

## **1) Gather information about the problem**

Within our research we identified three main problems within R2B/B2R cooperation in the Slovak COs: (1) Missing legislation, (2) Missing support and financing of R2B/B2R cooperation, (3) lacking trust among COs' partners

These issues have existed since the beginning of the establishment of clusters in Slovak Republic. Since 2004, none of any governments has made the necessary changes in this area and individual clusters have been more or less dependent on their own help and assistance.

Some of these issues are not in the government's competency to be changed, although indirectly the legislative changes, especially in the field of universities, could help to increase flexibility within the universities' management and thus remove some of the difficult administration in their environment. This environment is incomprehensible for business entities, and they expect a prompt solution to the issue in the shortest possible time, which the bureaucratic apparatus of the University does not make possible. The weak trust between the business community and the UNI is due to the wrong perception of UNI to be just purely theoretical and not practical institutions. Second source of mistrust is in differences in culture and administration systems in RI and UNI.

At the national level, there are mainly the ministries that contribute to the development of clusters and their competencies differ in different forms of support. These include e.g. Ministry of Economy of the Slovak Republic, Ministry of Education, Science, Research and Sports of the Slovak Republic, Ministry of Transport and Construction of the Slovak Republic, Ministry of Culture of the Slovak Republic, Ministry of Investment, Regional Development, and Informatization of the Slovak Republic and Ministry of Agriculture and Rural Development of the Slovak Republic. Among other institutions currently dealing with issues such as cluster cooperation and cluster support we can include the Slovak Innovation and Energy Agency (SIEA), the Slovak Business Agency (SBA) and the Slovak Investment and Trade Development Agency (SARIO), which cooperated with clusters on various projects or educational activities. In 2010, the Union of Slovak Clusters (UKS) was established as an interest association of legal entities to support the development of clusters and cluster policy in Slovakia. It is the only organization representing clusters in Slovakia. It currently has 16 members, but is not the implementing agency for cluster policy, despite its prerequisites.

## **2) Strategically engage stakeholder**

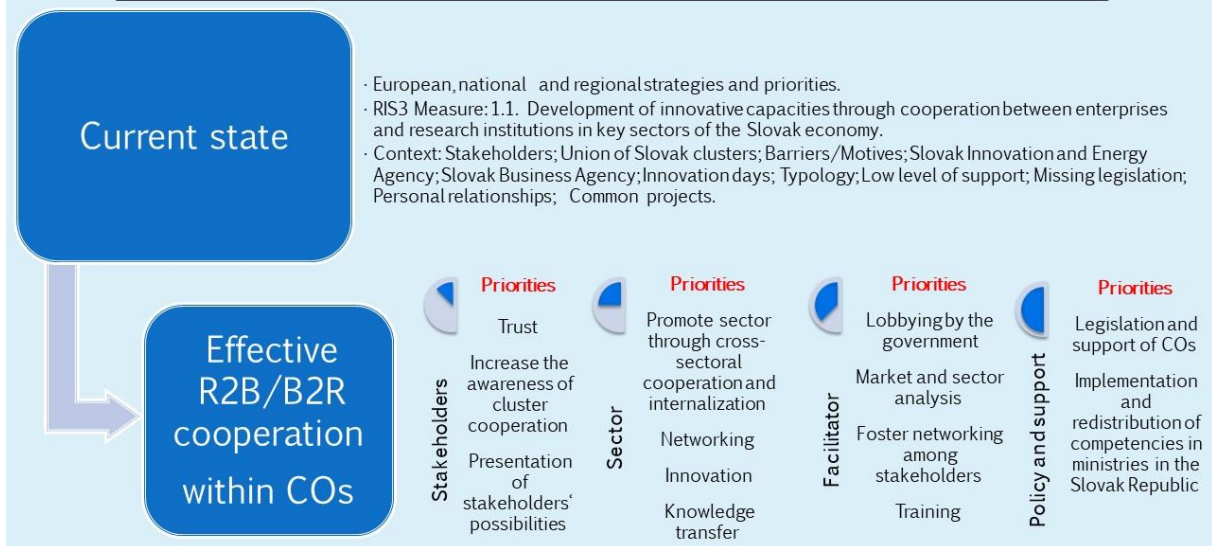
The main engaged stakeholders strategically connected in the R2B/B2R cooperation are universities, research institutes and SMEs. The cooperation of COs' stakeholders with universities and research institutions that generate access to new knowledge, cutting-edge technology, state-of-the-art professional/research facilities, and complementary know-how is very significant. Research capacities already exist within universities, and it is possible to implement the results of cooperation into practice. Businesses have the possibility to carry on by pushing the cooperation results to be placed on the market. Cluster representatives are aware that they do not yet have such a strong market position to influence the promoters of individual agencies or grant agencies, institutions to implement research and new research programs into industry according to practice needs. Despite this fact, the COs' collaboration with RIs and universities is very important. The R2B/B2R cooperation through the COs improves communication between cluster members and cooperation while using experts. The cooperation is important also for researchers. The opportunity to expand their collaborative network and to connect with practice are important motives for R2B/B2R cooperation. What is currently required from academic institutions is that not only research but also the teaching process should be strongly linked to practice. The key issue is networking. Universities, when carrying out projects, want

the results to be disseminated. This is possible to use the platform of clusters, through which it is possible to commercialize the outputs, and results. For universities on their own, based on the current legislation, this process is quite complicated. Cooperation between clusters and universities is not on stable basis, but arises on the basis of needs, either from the cluster members (business entities) that are in the cluster, or on the basis of a call. For researchers, the main area of R2B/B2R cooperation is the area of joint research projects, which help to solve problems faced by business organizations within the cluster, whether this is through projects or by addressing direct requests from cluster members through the cluster manager. These solutions take place in different ways - cooperation in terms of the elaboration of final theses (Bc., Master., PhD.) - links with practical issues are used. The most important projects for researchers as the most relevant collaboration forms are the international research projects. Collaboration is facilitating by equipment, communication among cluster members, mutual trust and personal relationships among cluster members, improved reputation and other opportunities. The equipment plays a major role, however in the field of research and some areas of industrial production the costs to establish research centers are very high, there it is what universities can offer to COs. The cooperation is much easier also due to the mutual trust between cluster manager and researcher and communication. The COs are established and developed in regions and the distance among regions is tight due to the fact that Slovakia is a small country, which facilitates both communication and collaboration. The interaction between university and industry is an essential element of two-way transfer, knowledge and information transfer. Theoretical on the part of universities and practical market experience on the part of industry. The cooperation is also affected by hinders. The most important are the system of work in RI/UNI and private entities. There are many issues related to organizational structure (administrative structure of RI/ UNI and company structure), financial resources, administrative complexity and complexity of processes within universities compared to industry, which affected R2B/B2R cooperation.

### **3) Develop roadmaps (long-term/short-term steps)**

Based on the research results, we concluded that the main issue in Slovakia in the field of B2R/R2B is the lack of cluster policy and the lack of interest in clusters support due to the low awareness of competent authorities regarding the significance of this kind of cooperation. Creating an initiative of COs groups/associations is necessary and through them to make pressure on legislative bodies, possibly using the existing structure in the form of the Union of Slovak clusters (USK). The USK should create a special team that will focus on communication and lobbying in the field of R2B/B2R support towards the government. The creation and design of a cluster policy based on mutual communication between the Ministry of Economy and COs representatives is required. The Ministry of Economy should initiate the legislative process based on the requirements of the COs. Cluster policy and cluster support in Slovak Republic, the implementation and redistribution of competences within the ministries in Slovak Republic is the step, which is in the end of this road map in connection with legislative regulation of cluster policy (CP) in the legal system of Slovak Republic.

## SLOVAK COs' R2B/B2R COOPERATION ROADMAP



### 4) Policy recommendations

The results of the conducted research brought several recommendations for CP implementation in Slovakia:

- COs require a specific approach to the support both from a regional and national perspective. The issue of functioning and support of COs is incorporated in various programs and strategic documents, but it lacks a unifying element being embedded in legislation.
- A suitable subsidy policy to support the networking of stakeholders and the extension to other actors, especially SMEs.
- Supporting the universities (UNIs) by establishing an evaluation criterion that recognizes the involvement of UNIs in CO or the research results transfer into practice.
- Supporting the smaller and shorter projects to strengthen and build existing trust in COs that are at an early stage of their development in R2B/B2R collaborations.
- Assigning the competences to an NGO acting as a facilitator and assisting the COs in their commercial development - since the COs lack a sufficient level of knowledge and experience.
- Universities and research institutes can also take a proactive stance, especially by initiating cluster programs and innovations
- Universities should make their R&D&I focus and capabilities more visible.