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CENTRAL EUROPE



AMiCE

POSITION PAPER

BUILDING RESILIENT NETWORKS FOR THE EFFECTIVE SUPPORT OF SMEs IN THE UPTAKE OF EMERGING TECHNOLOGIES



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About AMiCE

Improving linkages among innovation actors as well as skills and entrepreneurial competences of manufacturing SMEs in Central Europe

The Alliance for Advanced Manufacturing in Central Europe (AMiCE) is a strategic network of innovation actors in Europe. To foster innovation and improve competitiveness, AMiCE supports SMEs and R&D partners in their journey to the uptake of new advanced manufacturing technologies and circular economy principles. To facilitate this process, the network partners have established a platform where research and business-supporting organisations in Central Europe are connected in order to provide effective support to manufacturing SMEs following a qualitative approach specially developed for this purpose.

A methodology that focuses on addressing three main challenges was implemented in Central Europe. It was demonstrated and tested (within the AMiCE project) with a blend of tailored measures highlighted in Figure 1 with the aim to transfer it to other sectors once proven valuable. The methodology is based on offering support through digital platforms while also establishing face-to-face contacts to build trust. During this process, innovation actors across regions have been linked for providing knowledge and expertise. Furthermore, capabilities in terms of pilot lines and demonstrators have been connected (sharing infrastructure) while existing regional and national support schemes have been leveraged - all mounting in a common approach for project and business development.

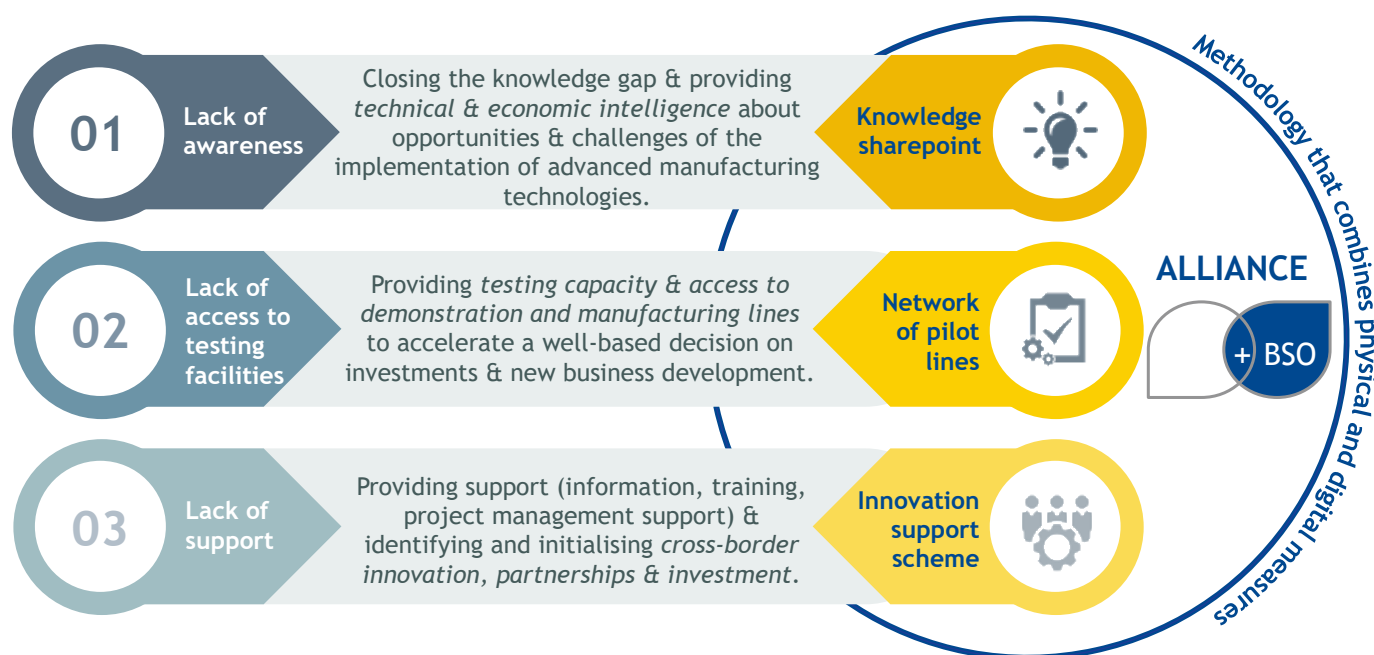


Figure 1 Quality of the project - The blend of measures addressing the challenges holistically

The Alliance is formed by regional tandems consisting of Business Support Organisations (BSO) and RTOs across 5 regions in Central Europe and connected to an experienced innovation actor in a leading region (Catalonia). It is open to all innovation actors and initiatives that focus on the initialisation and the support of innovations in the manufacturing sector in Europe.

Motivation: Target groups

Innovation is of paramount importance for Europe's economic growth and social stability. An innovation system combines economic, social, political, organizational, and institutional elements with governments' implications in the form of policies. This position paper is addressed to all actors participating in the innovation process of regions and particularly in the uptake of cutting edge technologies. This includes universities and research centres working on R&D, all companies across the value chains of relevant sectors and here in particular SMEs, as well as regional and local authorities, governmental bodies, and policymakers.

Effective and fluent collaboration among all actors is key. To accelerate innovation, a favourable policy framework should act as a catalysator.

The importance of a cross-border approach

With emerging technologies and advanced manufacturing techniques as well as large societal challenges that need to be addressed jointly, Europe is in the midst of a fast transformation. The large manufacturing industry in Europe is given countless opportunities (e.g. increased resource efficiency, costumer oriented production, circularity etc.) yet also faces new challenges. With these new technologies and needs, new value chains are created that eventually become more complex. This requires the **creation of new partnerships, the organisation of those value chains** in an effective manner, and **common business and legal frameworks**.

SMEs which are currently contributing with 56% to the European economy¹ and employ 91 million people² are particularly affected by the speed and the associated risks and challenges of this transformation: high investments; a lack of access to knowledge/training and skilled staff; challenging international cooperation to name only a few. Especially in Central Europe the strong industrial base which is built by a large number of SMEs present requires **new ways to keep or increase locally available human skills and reduce urban-rural disparities**³.

In the current context, Europe lacks a cross-border scheme for the effective support of SMEs that addresses those issues holistically and effectively and that takes the particularities of the different regions (e.g. Central Europe lagging behind Western Europe or strong disparities between Central European regions) into account. Although many resources, testing or training facilities, and support schemes are in place, in absence of a "one-stop-shop" these measures often fail to convince or unlock the full potential of advanced manufacturing technologies or the circular economy principles. The bottleneck for companies is to find the **business perspective and to identify the potential to combine market intelligence with technical knowledge** as it is a very resource-consuming (staff, knowledge, money) process.

¹ Clark, Daniel. "Number of small and medium-sized enterprises (SMEs) in the European Union in 2018, by size", Statista, 29th November 2019, online: <https://www.statista.com/statistics/878412/number-of-smes-in-europe-by-size/>, (accessed on 3rd August 2020).

² European Commission. "Small and medium-sized enterprises: an overview", Eurostat, 19th November 2018, online: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/EDN-20181119-1>, (accessed on 3rd August 2020).

³ Interreg Central Europe. "Summary of Interreg CENTRAL EUROPE 2021-27 Draft Programme Strategy", June 2020, online: <https://www.interreg-central.eu/Content.Node/discover/Interreg-CE-Summary-of-draft-programme-strategy-June-2020.pdf>, (accessed on 8th August 2020).



Figure 2 The cross-border approach - Pulling the resources together

A framework that provides tailored and flexible support services that follow high quality-standards both on a local level as well as in the international context is key to a successful uptake of emerging technologies for “smaller” players. Especially a connection to the value chains/ markets and the relevant knowledge is important. As challenges are global, a cross-border Alliance such as AMiCE can be an important driver:

- To give important **input to the funding measures** across Europe by connecting those programmes with the potential beneficiaries, their needs, and challenges in order to build up more effective funding strategies. This is particularly important looking at the current situation where calls are organised in thematic areas yet many interdependencies exist between key areas e.g. I4.0, digital, AI with global challenges to be addressed.
- To **connect available instruments** (regional, national, international) and (innovation) actors in a meaningful way both across regions and across sectors. Such an Alliance would act as an important mediator that will allow bringing together different innovation partners and the entire innovation community regardless of competition constraints.
- To provide schemes and resources (e.g. staff) to **pull together the available resources** such as knowledge, training, tools, capacity, investment and to initiate, advance and accelerate project development, development of innovation capacity and technology transfer (connecting the industry with academia and research organisations).
- To **make use of existing support methodologies** combining important key findings of their implementation in order to continuously improve the methodologies and the related actions.
- To **share best practices** and to combine resources by connecting with other important European alliances and networks.

Strong partnerships as a key ingredient for successful and effective support

The Alliance created a **reliable and resilient network connecting actors with the same understanding of the qualitative process** following a creatively and intelligently tailored approach. The uniqueness lays in its adaptability to individual challenges and needs of the companies to answer the challenges of the innovation process (e.g. time, cross-region) faster and more effectively. **Personal intelligence has been evaluated as a key resource** in order to go beyond just applying a methodology but to leverage projects and to transfer experience in order to upgrade projects and bring them to life. The Alliance has tested and validated an approach that successfully combined this personal intelligence with digital means. This recently gained increasing importance with the **emerging challenges of the COVID-19-pandemic** (e.g. restrictions for physical meetings, reduced mobility, uncertainty about available resources).

The legacy of the project is expressed in the many success cases that originated during the project lifetime and of which the following three highlight the importance of resilient networks:

- ➔ **Success Case 1:** The AMiCE support of the Slovak industrial waste recycling SME **Fecupral s.r.o.** in their innovation process is a good example of how cross-border collaboration and combining experts from multidisciplinary focus areas can bring new stimuli into that process and inspire for yet unexplored routes. All three challenges (lack of knowledge, access to relevant facilities, and partnerships) have been addressed through the project support scheme. The Alliance enabled the SME to codevelop different project ideas that are followed up by different innovation actors and Alliance partners in individual routes. AMiCE has qualified the scheme offered by Enterprise Europe Network (EEN) on innovation capacity building and thus proved that the Alliance's approach of connecting also with external networks is effective.
- ➔ **Success Case 2:** The Alliance identified innovation capacity within its own network and was able to connect a societal innovation need with the expertise of Alliance members. By applying the methodology e.g. by completing the partnership with external innovation actors and identifying appropriate funding schemes, the Alliance was able to develop a successful project proposal (**CENTAUR**) aiming at increasing the energy efficiency in several industry sectors through material and process innovation. Thus, another €2 millions of funding were acquired through the M-era Net scheme. This anticipated the opening of a research area in which subsequent project proposals are under development. This case shows also the importance to connect ideas/rules between different funding programmes (e.g. M-era Net, Cornet, Eurostar, Eureka, H2020) in order to tackle the innovation process from all perspectives.
- ➔ **Success Case 3:** The Alliance, furthermore, connected the Czech SME **ENTRY Engineering** to technical and business support organisation to support their innovation journey towards materials with intrinsic sensing properties. Those have the potential to enhance the safety of critical components in ground transports by monitoring their history (exposure to excessive thermal or mechanical stress, impacts, etc.). Linking these innovation actors allowed to develop a solid concept and led to the identification of a funding scheme that allows the exploration of the idea in an accelerated process while minimizing efforts and risks for the involved SMEs. A project application has been submitted, passed formal assesment, and is currently under final evaluation.

The efforts of the Alliance allowed to enlarge and upgrade the innovation ecosystem for SMEs in Central Europe. The Alliance joined forces with relevant European networks, initiatives, and associations such as the European Lightweight Cluster Alliance (ELCA), Enterprise Europe Network (EEN), Vanguard Initiative, European Advanced Manufacturing Support Centre (ADMA), ICT Innovation for Manufacturing SMEs (I4MS) among others which each tackle different organisational, political or technological challenges and thematic areas. By organising this collaboration in an effective way a holistic approach with a widened scope and increased innovation capacity and support resources was achieved.

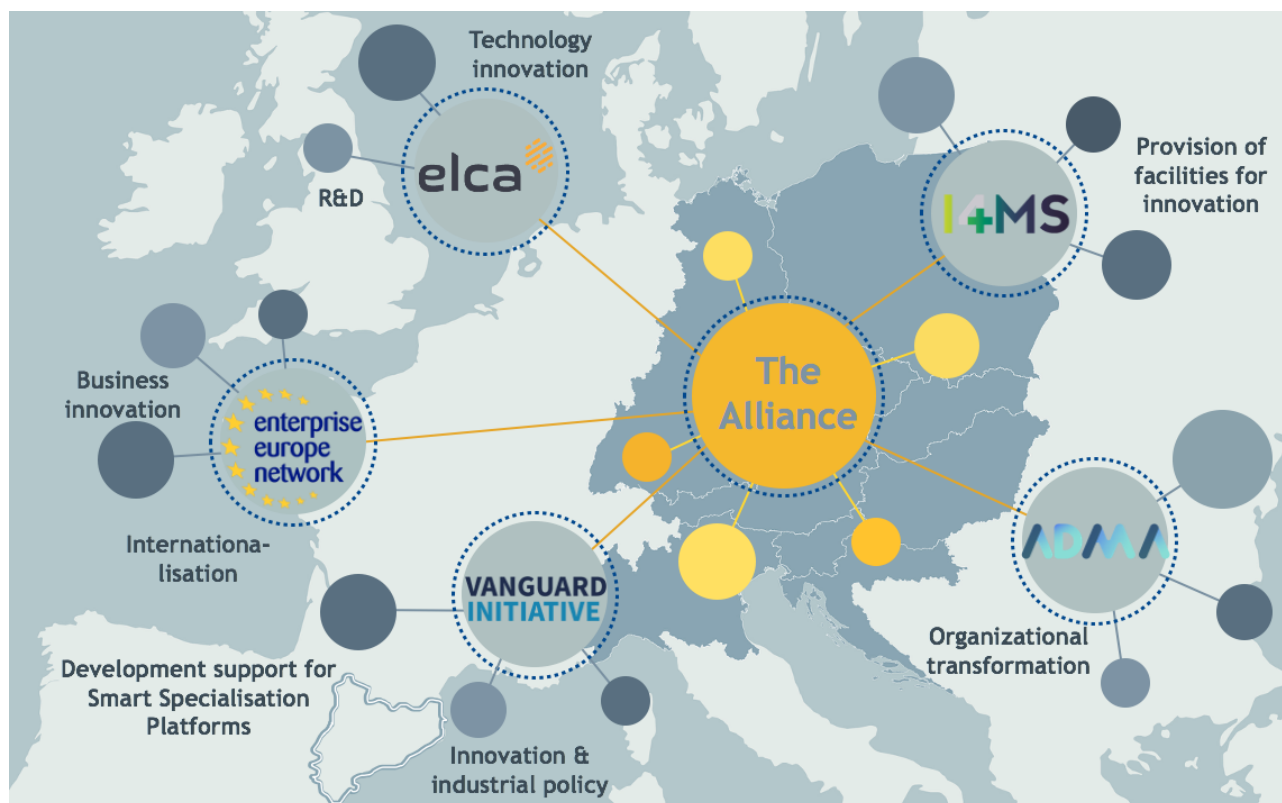


Figure 3 Building important strategic partnerships to create value

As the success of the Alliance is built upon those relationships and connections, policy actors and/or funding programmes can support such Alliances by laying a focus on **investing in cooperation culture & human relationships**. To ensure the continuation of their work, investments in people that are in key positions in the cooperation as well as **investments in operation capacity** are of paramount importance.

The continuing commitment of the original Alliance members combined with the important strategic partnerships and collaborations will ensure the long-term sustainability of the Alliance and thus continue to create further value for innovating manufacturing SMEs thus supporting the transition to a socially, economical and environmentally sustainable Europe.

For further information or to stay up to date with the work of the Alliance please contact:

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