training course curriculum, multiple choice test, implementation of training curriculum)
   - Managers of the clusters and cluster member companies.

4. Timeframe
   July 2020
   - Elaboration of training course curriculum – July-August 2019
   - Implementation of the training course, application of multiple-choice testing – June 2020

5. Costs (if relevant)
   Estimated budget: 500 Euro (excepting salary costs, irelevant), no external trainers.

6. Funding sources (if relevant):
   Own sources

Signature:

Vasile Asandei

Director General, North-East RDA

Intermediate Body for Implementation of Regional Operational Programme 2014-2020 in the North-East Region