

Internationalisation strategy of the Bioeconomy Cluster

Bioeconomy Cluster (BEC) is an association of legal entities which was established in December 2015 as a result of long term private business consulting, international networking and cooperation as well as knowledge of different policies. In addition, BEC is one of the results of the project Creation of the Research Centre “AgroBioTech” and its integral part “Transfer Centre” at the Slovak University of Agriculture in Nitra.

The main objective of BEC is the cooperation with practice and linking of practice with research and development. The members of the cluster are mainly the representatives of business – small and medium sized enterprises (SMEs) in the agriculture, food, forestry and other sectors of bio-economy, e.g. bioenergetics, biotechnologies, eco-construction, paper industry, biopolymers, biochemistry, phytopharmaceutical industry, waste management, etc.; the representatives of research, development and academia, representatives of regional and local authorities as well as representatives of the third sector.

In order to express the current position of the cluster in the international environment and to set goals for future international cooperation, the **internationalisation strategy of the Bioeconomy Cluster** has been developed. It contains the main measures to promote internationalisation as well as the milestones in the field of international cooperation which are being achieved by the cluster during its existence.

Internationalisation is an important aspect for BEC and its members. Individual businesses, especially SMEs, have to face complexities, the overcoming of which, when addressed individually, diminishes the gains in its result. SMEs may respond to these challenges through various ways. One option is to use business opportunities outside their home markets more intensively and more broadly, i.e. to actively participate in the process of globalisation. Another option is to strengthen their innovative capabilities in order to avoid price competition and to differentiate their products from those of the new competitors from abroad. Combining both strategies, internationalisation of innovation activities may be particularly beneficial to SMEs from European countries. The support of such activities is one of the main objectives of BEC in the field of internationalisation. Additionally, BEC assumes that networks and formalised clusters respond more effectively to these challenges using the cumulated knowledge, specialised professional assistance, network of international contacts, etc.

Thus, the internationalisation of BEC follows two perspectives:

- 1. Support to the internationalisation of individual cluster members (especially SMEs) by promoting their competitiveness using European instruments;**
- 2. Internationalisation of the cluster itself, focusing on cooperation and networking activities.**

As part of its internationalisation strategy, BEC has set out an **action plan** containing measures and instruments to achieve the main objectives of internationalisation. Some of the milestones have already been achieved and other measures are described in the following sections of the strategy, taking into account:

- *Geographical coverage* – internationalisation activities of BEC focus on cross-border cooperation, V4+ countries, Central Europe, selected macro-regions (Danube Region) as well as EU level (e.g. HORIZON 2020 projects). These geographical areas are further taken into account in the strategy while designing individual measures and areas of international cooperation.
- *Areas of cooperation* (policies, strategies, research, development, trade support, marketing, capacity building, etc.).
- *Instruments* (platforms, membership in committees, and evaluation of the cluster quality).
- *Financial programmes* (national, European).

The current state of internationalisation and planned activities

Since 2016, representatives of BEC have been working as experts in the **Strategic Working Group “Sustainable Bio-Resources for a Growing Bio-economy”**, which was established under the *Standing Committee on Agricultural Research* (SCAR). This working group discusses how renewable bio-resources can be sustainably produced for the bio-economy. In 2016, representatives of BEC attended the first meeting of this working group during Bratislava Bio-economy Conference, which took place within the Slovak Presidency of the Council of the European Union in October 2016 in Bratislava. The conference was organised under the auspices of SCAR and it was focused on the role of the EU regions in developing a sustainable European bio-economy. BEC aims to participate actively in the above mentioned working group, to attend its meetings and to use the obtained knowledge in its activities, as well as to apply the knowledge to the development of a national strategy for bio-economy.

Considering the area of policies and strategies, the membership in other committees is important to BEC, namely in the Steering Committee of the Priority Area 8 of the **EU Strategy for the Danube Region** (EUSDR) - Competitiveness and Cluster Development and participation in the working group “*Clusters of Excellence*”; membership in the National Committee of Priority Area 7 of EUSDR (Knowledge Society) and membership in the Monitoring Committee of the **Operational Programme Research and Innovation for the period 2014-2020**. This is achieved through the Union of Slovak Clusters. Membership in these committees and participation in their meetings and annual forums of EUSDR will also serve as one of the tools for developing cooperation and networking. The use of the Operational Programme Research and Innovation and its individual measures will also help to develop the competitiveness of individual cluster members, as well as the cluster itself.

Furthermore, regarding the policies and strategies, the areas of agriculture and biotechnologies have been included among the main areas of specialisation of Slovakia, which are defined in the *Smart Specialisation Strategy of the Slovak Republic* (RIS3). These areas were identified on the basis of an analysis of the development of Slovak economy, infrastructure and research and innovation capacities. In June 2017, the Government Council for Science, Technology and Innovation approved the *Implementation Plan* of RIS3, in which five domains of intelligent specialisation have been

defined. The topic of bio-economy is reflected within the innovation domain “**Healthy Food and Environment**”. This domain focuses on innovation and the competitiveness of the agricultural sector, forestry and wood processing. Representatives of BEC are members of the working group of the domain platform “Healthy Food and Environment” and in 2017 they participated in the kick-off meeting of this working group. By attending other meetings, the cluster will gain access to valuable information and, at the same time, it will be able to transfer its knowledge towards the strategy and its implementation.

An important milestone contributing to the development of the internationalisation of BEC and its members is the establishment of the **National platform AgroBioFood Nitra**, which was established in 2016 on the basis of the Memorandum of Cooperation between the Slovak University of Agriculture in Nitra, National Agricultural and Food Centre and Bioeconomy Cluster. The platform links education, research and business, i.e. the entities of the knowledge triangle; contributes to the promotion of innovation and to the transfer and implementation of R&D results and creates the conditions for engaging in international cooperation projects, transnational consortia, as well as in research and innovation activities and transfer of knowledge into practice. The platform was accepted by the Ministry of Education, Science, Research and Sport of the Slovak Republic as an official representative of the Slovak Republic in relation to European and international initiatives and programmes. By signing the memorandum on the establishment of the AgroBioFood Platform, the signatories are preparing to join the consortium created within **EIT Food** (European Institute of Innovation and Technology), while the aim of BEC is to become an associated partner in the consortium by 2018.

Regarding the practical cooperation, one of the main objectives of internationalisation of BEC is to bring up-to-date information on rural development opportunities, namely the possibilities of setting up Operational Groups within the **European Innovation Partnership** for Agriculture (EIP-AGRI). This can be achieved through the membership of cluster representatives in the *European Rural Networks' Assembly* (ERNA) – innovation subgroup. The aim is to support the creation of EIP-AGRI Operational Groups within Slovakia and to help integrate them in the **EIP Network**. The EIP-AGRI brings together innovation actors (farmers, advisers, researchers, businesses, NGOs and others) at EU level and within the rural development programmes (RDs). Together they form an EU-wide EIP Network. EIP Operational Groups can be funded under the RDs, are project-based and tackle a certain (practical) problem or opportunity which may lead to an innovation. Different types of available funding sources can help get an agricultural innovation project started, such as the European Rural Development policy or the EU's research and innovation programme HORIZON 2020. The EIP-AGRI contributes to integrating different funding streams so that they contribute together to a same goal and duplicate results. Application of the relevant measures of the Rural Development Programme 2014-2020 by the cluster members will enable to strengthen their competitiveness. Similarly, BEC will promote the engagement in existing EIP-AGRI Focus Groups, where future consortia for HORIZON 2020 are being formed.

An important part of the cooperation of research with practice is the cooperation with the **Research Centre AgroBioTech** and the **Transfer Centre** established at the Slovak University of Agriculture in Nitra. This research centre is equipped with state-of-the-art research infrastructure, thereby enabling the centre to conduct research at the highest level, applicable in practice. This helps to address the

specific problems and requirements of SMEs. In addition, BEC will also use the connections to the network of transfer centres in the Danube Region “**Danube Transfer Centre Network**”. These have been established in Cluj-Napoca and Bucharest (RO), Novi Sad (SRB), Maribor (SI), Vukovar (HR), Pannon (HU), Ruse (BG) and Bratislava and Nitra (SK). Cooperation with technology transfer centres will bring additional opportunities for cluster members and will help to develop their competitiveness, since it will enable them to find solutions to their specific challenges through innovation, knowledge and technology transfer between academia, R&D and business environment.

The core activities of BEC with regard to internationalisation include participation in international projects and financial programmes and schemes. Regarding the European programmes, **COSME**, **INTERREG**, **HORIZON 2020**, **International Visegrad Fund**, as well as the **European Structural and Investment Funds** will be of a particular importance for BEC in the future. Since BEC focuses mainly on enhancing the competitiveness of its members within its internationalisation activities, COSME will be a centre of interest as a programme allowing SMEs better access to finance and markets while promoting the improvement of the framework conditions for the competitiveness and sustainability of European businesses, business environment and entrepreneurial culture, including training, support to young entrepreneurs, B2B matchmaking events, mobility programmes, etc. Under HORIZON 2020, the support of innovation in SMEs is implemented through the “Industrial Leadership” pillar - within the SME Instrument, or through the calls “INNOSUP” – to better support innovation in SMEs. Whereas COSME focuses on providing growth finance for relatively mature SMEs, the development of better framework conditions for SME growth in the context of industrial change – through clusters and in sectors of strategic interest and access to markets, HORIZON 2020 offers a series of integrated measures aimed at supporting SMEs throughout the innovation cycle, in view of promoting their growth and development.

Since its establishment, BEC has been involved in several projects. Project **KETGATE** financed under the INTERREG Central Europe programme 2014-2020 was approved in 2017. BEC is an associated partner in this project, with Steinbeis Europa Centre as a lead partner. The main objective of this project is to make Central Europe a model region for an access and service network for SMEs to bring smart solutions from idea to market readiness. Smart solutions derive from applying key enabling technologies (KET) such as micro-nanoelectronics or optical technology compounds and advanced materials, etc. This project should enable SMEs to bring smarter solutions quicker to market, leveraging private and public investments and supporting the dynamic development of KET know-how and application in Central Europe.

In addition, BEC was directly involved as a beneficiary in two other projects focused on bio-economy financed under INTERREG Danube Transnational Programme 2014-2020. The first project is **DanuBioValNet** led by BIOPRO Baden-Württemberg GmbH (Germany), which is aimed at facilitating eco-innovation in the bio-based industry by improving framework conditions and making better use of clusters, potential and diversity of the Danube Region. Another project led by Steinbeis Europa Centre is **Made in Danube**, aimed at improving framework conditions for innovation, enhancing SME competitiveness and collaboration activities in the field of bio-economy in the Danube Region and improving the collaboration between research organisations and companies. In 2017, BEC was involved in the preparation of the project **Danube S3 Cluster** as well. This project is aimed at smart specialisation strategies and linkages to clusters in the Danube Region countries. Participation of BEC

in projects, whether as a regular or an associated partner, may lead to gradual build-up of references and reputation of the cluster in international environment.

Regarding the tools which will be used by BEC in networking activities and development of international cooperation, the membership of the cluster in various European online cluster platforms and initiatives will be important. Since 2016, BEC has a profile on the **European Cluster Collaboration Platform** (ECCP). ECCP provides networking support for clusters (organisations and members) aiming to improve their performance and increase their competitiveness through the stimulation of trans-national and international cooperation. This platform contains a lot of information, e.g. about open calls, performs mapping of clusters and covers interesting matchmaking events. It serves as a tool for partner search using different filters, such as key words, types of collaboration, on-going calls, country, sector, some of the priority areas of EU within the smart specialisation strategy, etc. BEC is also a subscriber to the regular ECCP newsletter, which is also a source of valuable information.

Another tool to promote internationalisation is the **TCI Network**, a global network of experts (persons and organisations) with the common objective of making their regions and clusters more competitive. This aim is fulfilled by organising matchmaking events and various conferences, study visits, staff exchange, mentoring programmes, regional initiatives and projects. Further, the **Enterprise Europe Network** (EEN) also covers numerous matchmaking events across Europe. Moreover, EEN provides advice on application and implementation of projects in community programmes, helps to find business partners in more than 60 countries around the world, where EEN has its offices, supports the development of innovation and technology transfer, etc. The above mentioned platforms and networks will be used by BEC as a source of information about events. BEC will use these tools when searching for partners for the cluster and its members (using business, technology, research and innovation profiles), as well as for improving cluster recognition in the international environment.

One of the other objectives of BEC related to internationalisation is the gradual achievement of cluster excellence, which can also be expressed through Bronze, Silver and Gold label. These are so called quality labels awarded by the *European Cluster Excellence Initiative* (ECEI). While the Bronze label is not a quality label in the narrow sense, it just demonstrates that a cluster management is interested in improving its management performance, the Gold and Silver labels are quality labels based on very high standards of cluster management practice. The objective of BEC is to undergo the benchmarking of the European Secretariat for Cluster Analysis (ESCA) and to get the Bronze label by 2018. Cluster management organizations that are benchmarked demonstrate their interest in striving for excellence. Each cluster is analysed based on an interview of the cluster manager conducted by an impartial ESCA benchmarking expert. The interview covers 36 indicators with regard to the structure of the cluster, the cluster management and the governance of the cluster, financing of the cluster management, services provided by the cluster management, contacts and interaction within the cluster and achievements and recognition of the cluster. Results are presented by an individual report to the cluster management and include also recommendations for further improvement in line with the requirements of the cluster quality label that is currently developed by ECEI.

Internationalisation of BEC and its members covers:

- **Promotion of competitiveness of individual cluster members, especially SMEs** – in pursuing this objective, BEC will focus on using a wide range of SME support through European policies, using tools such as COSME, matchmaking events, etc. The support includes penetration to new international markets, the acquisition of new customers, the offer of new products, services, technologies, the enhancement of participation in global value chains, the promotion of cooperation with other SMEs or R&D, etc.
- **Access to up-to-date information, themes, trends, policies and strategies in the field of bio-economy**, which are most discussed at European level and which are being paid increased attention – the main sources of such information are personal contacts of cluster management with foreign experts and policy makers; participation and presentation of the cluster and its members within existing platforms, initiatives, networks, committees, etc. In addition, a lot of information is gathered through regular newsletters from various institutions and organisations.
- **Participation in international events, conferences, workshops** – interesting information is gained in these events and potential future partnerships with international partners are built (with entrepreneurs, other clusters, universities, R&D organisations, etc.). These events also provide space for the presentation of the cluster at international level. This allows increasing the awareness of the activities of BEC and its members and building the reputation of a strong and innovative cluster what may further lead to the acquisition of other potential partners.
- **Capacity building** – this involves the participation of cluster management, as well as individual cluster members in different types of education activities, seminars and trainings and thus, the increase of competences in different fields.
- **Participation in international projects** – this includes projects for the cluster as well as the involvement of cluster members in international projects and partnerships, which may help them to promote innovation, to transfer knowledge and technologies, to solve individual problems and consequently to increase their competitiveness.
- **Preparation of innovative projects** – for example, projects under the Operational Programme Research and Innovation.
- **Involvement of foreign R&D entities, researchers and access to infrastructure** – this supposes the use of international R&D infrastructure, technology transfer and the related development of innovation potential and excellence. Established contacts of the cluster on foreign experts in various fields and facilitating consultations for cluster members will bring added value to solving individual problems of the members.
- **Marketing, awareness raising and increasing the attractiveness of the cluster and its members at international level** – benchmarking and/or assessment of various aspects of the quality of cluster management is currently becoming very important. The European Commission puts great emphasis on the internationalisation of clusters as well. This is demonstrated by the fact that the indicators of the European Cluster Excellence Initiative which must be fulfilled to achieve Bronze/Silver/Gold label include a number of indicators related to internationalisation (e.g. cluster website in foreign language, participation and presentation of the cluster at foreign trade fairs, conferences, cluster branches or permanent representation abroad, etc.).

- **Networking with other clusters** – especially with clusters of a similar thematic focus, but also developing cooperation across sectors and technologies. This include, for example, mutual exchange of information, organisation of events (matchmaking events), and study visits, preparation of joint projects, etc.
- **Acquisition of foreign partners/members** – in the future, foreign entities could become the members of the cluster. This will strengthen the position of the cluster in international environment and extend its reach beyond the borders of Slovakia, thus extending the base of potential partners and members.

Action plan of internationalisation of BEC – summary of main points:

- *The European Rural Networks' Assembly (ERNA)* – membership in the innovation subgroup – BEC will support its member SMEs in setting up the EIP-AGRI Operational Groups within Slovakia and integrating them into the EIP Network.
- *Engagement in EIP-AGRI Focus Groups* – BEC will support engagement in the EIP-AGRI Focus Groups.
- *Standing Committee on Agricultural Research (SCAR)* – since 2016, representatives of BEC have been involved as experts in the Strategic Working Group on Bio-economy; the aim is to actively participate in this working group and to transfer knowledge to the activities of BEC, as well as to the development of a national strategy for bio-economy.
- *Membership in the Steering Committee of Priority Area 8 of the Danube Strategy (Competitiveness and Cluster Development)* – participation in the Working Group “Clusters of Excellence”; *membership in the National Committee of Priority Area 7 of the Danube Strategy (Knowledge Society)* – the established contacts and the information obtained will be used especially in the development of cooperation, international projects and networking of BEC.
- *Membership in the Monitoring Committee of the Operational Programme Research and Innovation for the period 2014-2020* (through the Union of Slovak Clusters) – BEC will contribute to the formation of cluster support in Slovakia.
- *Smart specialisation strategy of Slovakia (RIS3)* – membership in the working group “Healthy Food and Environment” since 2017; BEC will gain access to information on policies and strategies in the field of bio-economy and it will put particular emphasis on promoting the role of bio-economy as a priority for Slovakia.
- *National platform AgroBioFood Nitra* – established in 2016 on the basis of a Memorandum of Cooperation between the Slovak University of Agriculture in Nitra, National Agricultural and Food Centre and BEC; preparation for joining the EIT Food consortium; BEC aims to become an associated partner in the consortium by 2018.
- *Cooperation with transfer centres* (Transfer Centre at the Research Centre AgroBioTech in Nitra, Danube Transfer Centre Network) – knowledge transfer between academia and cluster members (SMEs) leading to the development of innovative activities and competitiveness of cluster members.
- *Participation in international projects* – since 2016, BEC has been involved in the preparation or implementation of 4 projects within INTERREG (European Territorial Cooperation); in the framework of European innovation programmes, COSME and HORIZON 2020 will be of particular importance to BEC in the future.

- *European Cluster Collaboration Platform (ECCP)* – BEC has a profile on the platform since 2016; other platforms and networks will serve as a source of information in the field of international cooperation and networking. The aim is to engage more actively in these platforms.
- *Ensure the awareness of cluster members* – BEC will provide access to up-to-date information in the field of bio-economy for its members, while utilising all available resources (personal contacts, participation in events and projects, etc.).
- *Access to international events* – BEC will participate in major international events focused on bio-economy and will provide information about the events to its members.
- *Cluster benchmarking* – Bronze label to be acquired by BEC by 2018.