

CLUSTER POLICY REPORT

V4 CLUSTER POLICIES AND THEIR INFLUENCE ON THE VIABILITY OF CLUSTER ORGANISATIONS

CLUSTER POLICY IN THE SLOVAK REPUBLIC

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I. INTRODUCTION

As cluster policy has been recognised one of the basis for building the competitiveness of Europe through excellence and innovation, it counts among the strategic priorities of the European Commission. The European Union's desire to make Europe the most competitive and dynamically developing area has resulted in stimulation of innovations and mobilization for cluster concept development. Therefore, numerous initiatives have been launched in this direction. The EU has based its cluster policy on activities focused on the creation of an environment favourable for cluster development, i.e. ensuring appropriate financial instruments and improvement of coordination channels, supporting science-education-industry cooperation. The levels of intensity of the undertaken activities and models of implemented cluster policy in the member countries, however, vary significantly.

It is no matter of doubt that clusters are first of all the phenomenon arising from the needs of the market. Nevertheless, the intervention from public sector is desirable if enabling a better and more effective use of the clustering potential. Well-functioning cluster organisations are conducive to structural changes and general improvement of competitiveness, better exploitation of the innovative potential of SMEs and the bridging of the industry-academia gap while the role of competition is not undermined. Therefore the cluster policies should be more strategic, focused on cluster management professionalization including, among others, the financial needs of the cluster organisation operation.

The efforts of the European Commission to develop and upgrade the cluster policies have been numerous. Based on the European Cluster Memorandum and a Commission Communication on clusters in 2008, the cluster development programmes were reinforced by the European Cluster Policy Group (ECPG) establishment. The 18-months work of 20 partners led by Dr. Tea Petrin, the former Slovenian Minister of Economics, was topped by policy recommendations towards the Commission and also the Member States level¹. The latter included the task to encourage better cluster programmes at the EU Member State level and streamline EU funding for clusters by creating a unified set of administrative procedures. The idea of a common/shared approach was considered to take place in this recommendation, in particular, the method of open coordination (OMC), i.e. the facilitation of the best practice learning between member countries to enhance the quality of these programmes.

Subsequently, the European Cluster Alliance (ECA - established by the EC in 2006) elaborated the overview of international good practices named "The Use of Data and Analysis as a Tool for Cluster Policy"². Next to the definition of the cluster policy that refers to the range of actions aimed at improving cluster performance, the notion of a fact-based cluster policy was applied by the ECA. Hence, policy is said to be fact-based when it is derived – in part – based on concrete and measurable information or data. In other words, it is necessary to have common methodology for cluster-benefits assessment to ensure a good cluster policy.

¹ European Cluster Policy Group (2010) Final Recommendations - A Call for Policy Action.

http://www.clusterobservatory.eu/common/galleries/downloads/ECPG_Final_Report_web-low1.pdf

² European Cluster Alliance (2009) The use of data and analysis as a tool for cluster policy. An overview of international good practices and perspectives prepared for the European Commission.

The countries of the Visegrad Group (V4) have been developing their national cluster strategies individually, losing the opportunity to learn from each other, share the capacities, create synergies and interlink the cluster policies structurally. The ClusterCOOP Project³ (2011-2014) tried to enhance synergies among national/regional cluster policies and funding frameworks in CE countries. The project “V4 cluster policies and their influence on the viability of cluster organizations” financed by Visegrad fund and includes partners from all V4 countries follows the idea to exchange knowledge and experience to improve national and regional cluster policies in V4 countries.

In the Slovak republic the clustering issues take on added significance only in last decades. The clusters are formed on a “bottom-up” principle, which means, that their formation is mainly dependent on voluntary of clusters’ participants. The main problem is the lack of legislation, which adjusts the existence and functioning of clusters and how they are supported from the national level or as well as level of the European Union. In the Slovak Republic the first issues of cluster cooperation were elaborated in documents that were focused on innovation. Basic documents which strategic objective was to achieve, that the innovation are one of the main tools of knowledge economy, were the Innovation Strategy of SR for the period of 2007- 2013⁴ and Innovation policy for the years of 2011 - 2013⁵ and the Innovation policy for the years of 2008 – 2010. First cluster was established in 2004. In this period, there weren’t created support mechanisms for clusters in Slovakia, but nevertheless there were spontaneous formations of various types of clusters with main goal to develop of various sectors. Important stakeholders that significantly support the development of clusters were self-governing regions, which became donors of their early stages. The established clusters demonstrated its viability in term of real market and nowadays the area of clustering is very lively and diverse. We have observed that in Slovakia from 2004 till 2016 were established more than 50 various cluster initiatives in several economic branches, but only 25 of them we can consider as real functioning clusters. In the frame of this project we also found out that in Slovakia is low level of awareness about meanings of cluster policy among politicians, both at national and regional level. As show the results of other V4 countries it is necessary to fulfil basic preconditions for creation of holistic cluster policy and strategy. In Slovakia the environment for cluster policy has been created. We have authorities and bodies at national level that can take responsibility for creation of holistic cluster policy and strategy. We also have experience with straight support of industrial cluster organizations and for programming period the main strategic documents at national level are in high quality and contain the mechanism for clusters’ support. But in comparison with other V4 countries the real implementation of these documents is at low level.

The report is divided into seven chapters. After “Introduction” the Chapter II defining general aspects of the cluster policy and introducing a smart cluster policy model is following. The unified methodology, introduced in Chapter III, was applied by all project partners. Chapter IV contains the analysis of development and current situation of cluster policy issues in the Slovak Republic covering the dimensions of governments and agencies supporting cluster organisations development within the national and regional dimensions, and the level of cluster organisation

³ www.clustercoopproject.eu

⁴ Inovačná stratégia SR na obdobie rokov 2007až 2013. available at:

<https://www.vedatechnika.sk/SK/VedaATechnikaVSR/SDokumenty/Forms/Strategick%20dokumenty.aspx?RootFolder=%2FSK%2FVedaATechnikaVSR%2FSDokumenty%2FInova%C4%8Dn%C3%A1%20strat%C3%A9gia%20SR%20na%20roky%202007%20-%202013&FolderCTID=&View=%7B43D56EB8-1DB2-45EA-B447-F1DC5DB308F6%7D>

⁵ Inovačná politika na roky 2011 – 2013 available at:

https://www.siea.sk/materials/files/inovacie/dokumenty/IP_2011_2013.pdf

managers. Cluster policy in the Slovak Republic was compared with results of analyses in other V4 countries. On the basis of analysis of cluster policy approach (summarized in SWOT analysis, best practices and success story in Chapter V) in the Slovak Republic and comparison with the smart cluster policy model and experience of project partners' countries, recommendations for improvement of the Slovak cluster policy have been prepared and described in Chapter VI. Chapter VII concludes the project results and benefits for Slovak cluster policy.

II. THE GENERAL ASPECTS OF THE CLUSTER POLICY

2.1 THE DEFINITION AND TYPES OF CLUSTER POLICIES

Cluster Policies can be defined as specific governmental efforts aimed to support clusters. According to the European Cluster Alliance, these governmental efforts can be sorted into three categories⁶ (similar classification was provided by Oxford Research AS⁷):

1. **Facilitating policies** that are directed towards creating a favourable microeconomic business environment for growth and innovation. Support from the public sector tries to enhance the specific conditions that could improve a cluster's performance (e.g. regional cluster policy stimulating the mapping, facilitation and formalisation of cluster initiatives).
2. **Traditional framework policies**, such as industrial and SMEs policies, research and innovation policies, and regional policy often use the cluster approach to increase the efficiency of a specific instrument (e.g. R&D and/or SMEs support through clusters).
3. **Development policies** aim at creating, mobilising or strengthening business strategies and co-operation between organisations and people through knowledge sharing at a regional or cluster level. The public sector can support particular clusters through broader programmes (national funding competition for cluster organisations) or directly, by target specific clustering efforts (e.g. the Finnish centres of expertise programme to increase the regional specialisation or the strategic centres for science, technology and innovation – SHOKs - to carry out shared research).

2.2 THE RATIONALE FOR SMART CLUSTER POLICY

When assessing the consistency and continuity of a cluster policy considering the cluster development stage aspects, we can discover an important dimension of a cluster policy - a **consistent and continual cluster policy** that should be aware of the needs of each cluster life cycle segment and should react on them in a systemic way:



In many countries the cluster policies show disproportions in consistency and continuity of the systemic and financial support throughout the cluster development stages:

⁶ European Cluster Alliance (2009) *The use of data and analysis as a tool for cluster policy. An overview of international good practices and perspectives prepared for the European Commission.*

⁷ Oxford Research AS (2008) *Cluster policy in Europe. A brief summary of cluster policies in 31 European countries. Europe Innova Cluster Mapping Project, Norway.*

- a) **Failure in keeping on the started initiative:** Developing/transition countries receiving foreign economic aid for cluster development do not continue it on their own, clusters fall out of the agenda of the governments after the external financial aid is terminated:



- b) **Concentration on cluster organisation only:** Countries with a long-term cluster policy underestimate the necessity of updating the cluster mapping and professional facilitation of cluster actors before the cluster organisation is established; low or not existing cluster governance on regional level (no funding for the “incubation” of the cluster organisation) and little care of the cluster managers’ position consolidation both financially and professionally (no training and/or mentoring/coaching capacities):



Aiming at the general functionality, broad exploitability and comparability of the state-of-the-art cluster policies in the Visegrád countries, the model of the **V4 Smart Cluster Policy** is proposed to be designed and piloted for a common use within this project. The smart cluster policy should identify the principal feedback and policy impact evaluation mechanisms so that it can permanently **balance the extended public inputs** (such as awareness and capacity building, training, operational funding, development programmes, supportive infrastructure, system of governance and evaluation mechanisms) according to specific needs of each phase and segment of the cluster development stage **with the expected cluster outputs** (e.g. cluster performance, employment and innovation, competitiveness and overall economic growth).

In its final upgrade, the Smart Cluster Policy can serve as an auto-corrective tool for the policy-makers and relevant cluster stakeholders in terms of demonstrability of the cluster concept performance and justification of public investment in it.

2.3 THE SMART CLUSTER POLICY MODEL

The Smart Cluster Policy Model (SCPM) issues from the identified deficits of the existing cluster policies causing that the potential of the cluster concept in favour of social capital creation, economic growth, competitiveness of businesses and regional development is not fully exploited.

The SCPM approach requires that the national/regional cluster policy documents and the related financial tools - the cluster-devoted funding programmes, embody the maximum understanding of the cluster concept, sensible attention to the needs of the cluster development stages and provide tailored measures for keeping all the cluster processes at the highest level of the benefits and welfare generation. Thus, the SCPM represents the principal exigencies for the cluster policy's attainment of the ideal – most productive shape.

The following three aspects of cluster policies were taken into account when constructing the SCPM and designing the eight indicators for its assessment (in italics):

- A. The time aspect of the SCPM postulates a long-term period of validity of the cluster policy and active attention to it in terms of up-dating the relevant government documents and programmes to keep them on the state-of-the-art level. The time aspect is reflected in both the Durability indicator of the cluster policy measuring in the length of the time span of the document/programme operation (long-term, mid-term and short-term duration) and the Continuity indicator expressing the confirmation of the governments positive attitude towards the cluster policy issue being, in the ideal case, the permanent part of the policy-making tools with regular updates to follow the new needs and context of the cluster policy.
- B. The executive aspect of the SCPM is enlightened in three dimensions showing whether:
- a) the national/regional government recognizes the importance of the cluster policy issue in the most adequate way, i.e. devotes the cluster issue an independent or autonomous document/programme. The Autonomy indicator then expresses the degree of the focus on the cluster policy topic showing if the policy document/funding programme is exclusively devoted to it or, in less favourable cases, is a part of a broader/similar policy but with a corresponding proportion of the cluster policy focus, or the cluster issue is only generally mentioned without any specifications. If the cluster policy document is autonomous (not part of other policies/programmes), which is the condition of the SCPM, it gives better prerequisites for its effectiveness and up-grades.
 - b) the cluster policy is firmly anchored in the government system through relevant institutional measures ensuring that the cluster policy document/programme is fully operable - as determined by the Functionality indicator:
 - vertically, i.e. it has been adopted by the government as a government decree (or similar high-level policy document) or, in less favourable cases, as a strategic document or methodology with medium or low/no effectuality;
 - horizontally, i.e. it has a general force across the sectors of the governmental departments (i.e. industry, agriculture, services etc.) vs. some sectors only or limited to one sector;
 - functionally, i.e. the implementation of the policy is fully working in accordance with the planned scheme.
 - c) there is a clearly entrusted governance body for the cluster policy development, implementation and monitoring, which is incorporated in the Viability indicator. Here, the premise is used for the SCPM that there is an exclusively established institution (which used to be the case of the Hungarian "Pole Office") or, in less favourable cases, the cluster policy implementation is incorporated within duties of an existing interdepartmental body or only one ministry. The existing allocation of financing from the public budget is also an important criterion of the SCPM to be measured by the Viability indicator.
- C. The thematic aspect of the SCPM concentrates on the scope and content of the cluster policy document/programme with the aim to embrace all the now known needs and supportive activities to ensure the full use of the holistic nature of the cluster concept:
- a) The SCPM builds on the fact that a cluster can appear in any industry and be the specific competitive advantage of the given territory, so the inclusion of all government sectors and industries in the cluster support scheme is the necessity.

Thus, the **Integrity** indicator for the SCPM should state the maximum degree of covering the sectors of public administration and the industries (no matter if traditional, such as automotive, or from technological or service/creative industries etc. including emerging and cross-sectoral industries) with no limits.

- b) One of the most important aspects of a good cluster policy is to understand the needs of individual cluster development stages (cluster, cluster initiative, cluster organisation, cluster management, cluster governance) and offer each stage the necessary support. The **Complexity** indicator of the SCPM then analyses to which extent the following development segments of clusters are taken into account within the cluster policy structure and related measures (including involvement of expert capacities and budgeting the relevant financial resources) concerning:
 - i. **Cluster mapping and analysis** (statistics, desk research and interviews);
 - ii. **Cluster Initiative development** (cluster actors facilitation stage towards the cluster organisation establishment);
 - iii. **Cluster organisation incubation** (the start-up support for the cluster management capacity building, joint projects of a smaller scale);
 - iv. **Cluster organisation development** (R&D and internationalisation-focused joint projects, cluster management excellence);
 - v. **Cluster governance** provided by the government/delegated authority influencing all of the previous segments if efficiently performing.
- c) The SCPM finally assumes that the cluster policy document/programme includes all the currently known and suitable supporting activities that can lead to the best performance of cluster organisations as the resulting structure of the whole cluster development efforts and investments. Thus the **Consistency** indicator of the SCPM detects the degree of the provision of the maximum of the supportive measures and actions that the public sector institutions (policy-makers) can/should offer within their governance to assist and optimise the cluster policy with the conscious goal to receive the best quality on its output. Among the desirable supportive measures there are:
 - i. The **national accreditation scheme** for cluster organisations, or a similar system, i.e. the cluster organisation's performance assessment based on a set of unified parameters for categorising the capability of cluster organisation to achieve the strategic goals and capitalise the public support efficiently);
 - ii. **The training schemes for cluster stakeholders** targeted at cluster analysts, cluster facilitators, cluster managers and the cluster organisation staff, cluster governance representatives and other actors of the regional/national cluster-relevant development and innovation infrastructure, including the availability of experienced lecturers and trainers;
 - iii. **The cluster concept awareness building** – the basic good that the policy-makers can do for clusters – to inform about them and communicate their successes, benefits, examples worth following and the best practices in all five types of cluster organisation activities (i.e. information & networking, HR development, R&D and innovation projects, PR & marketing and internationalisation) in the form of conferences and other public events, cluster managers meeting and cross-cluster matchmaking, publications and various media outputs. Many regional

governments lack the proper understanding of the role of clusters in competitiveness improvement and how they can contribute to it.

Those countries that already have adopted and apply cluster policies can check their cluster policy “smartness” level through the screening exercise shown in the Methodology Guide of the V4ClusterPol methodology document, find possible deficits and introduce necessary changes to eliminate them.

Those countries that are in the stage of the cluster policy preparation may base the concept on the Smart Cluster Policy Model to avoid the deficits of the policy in its implementation phase.

The following messages to policy-makers and public sector officials highlight their desired role in the Smart Cluster Policy:

- *Act as a careful manager and sophisticated client - the “revealing” of existing clusters should be considered as a part of the government due diligence of the territory administration – clusters are the regional assets that wait for capitalisation.*
- *Build on local differences - prove the competitive advantage through the cluster mapping and cluster analysis tools, include the emerging and cross-sectoral industries.*
- *Understand which industries cluster and how to smooth the way to cooperation and trust among businesses through the cluster initiative and the cluster actors’ facilitation tools.*
- *Recognise the cluster development stages - differentiate actions in line with the needs of each stage – provide measures and funding that ensure the consistency and continuity of the cluster policy.*
- *Foster the dialogue between firms and government through a cluster organisation – perform the cluster governance in line with the region’s needs.*
- *Gain more through measuring, monitoring and evaluation!*

III. RESEARCH METHODOLOGY

3.1 THE ANALYSIS OF DEVELOPMENT AND CURRENT SITUATION IN THE INDIVIDUAL COUNTRIES

The analysis of development and current situation in the individual countries has been carried out by individual partners on behalf of their country. The project leader provided the guidelines for each step of the analysis in the most practical way (clear instructions in written, outlines for text descriptions, questionnaires for interviews, templates for collection of data, the required format of answers and the assessment) and in a due time before the start of each phase of the analysis.

The unified methodology of the research has been applied in each of the partners' country covering the following dimensions:

THE LEVELS OF THE ANALYSIS

- i) The level of governments and agencies supporting cluster organisations development within the national and regional dimensions, and
- ii) The level of cluster organisation managers.

THE DATA COLLECTION AND SURVEY PROCESS

- i) The secondary data for research has been collected employing government strategic documents content analysis and utilizing statistical data concerning financial support (existing programmes)
- ii) The primary data has been assembled as a result of the survey that was conducted in a form of semi-structured interviews
- iii) The survey process consisted of two stages:

Stage 1 – Preparation of inputs for the survey

- 1. Elaboration of the draft questionnaire
- 2. The territorial scope definition (partner regions, national level) – map visualisation image
- 3. Contact database of potential respondents in each partner's country
- 4. Comments on questionnaire by project partners
- 5. Questionnaire verification and finalisation
- 6. The interview plan and scenario (issues to be dealt with face-to-face)
- 7. Adoption of the survey preparedness by expert group (academic workshop)

Stage 2 – Survey implementation and conclusions delivery

- 1. Instruction on data gathering, follow-up and deadlines – common workshop / skype-conference
- 2. Questionnaire distribution with an accompanying letter by the project partner's representative offering a face-to-face meeting for interview
- 3. Data collection and two follow-ups (after the questionnaire distribution and before the deadline)
- 4. Data processing and interpretation

5. Summary of the survey

THE SCOPE OF THE ANALYSIS

- i) The description of the cluster policy historical development, milestones and time-span
- ii) Existing/valid documents concerning the cluster policy implementation, their types (policy decree, programme, methodology, etc.)
- iii) Survey of responsible implementing bodies (ministries, national/regional authorities and development agencies), cluster supporting institutions and universities/research institutes.
- iv) The detailed description of the existing funding programmes:
 - their independency or being part of other policies
 - thematic focus – which cluster activities receive the support (human resources upgrading, cluster expansion, business and commercial activities development, R&D and innovation, business environment improvement, enhancing collective productivity by developing interdependencies and complementarities⁸)
 - the amounts of the programme financial allocations
 - quantitative and qualitative results of the programme
 - applied methods of the impact assessment
 - survey of the cluster organisations and their impact on the regional development

THE ANALYSIS OUTPUTS

The analysis of the V4 cluster policies brought a profound information and knowledge on the state of the national/regional cluster policies, functional programmes and conditions of cluster organisations in the V4 countries. This, together with the knowledge sharing processes through national academic workshops, was enable to make the further steps in identification of the best practices, carrying out the comparison among the V4 countries and providing recommendation for cluster policies improvement within the Cluster Policy Reports in each V4 country.

3.2 THE V4 CLUSTER POLICIES COMPARISON

The project partners used the data collected within the analysis phase for a systematic comparison of the cluster policies in the V4 countries including:

THE COMPARATIVE MATRIX

The comprehensive matrix of both quantitative and qualitative outputs of the analyses will be set up. It will enable to define the position of each country's cluster policy within the Visegrad Group from the point of view of the following criteria:

1. Characteristics of the policy papers, strategies, programmes and the involved actors on national/regional levels;
2. The scope of financial resources involved and their eligible use;
3. System of competition for funding with the impact on cluster organisation and cluster management performance level;

⁸ European Commission (2006) Innovation clusters in Europe – A statistical analysis and overview of current policy support. DG Enterprise and Industry report, Luxembourg. ISBN 978-92-79-07289-5

4. The degree of the consistency and continuity of the cluster policy regarding the cluster life cycle;
5. The cluster policy impact evaluation methods and tools.

SWOT ANALYSIS

The comparison results based on the comparative matrix enabled a deeper evaluation of the strong and weak sides of the cluster policy and its threads and opportunities.

BEST PRACTICES SELECTION

Each partner proposed two best practices showing the proven administrative, organisational, infrastructural, thematic, innovative and/or financial arrangements that helped to enhance the cluster development in a substantial way.

3.3 SUCCESS STORIES DISSEMINATION

The identification of the country's best practices to learn from by the others, selection two best practices per country and the description of its practical impact on clusters in the form of a success story. The V4 Cluster Policy best practices and success stories were disseminated via the workshops and final conference with the presence of cluster policy representatives and cluster organization managers.

3.4 THE V4 CLUSTER POLICY REPORTS

Four Cluster Policy Reports (CPRs) with policy recommendations for the national and regional public authorities and development agencies as a result of joint research activities has been prepared by each partner. The CPRs consists of three parts:

EVALUATION

The CPRs summarises the cluster policy analysis results and define the current position of the specific country within the Visegrad Group based on the conducted comparison.

This part of the report answers the question: **Where are we?**

RECOMMENDATIONS

The valuable knowledge gained during the process of analysis, comparison and mutual learning among the partners within the academic workshops is materialised in a specific set of proposals and messages towards the government on possible improvements of the cluster policy. The special focus will be given to proven practices how to grow the competitive potential of a region and its clusters, optimise the cluster performance, including its monitoring and measurement, but also how to simplify and shorten process of the application for project funding and generally cut the red tape for cluster organisations.

The recommendations also include the basic elements and rules of comparability that must be applied within each update or new policy drafting so that the approaches used in individual countries in future can be benchmarked.

This part of the report answers the question: **What can be improved?**

3.5 THE SMART CLUSTER POLICY MODEL

A specific part of the CPRs is devoted to the joint draft of the model of the Smart Cluster Policy. The aim is to deliver the relevant messages to each V4 country's cluster stakeholders and policy-makers. The principles of a Smart Cluster Policy will incorporate the best functioning basic approaches and tools to set up a model of a cluster policy respecting the needs of the cluster life cycle and deliberately mobilising of the still unexploited potential of the cluster concept. The Smart Cluster Policy model should address also the need of improving the cluster governance side that should lead to "knowing" policy-makers by means of training, regional and national cluster knowledge and cluster development infrastructure and general cluster expert capacity building.

This part of the report answers the question: **How can it be improved?**

IV. CLUSTER POLICY DEVELOPMENT AND CURRENT SITUATION IN THE SLOVAK REPUBLIC

4.1 CLUSTER POLICY, STRATEGIC DOCUMENTS AND PROGRAMMES

In the last decade the effective components of regional development in the Slovak Republic have become not only foreign investment and structural funds, but also business incubators, industrial parks and clusters. Recently the number of cluster initiatives has significantly increased in different regions however, their real performance is limited. The reason is the lack of a holistic cluster policy or conception, which is, as shown by the experience of developed economies, an important condition for proper functioning of cluster.

In Slovakia, however, any cluster concept, strategy or policy is lacking as well as the “bottom-up” cluster initiatives do not have adequate legislative adaptation, which ultimately causes problems in the functioning and development of clusters in Slovakia.

The essence of a cluster as a specific interest group in various combinations of manufacturing companies, nonprofit organizations, government and regional/municipal institutions is the comparative advantage for as each participating entity as the cluster by itself, which in other circumstances and conditions could not arise. Vision and understanding of comparative advantage and subsequent mechanisms of cluster institutionalization are not a simple issue. It requires expertise in various production processes of involved stakeholders, right functioning of governmental and regional authorities, legislation, principles of economic, social and regional policies and so on. In addition, mechanisms and processes of clusters institutionalization are not possible being carried out without adequate regulation and management of these activities. Under these circumstances, finding comparative advantage of actors with different production and other activities and the founding of cluster are practically impossible without the initiative, support and regulation these activities by external agencies. In this case, those outside bodies should be represented by state and regional authorities that would follow the comparative advantage not only for stakeholders, but also for society and regions.

Therefore, the absence of government policy or cluster development strategy means misused one of the factors of the development for enterprises and regions that cannot be replaced by anything else. Even if the cluster initiative arises from the bottom, at least it must have a legal basis for its operation, which is primarily the responsibility of government. At the same time it should include the interests (benefits) for society, regions or municipalities being represented by government and regional authorities.

Legal basis for clusters in Slovak Republic

In Slovakia, the used terms include cluster and cluster organizations. The designation a „cluster“, cluster organizations use directly in their names. The term “cluster organizations” is used by the Slovak Innovation and Energy Agency (SIEA), which this indication takes as the institutionalized form of clusters. The Association of legal entities represents the legal form of clusters majority in Slovak regions. The establishment, legal status and termination of the association of legal entities

is arranged by Civil Code (Regulation no. 40/1964 Coll.)⁹, § 20f. The Civic association is the second, less widely used legal form of clusters. Its origin, legal status and termination is regulated by the Act no. 83/1990 Coll. on association of citizens, as amended. In official register of associations of legal entities¹⁰ and registration of civil associations¹¹ 49 clusters are registered but not all are active and are doing activities related to the performance of a cluster. The BITERAP Cluster in the Kosice region was founded in 2004 as the first cluster in Slovakia and the Slovak AeroSpace Cluster in Bratislava region in 2016 as the last one.

Cluster policy is a new approach to addressing the economic development challenges of both regions and the whole country. For this reason, legislative documents should be the key features of cluster policy where the support and functioning form of clusters in particular area (municipality, region, state, association or group of different countries), support programs and the role of public administration as a facilitator or mediator among potential cluster members should to be modified.

In the Slovak Republic, the concept of cluster policy in the context of the elements stated above is incorporated only partially and marginally, while just certain industries, creative industries and tourism have been the objects of attention in the previous and current programming periods. The following section provides the basic legislative documents relating to issues of clustering, bodies and institutions, which currently contribute most to the promotion and organization of cluster support programs from which the cluster organizations could draw funding for their development in the financial framework periods of 2007-2013 and 2014 -2020.

Initial legislative documents related to the cluster policy creation

The legal basis of cluster policy should be constituted as a coherent complex which specified government regulations are supposed to be a part of. In Slovak Republic the legislation on the scale of V4 countries is currently missing.

At national level, in addition to the **Civil Code and the Act no. 83/1990 on Civic associations¹², as amended**, another important legislative act based on which cluster can be established and related to the promotion of clusters is an **Act. 231/1999 Coll. on State aid as amended¹³**, which among other things also applies to the associations of entrepreneurs according to § 20f of the Civil Code. This law defines state aid, the conditions for its granting, the areas for which the state aid is granted, the characteristics of State aid for small or medium entrepreneur, definition of state aid for the industry of the steel, automobile, shipbuilding and the synthetic fibers, the characteristics of the State aid authority and other provisions. According to this law, the state aid is given to: promoting the economic development of districts with low living standards and high unemployment rate, creating a significant joint project within the EU Communities and Slovak Republic, development of certain activities and economic areas not to affect negatively the trade within the EU single market and protection of cultural heritage and original Slovak art and crafts.

To other important legislative acts which are closely linked with the creation of special interest groups and thus likely to be important in the process of establishing and development of clusters in Slovakia are included:

⁹ Zákon č. 40/1964 Zb. Občiansky zákonník

¹⁰ <http://www.ives.sk/registre/startzzpo.do>

¹¹ <http://www.ives.sk/registre/startoz.do>

¹² Zákon č. 83/1990 Zb. o združovaní občanov v znení neskorších predpisov

¹³ Zákon č. 231/1999 Z. z. o štátnej pomoci v znení neskorších predpisov

- [Commission Regulation \(EC\) No. 1998/2006 of 15 December 2006 on the application of Articles 87 and 88 of the Treaty to de minimis](#) ("Commission Regulation (EC) no. 1998/2006")¹⁴
- [Act no. 523/2004 Coll. on Budgetary rules in Public Administration and on amendments to certain acts, as amended](#) ("Act no. 523/2004 Coll.")¹⁵
- [Act no. 71/2013 Coll. on the Provision of subsidies within the Ministry of Economy of Slovak Republic](#) ("Act no. 71/2013 Coll.")¹⁶
- [Act no. 431/2002 Coll. on Accounting, as amended](#) (the "Accounting Act")¹⁷.

At **regional level**, the promotion and development of clusters is often already implemented in programming and strategic documents of regional development. In most cases, it is about the programs of economic and social regions and municipalities. In addition, regions, municipalities compose other strategic documents in which the issue of the establishment and operation of clusters is incorporated. For example, in the period of years 2007-2013 in Trnava region the clustering issue was incorporated in following documents such as: Action Plan for the Development of Industry in territory of Trnava Region, The Strategy of Industrial Development in the Trnava region, the strategy of tourism development in the Trnava Region (2008 -2013), The program of economic and social development of Trnava Self-Governing Region. In current programming period there are documents: The program of economic and social development of Trnava Self-Governing Region, integrated regional territorial strategy Trnava region for the period of 2014-2020.

An overview of government documents of support for clusters

The [Innovation Strategy of SR for the period of 2007- 2013](#)¹⁸ and [Innovation policy for the years of 2011 - 2013](#)¹⁹ were the first programming documents in Slovak Republic at national level, which besides others aimed at highlighting the importance of clusters and their support.

As stated in the document of [Innovation policy for the years of 2011 - 2013](#) in the sphere of activity of Ministry of Economy, the basic goal of the innovation policy is to create the supporting mechanisms for the creation and development of innovative structures, innovative businesses, partnership and cooperation of enterprises, universities and research institutes in the field of research and development and innovation, and creating conditions for competitiveness enhancement of Slovakia. Within the innovation policy regarding the conditions for the formation and development of cluster support there were initiatives such as Priority no. 1.: High-quality infrastructure and an efficient system for innovation development and within it there was the Measure no. 1.: The support of innovative industrial cluster organizations. The measure aims to increase the competitiveness of industry through promoting the activities of selected industrial cluster organizations in order to support the associated industrial activities in selected areas. In

¹⁴ Nariadenie komisie (ES) č. 1998/2006 z 15. decembra 2006 o uplatňovaní článkov 87 a 88 Zmluvy na pomoc de minimis (ďalej len „Nariadenie komisie (ES) č. 1998/2006“)

¹⁵ Zákon č. 523/2004 Z. z. o rozpočtových pravidlách verejnej správy a o zmene a doplnení niektorých zákonov v znení neskorších predpisov

¹⁶ Zákon č. 71/2013 Z. z. o poskytovaní dotácií v pôsobnosti Ministerstva hospodárstva Slovenskej republiky

¹⁷ Zákon č. 431/2002 Z. z. o účtovníctve v znení neskorších predpisov

¹⁸ Inovačná stratégia SR na obdobie rokov 2007až 2013. available at:

<https://www.vedatechnika.sk/SK/VedaATechnikaVSR/SDokumenty/Forms/Strategick%20dokumenty.aspx?RootFolder=%2FSK%2FVedaATechnikaVSR%2FSDokumenty%2FInova%C4%8Dn%C3%A1%20strat%C3%A9gia%20SR%20na%20rok%202007%20-%202013&FolderCTID=&View=%7B43D56EB8-1DB2-45EA-B447-F1DC5DB308F6%7D>

¹⁹ Inovačná politika na roky 2011 – 2013 available at:

https://www.siea.sk/materials/files/inovacie/dokumenty/IP_2011_2013.pdf

the **Innovation strategy for the years of 2007 to 2013**, regarding the cluster issue there is a Measure 3.2: Support of common services for entrepreneurs, which aims at the innovative environment improvement. The measure will include also the development of clusters, based on which there will be created conditions for cooperation of business sector with universities, business and innovation centers in certain industries and services sectors in connection with the development potential in regions. To implement the Innovation strategy of Slovak Republic within the execution of Measure 3.2 resources will be provided from the state budget, structural funds - European Regional Development Fund and CIP - the EU Competitiveness and Innovation Program. This measure of Innovation strategy was thematically and financially linked to the OP Competitiveness and Economic Growth within the Measure 1.2: Support of common services for entrepreneurs.

To other important documents adopted in the programming period for the years of 2007-2013 and which can be used in the process of forming and supporting the clusters development were included:

- **National Strategic Reference Framework for the period of 2007 - 2013²⁰**, adopted in 2006, being in charge of the Ministry of Transport, Construction and Regional Development of the Slovak Republic. The document also states that during the programming period of 2007 - 2013 it is necessary to concentrate the intervention of structural funds to projects that will create a more attractive environment for realization of innovation activities of global corporations as well as stimulate the local innovation capacities to create and develop competitive and innovation clusters. Those ones then have a chance to significantly increase the performance and efficiency of science and research, reach innovation into industry and services to enable the efficient use of resources, creation and transfer of knowledge in all sectors of economic activities.
- **National Reform Program of Slovak Republic for the years of 2012, 2013²¹, within the competence of Slovak government**. In a document from 2012 it was intended to promote the establishment and operation of high-tech clusters. In 2013, in the sphere of innovation it was intended to promote the creation and operation of innovative clusters by means of using the financial and non-financial instruments that will support networking improvement, participation in international projects and competitiveness enhancement of cluster organizations members.

Within the **programming period of 2014-2020** to important cluster support document are included:

- **Research and Innovation Strategy for Smart Specialization of the Slovak Republic (RIS3)²²** where to responsible institutions are included: Ministry of Economy, Ministry of Education, Science, Research and Sport of Slovak Republic, where the issue of cluster development should be dealt with the Strategic objective 1: Further integration and anchoring of key industries to increase local added value through the cooperation of local supply chains and promoting their mutual networking, under Measure 1.1. Innovative capacities development through cooperation between companies and research institutions in key Slovak economy sectors. Within the measure it will be supported the creation of consortia

²⁰ National Strategic Reference Framework for the period of 2007 – 2013, available at: <http://nsrr.sk/dokumenty/zakladne-dokumenty/>

²¹ National Reform Programme of the Slovak Republic for years 2012, 2013, 2014, 2015, 2016. available at: <http://www.finance.gov.sk/Default.aspx?CatID=5197>

²² Research and Innovation Strategy for Smart Specialisation of the Slovak Republic (RIS3). available at: <http://www.economy.gov.sk/strategia-vyskumu-a-inovacii-pre-inteligentnu-specializaciu-sr/142232s>

to handle the multidisciplinary problems and to anchor the sectors by means of clusters and other forms of networking in order to develop the innovative capacities.

- **National Regional Development Strategy of the Slovak Republic²³**, where responsible bodies for this document is Ministry of Transport, Construction and Regional Development. In this document the relevance of clusters' development. This document, states that in terms of recommendations to solve problems in research, development and innovation the cluster are the functioning means by which the economic and social environment, attractiveness and competitiveness of the regions can be significantly influenced.
- in document **The basis of strategy of creative industry development in Slovak Republic²⁴**, to support clusters the separate measure 3.4: Support clusters is dedicated. Its aim is to encourage networking between creative, technological and business sectors. The measure is aimed at developing creative networks and clusters, by means of which conditions for cross-sectoral cooperation in creative industries and services will be created in connection with the development potential in regions and conditions for cooperation with investors. Responsible bodies are here: Ministry of Culture, Ministry of Economy
- **National Reform Programs of the Slovak Republic 2014, 2015, 2016**. Over this period a scheme to support industrial cluster organizations was being implemented and industrial cluster organizations were supported. Responsible body: Government of the SR

An overview of government programs of support for clusters

In **programming period 2007-2013** the cluster concept was supported from programmes:

- **Operation Programme Competitiveness and Economic Growth²⁵** as part of the National Strategic Reference Framework 2007-2013. Within this operational program the support will be focused on tourism and clusters building. Tourism activities development in Slovakia under this document were supposed to include local services and be focused on clusters creating / associations / for entrepreneurs; within the Priority axis - Innovation and Growth Competitiveness the support was also directed to construction of industrial parks, innovation centers, incubators and clusters.
- **Regional Operational Programme²⁶**. Within this operational program to promote the tourism cluster development there was the Priority axis 3 - Strengthening the cultural potential of the regions and tourism infrastructure. One of the activities to meet the objectives of the Priority axis 3 of ROP in 2007-2010 was the support of tourism presentation at regional and local levels, creation and promotion of existing tourist information centres, creating of partnerships at the levels of regions and the private sector and regional clusters. For this reason, in 2010, there was a call only to non-investment projects in tourism with a focus on the tourism clusters promotion, building partnerships among stakeholders in tourism, creating of complex information portals, marketing activities etc., in accordance with the new national legislation. Responsible bodies: Ministry of Construction and Regional Development of the Slovak Republic.

²³ National Regional Development Strategy of the Slovak Republic. available at: <http://www.mpsr.sk/index.php?navID=1&navID2=1&sID=67&id=2558>

²⁴ The basis of strategy of creative industry development in the Slovak Republic, available at: <http://www.culture.gov.sk/posobnost-ministerstva/kreativny-priemysel-165.html>

²⁵ Operation Programme Competitiveness and Economic Growth available at: <http://nsrr.sk/operacne-programy/konkurencieschopnost-hospodarsky-rast/>

²⁶ Regional Operational Programme. Available at: <http://nsrr.sk/operacne-programy/regionalny-operacny-program/>

- **The Scheme of aid de minimis DM 3/2013²⁷**, under this scheme 6 industrial cluster organizations were supported in the sum of 160.56996 thousand EUR.

In the **programming period for the years of 2014-2020** was adopted the series of measures that can be used for cluster support, in addition a series of measures being directly aimed at cluster support. These mainly include:

- **Operational Programme Research and Innovation²⁸**, the managing bodies include: CCA - Government Office of the SR, managing authority: Ministry of Economy, Ministry of School, Science, Research and Sport of SR. The priorities of program towards clusters: PA 1 Promotion of research, development and innovation, INVESTMENT PRIORITY 1.2 Promoting business investment in research and innovation, and developing links and synergies between enterprises, research and development centers and the higher education sector, in particular promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation, and supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies, INVESTMENT PRIORITY 2.2 Promoting business investment in research and innovation, and developing links and synergies between enterprises, research and development centres and the higher education sector, in particular promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation, and supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies. INVESTMENT PRIORITY 3.3 Supporting the creation and the extension of advanced capacities for product and service development.
- **Slovakia - Rural Development Programme** the managing bodies include Government Office of the SR, managing authority: Ministry of Agriculture and Rural Development of the Slovak Republic. The priorities/ focus area of program towards clusters: PRIORITY 1: Strengthening of knowledge transfer and knowledge base of agriculture, forestry and rural development/1B Strengthening of the links between agriculture, food production and forestry and research and innovation, and to improve environmental management and performance.
- **The Scheme of aid de Minimis DM18/2014²⁹**. In 2014 was planned 113 thousand EURO for supporting, but in reality 127,527EUR was promoted (7 supported projects).
- **The Scheme of aid de Minimis DM18/2014 as amended by amendment no.1³⁰** (in Commercial Bulletin 20/2015). In 2015, 7 projects totaling EUR 130 thousand received subsidies to promote industrial cluster organizations.

²⁷ The Scheme of aid de minimis DM 3/2013. available at: <http://www.economy.gov.sk/vyzva-na-predkladanie-ziadosti-o-poskytnutie-dotacie-na-podporu-priemyselných-klastrových-organizácií/141237s>

²⁸ OP Research and Innovation. available at: https://www.opvai.sk/media/11564/opvai_programovydokument_final.pdf

²⁹ The Scheme of aid de minimis DM18/2014. available at: <http://www.economy.gov.sk/10922-menu/143480s>

³⁰ The Scheme of aid de minimis DM18/2015 <http://www.economy.gov.sk/11410-menu/145012s>

- In 2016, the Ministry of Economy of the Slovak Republic announced a Scheme on the industrial cluster organizations enhancement (de Minimis Aid Scheme), **Scheme DM - 18/2014 as amended by amendment no. 2**. Grants will be provided in the amount of 10 to 50,000 EURO.

In the frame of above stated programmes were supported mainly industrial cluster organizations but in some cases also cluster organizations from industrial branches of automotive, plastic, ICT, tourism and creative industry. The cluster's support in document on national level is generally mentioned without any specification and focused mainly on support of cluster creation. The support in the frame of Schemes de Minimis is focused on support of industrial cluster organizations' projects.

Time span of the development of cluster policy in the Slovak Republic can be seen on Figure 1.

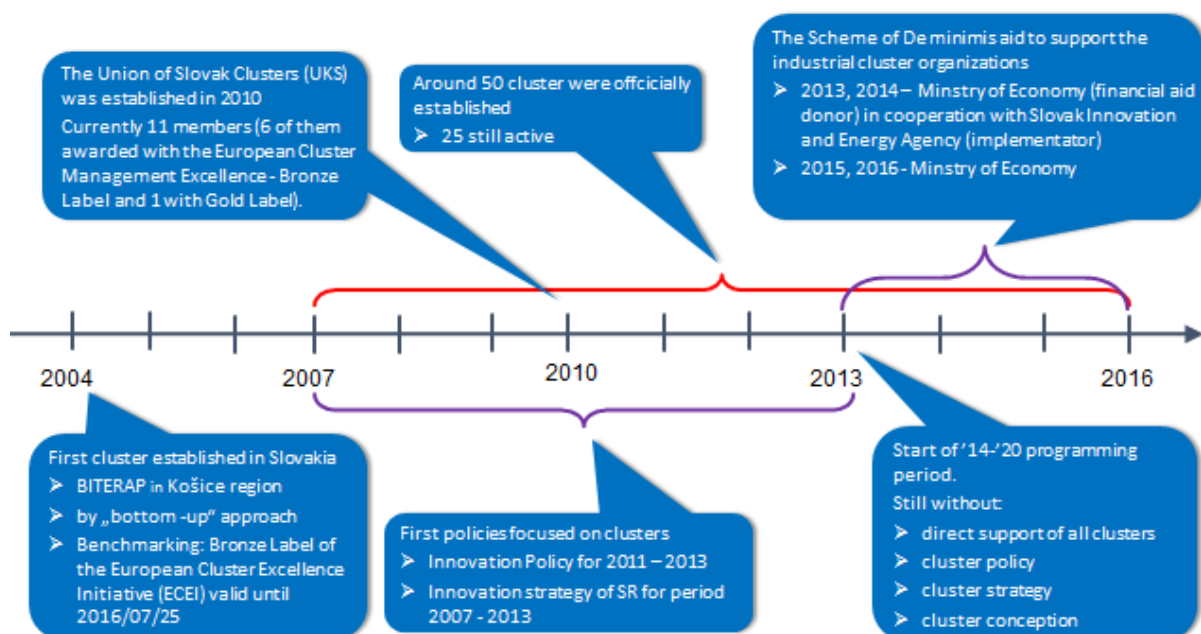


Figure 1: Time span of cluster policy development in the Slovak Republic

Source: own processing

Summary of relevant strategies, documents and programmes distinguished in two main periods 2007-2013 and 2014-2020 is stated on Figure 2.

Results of spider analyses (Figure 3, 4 and 5) processed according Methodology Guide (Appendix 1) show the development of cluster policy in the Slovak Republic and compare it with the development of the cluster policies in Hungary, Poland and Czech Republic.

More details concerning documents and programmes related to the cluster policy in the Slovak Republic could be found in Appendix 2.

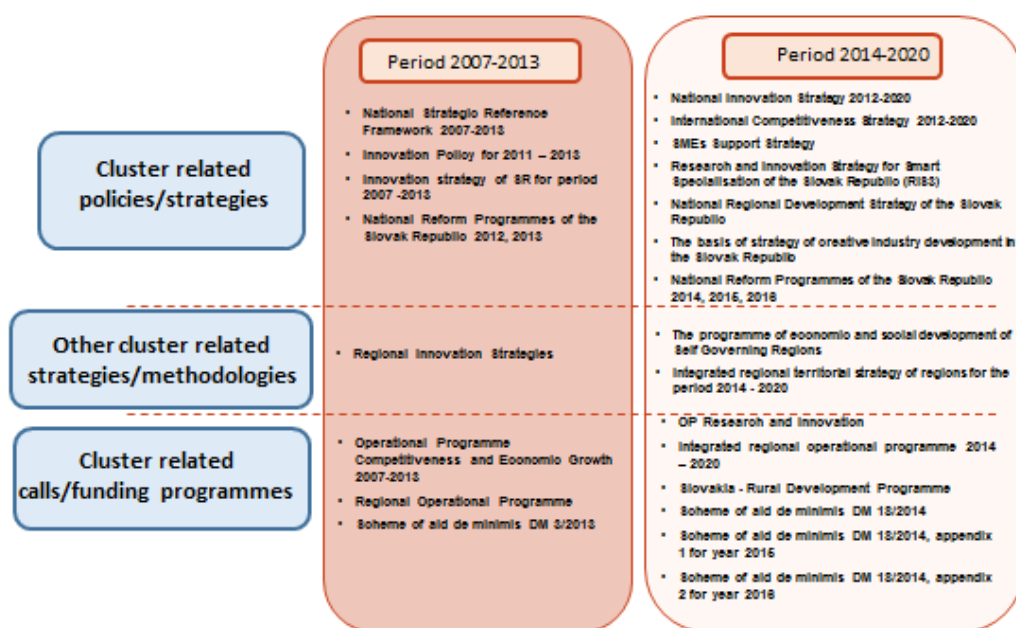


Figure 2: Summary of relevant strategies, documents and programmes for periods 2007-2013 and 2014-2020 in the Slovak Republic

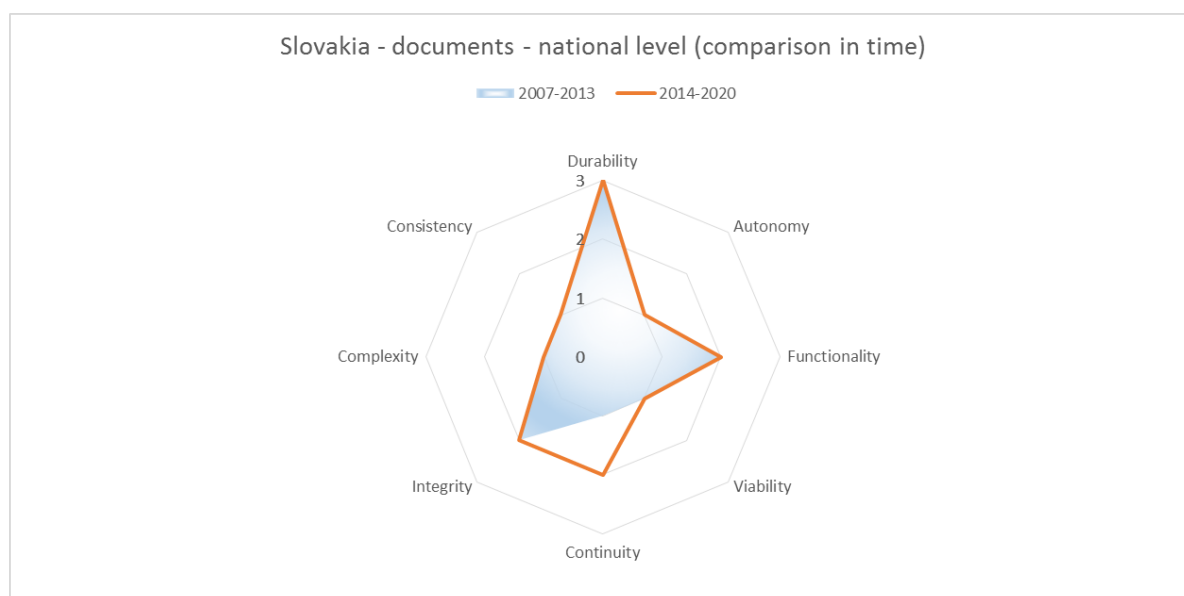


Figure 3: Spider analysis of the characteristics of the documents supporting development of cluster policy in the Slovak Republic

Source: own processing

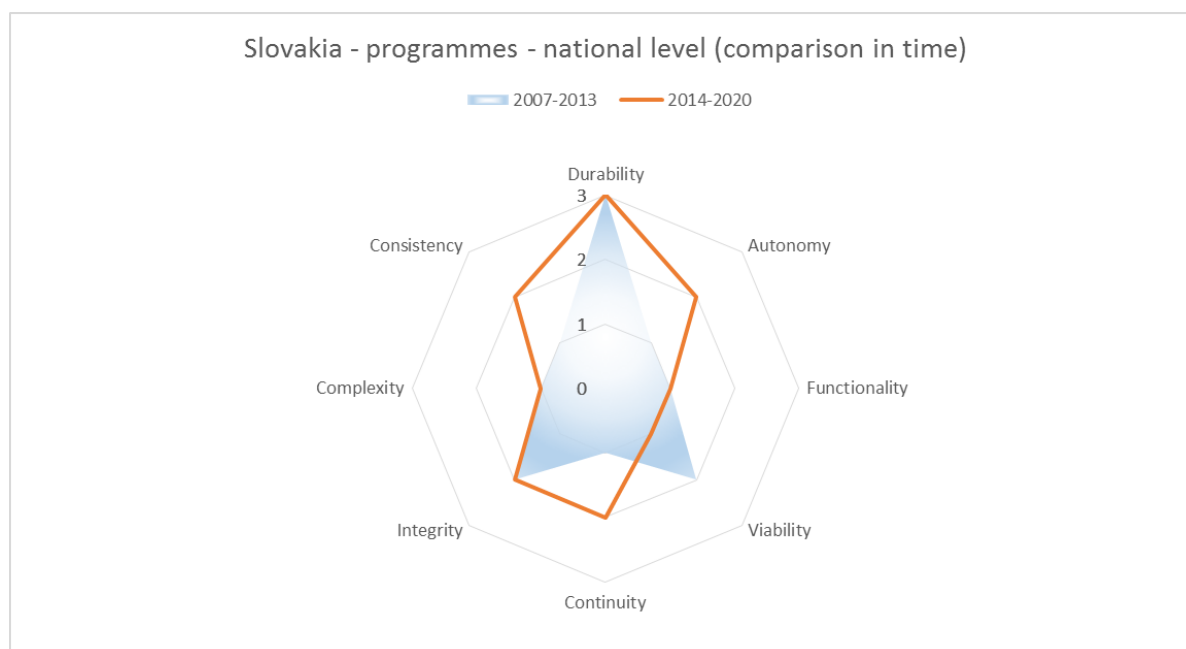


Figure 4: Spider analysis of the characteristics of the programmes supporting cluster organisations' development in the Slovak Republic

Source: own processing

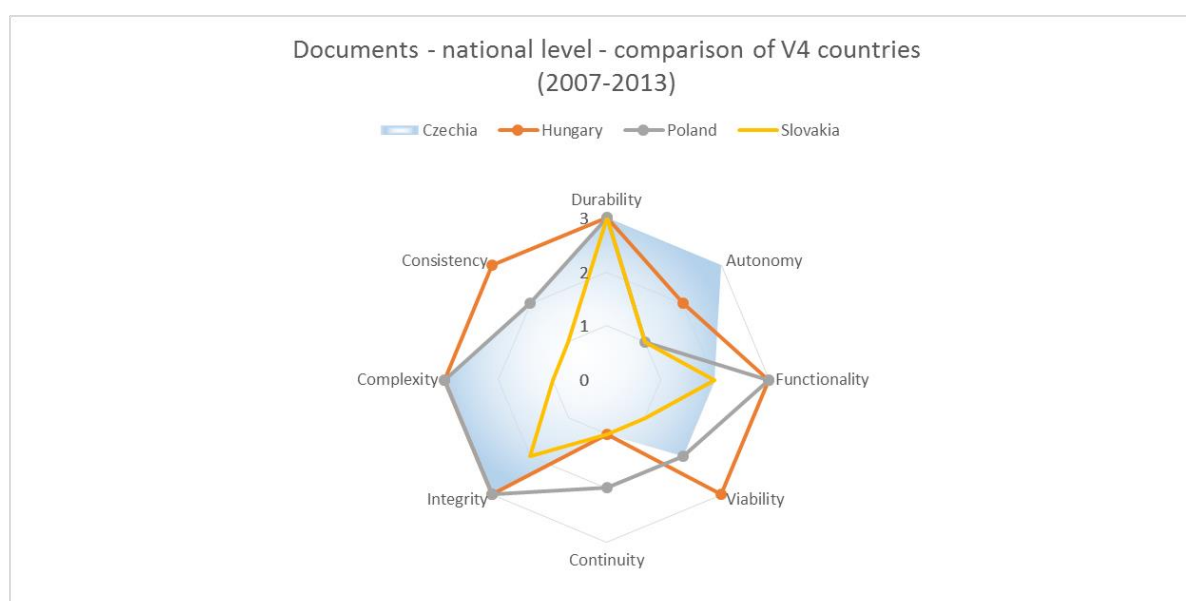


Figure 5: Comparison of the cluster policy characteristics in V4 countries in the period of 2007-2013 - documents

Source: own processing

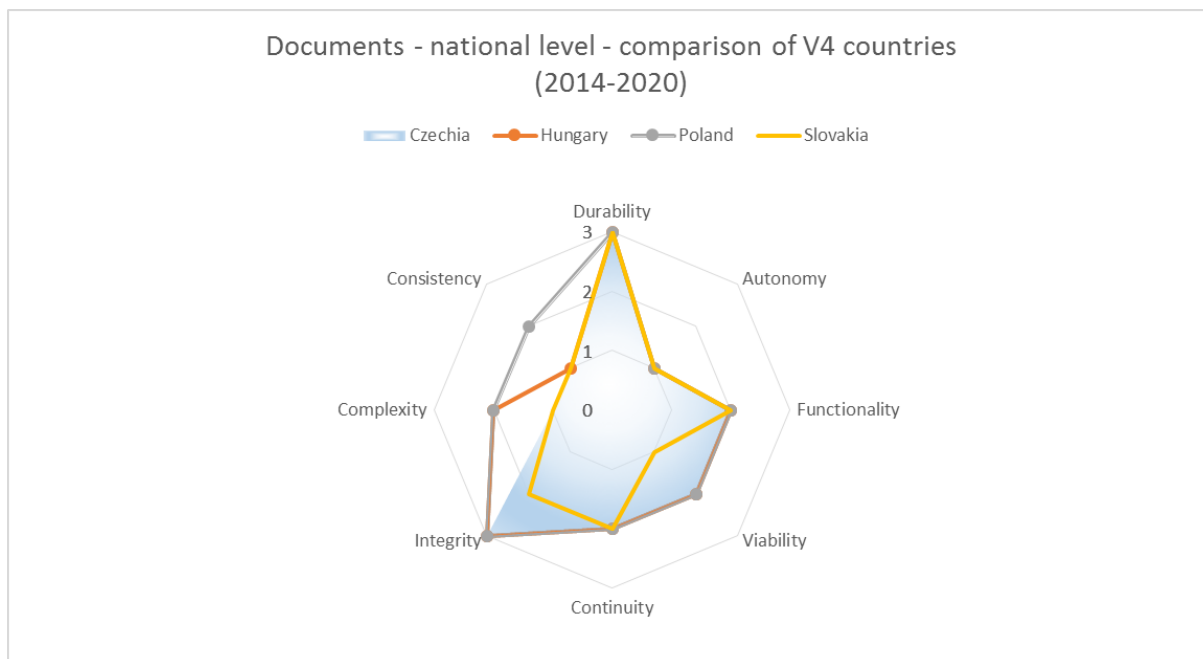


Figure 6: Comparison of the cluster policy characteristics in V4 countries in the period of 2014-2020 - documents

Source: own processing

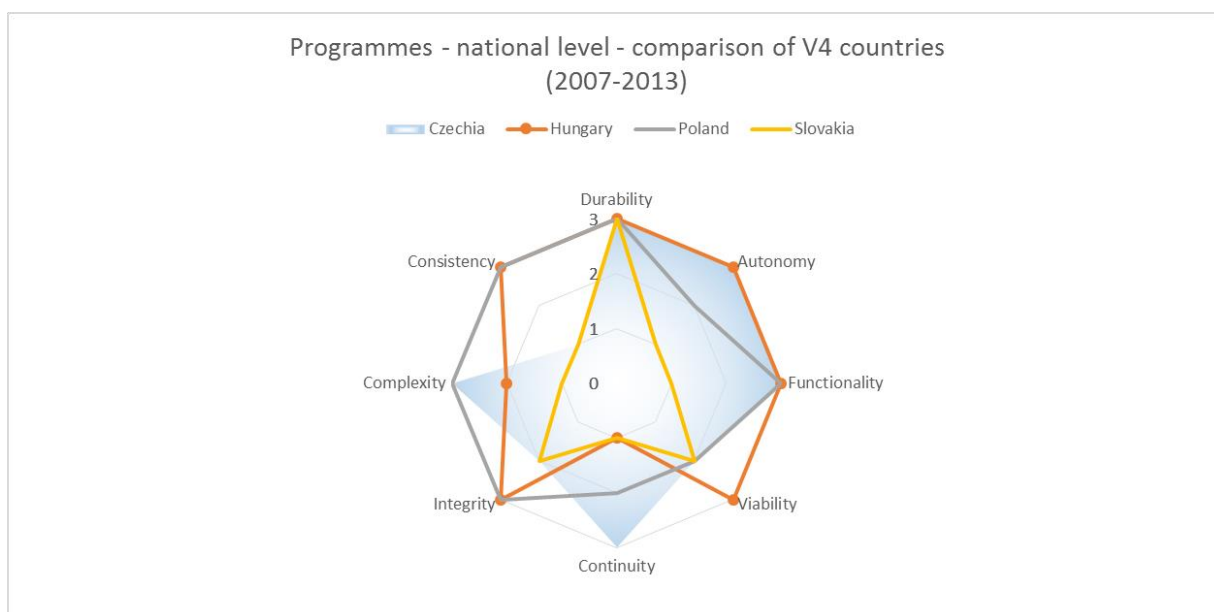


Figure 7: Comparison of the cluster policy characteristics in V4 countries in the period of 2007-2013 - the programmes supporting cluster organisations' development

Source: own processing

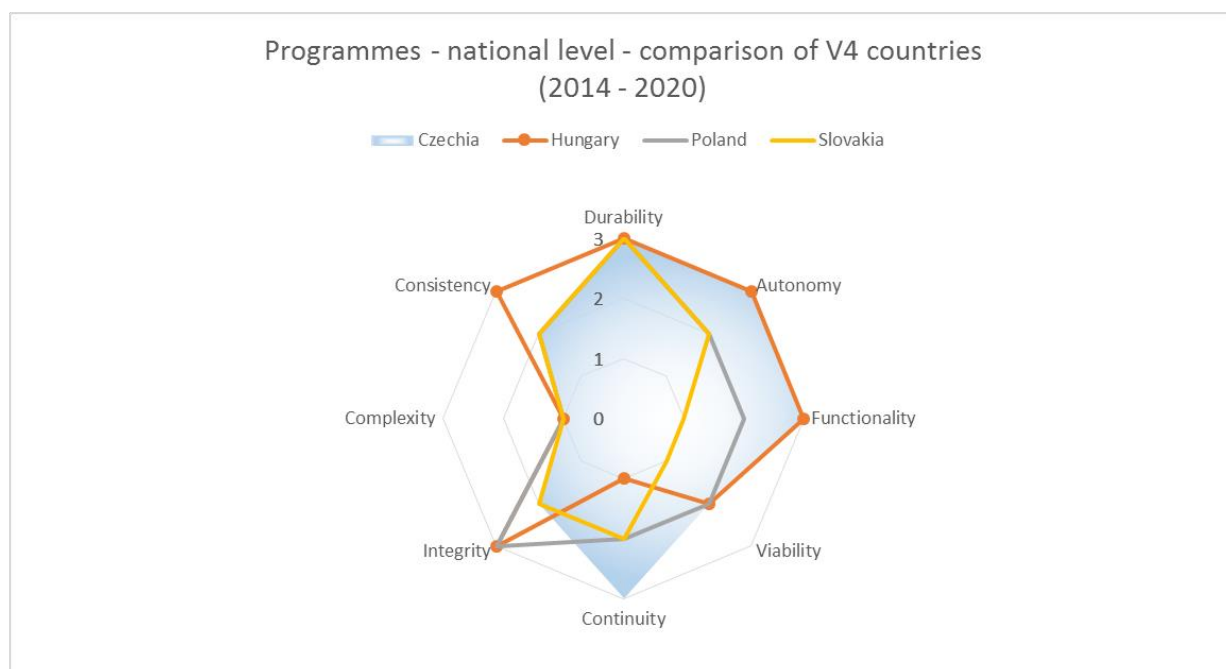


Figure 8: Comparison of the cluster policy characteristics in V4 countries in the period of 2014-2020 - the programmes supporting cluster organisations' development

Source: own processing

Summary of clusters' support within operational programmes in the Slovak republic is stated in Table 1 and within Schemes de Minimis in the Slovak Republic are in table 2.

Table 1: Summary of cluster organisations' support within operational programmes in the Slovak Republic

Operational programme	Cluster supporting programme	Allocation (in thousand EUR)	Min.-max. budget per project (in thousand EUR)	No. of applications	No. of supported cluster projects	Total amount of support (in thousand EUR)
Regional Operational Programme 2007-2013	Partly concerning clusters (the cluster concept awareness building)	EU sources: 145 510,8 SR public sources: 25 678,4	-	2301 (projects - not only clusters) from which 4 clusters' projects	3	457,6

Source: own processing based on <http://www.nsrr.sk/cerpanie/>

Table 2: Summary of cluster organisations' support within Schemes de Minimis in the Slovak Republic

Cluster supporting programme	Allocation (in thousand EUR)	Min.-max. budget per project (in thousand EUR)	No. of applications	No. of supported cluster projects	Total amount of support (in thousand EUR)
The Scheme of aid de minimis DM 3/2013 2007-2013	200,0	min. 10,0 max. 40,0	6	6	160,6
The Scheme of aid de minimis DM18/2014 2014-2020	113,0	min: 10,0 max: 20,0	7	7	Cost in total 184,3 70% of state budget: 127,5 Own sources: 56,8
The Scheme of aid de minimise DM18/2014 as amended by amendment no.1 (in Commercial Bulletin 20/2015) 2014-2020	130,0	min: 10,0 max: 20,0	12	7	Cost in total 199,1 70% of state budget: 130,0 Own sources: 69,1
The Scheme of aid de minimise DM18/2014 as amended by amendment no.2 for 2016 2014-2020	245,0	min 10,0 max 50,0	10	7	Cost in total 354,6 70% of state budget: 242,2 Own sources: 112,4

Source: own processing based on <http://www.economy.gov.sk/legislativa-zya/137766s>

4.2 SUPPORTING AUTHORITIES AND INSTITUTIONS

Unlike the other V4 countries, there is no particular ministry or agency explicitly focused on clusters in Slovak Republic.³¹ At the national level, to institutions that contribute to clusters development and their competence varies in different forms of support are included: **Government Office of SR, Ministry of Economy, Ministry of Education, Science, Research and Sport of the Slovak Republic, Ministry of Transport, Construction and Regional Development , Ministry of Culture, Ministry of agriculture and rural development.**

To other institutions, which are currently engaged in issues such as the operation and support of clusters we include the **Slovak Innovation and Energy Agency (SIEA)**, which has elaborated several

³¹ Bialic-Davendra, M., Pavelková, D. Vejmelková, E. 2014. The Clusters Phenomenon in the Selected Central European Countries. Newcastle upon Tyne: Cambridge Scholars Publishing.

analyzes and studies related to cluster policy. For example, in 2009 SIEA developed an analytical study entitled "Clusters and support for innovation development" and published a brochure "Clustering - Presumption of success" supporting in this way the clusters development in country.³²In 2015 the study "Cluster policy in Slovakia"³³ was elaborated and many other.

In previous period **Slovak Business Agency (SBA)**³⁴ and **Slovak Agency for Trade Investments (SARIO)**³⁵ also belonged to institutions that cooperated with clusters on different projects or educational activities.

In 2010 the **Union of Slovak Clusters (UKS)**³⁶ was founded as an association of legal entities to support the development of clusters and cluster policy in Slovakia. It is the only organisation representing clusters in Slovakia. Currently, UKS has 11 members (6 of them awarded with the European Cluster Management Excellence Label Bronze and 1 with Gold Label). Main vision of UKS is to create suitable and competitive business environment through close cooperation of regional government, academia and research with business in the area of innovation. Main goals of UKS are: promoting the creation and development of cluster policy in Slovakia; strengthening of research, product development, innovation and technology transfer; improving the quality of all education systems in the areas of interest of the member clusters; supporting the exchange of information at national as well as international level in the area of innovation; participating in international partnerships through projects in the area of education, research, development and transfer of know-how.

At regional level, to institutions that contribute to the development of clusters are **included local authorities** (region, municipality, city). These bodies provide support mainly in the form of membership fees.

4.3 CLUSTER MAPPING, ESTABLISHMENT AND DEVELOPMENT OF THE CLUSTER ORGANISATIONS

In the frame of project we observed more than 50 clusters in the regions of Slovak Republic, but not all of them we can consider as a cluster. Some of them represent the project with time frame, in which the organization called cluster exist. Another represent only cluster initiatives or cluster organizations that are not active. During the research we found out that 25 cluster organizations are active in 2016. As first cluster initiative was established in Košice region the cluster BITERAP (2004), followed by cluster Košice IT Valley (2007) and Automotive Cluster Slovakia (2007) in Trnava region. The highest number was established in 2008: Cluster LIPTOV - association of tourism in Žilina region, 1st Slovak Engineering Cluster in Banská Bystrica region, Electrotechnical Cluster - West Slovakia in Trnava region, Cluster Orava and cluster Z@ict, both in Žilina region. Figure 6. represents the number of clusters by type and year of establishment.

For dividing the clusters according economic branches in the frame of this project a typology proposed by NCA was used. Clusters were classified by branch classification into 6 categories: agro-food industries clusters, Manufacturing, energy and construction clusters, Service industries clusters, Information and communication technologies clusters, Creative and cultural industries clusters and Key enabling technologies and R&D-based clusters. The most Slovak clusters are in

³² Balog, M., Duman, P. 2010. Clustering - Presumption of success. Bratislava: SIEA

³³ Balog, M. Klastrová politika v podmienkach Slovenska. 2015. Bratislava: SIEA.

³⁴ <http://www.sbagency.sk/>

³⁵ <http://www.sario.sk/>

³⁶ Union of Slovak Clusters. 2016. Basic information. Available at: http://uksk.sk/en/page1-2/?noredirect=en_US

category of Sercie industry clusters (9 - Cluster LIPTOV - association of turism, Cluster Orava, Cluster TURIEC - association of tourism in Žilina region, Danube Knowledge Cluster and ABC - Academic Business Cluster in Bratislava Region, Cluster Topoľčany - association of tourism in Nitra region, Railway Transport Cluster in Prešov region, Košice- Tourism in Košice region and cluster Váh in Trenčín region). Another important group of clusters is category of Manufacturing, energy and construction clusters, which includes 7 clusters (1st Slovak Engineering Cluster in Banská Bystrica region, Automotive Cluster Slovakia, Electrotechnical Cluster - West Slovakia and Energetic Cluster - West Slovakia in Trnava region, Energetic Cluster of region Prešov in Prešov region, National Energetic Cluster NEK in Bratislava region and Slovak Plastic Cluster in Nitra region).

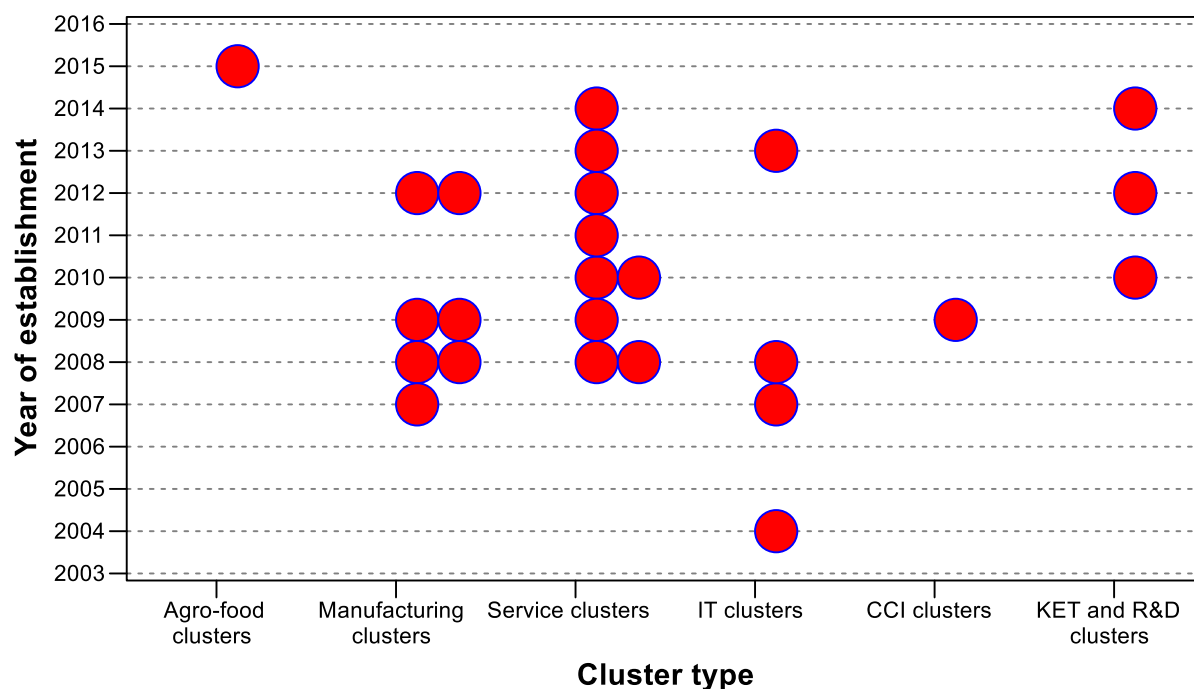


Figure 6: Year of clusters organisations establishment, by type

Source: Own processing

Figure 7 presents the spatial distribution of clusters due to the economic branches classification. Mentioned distribution of clusters corresponds with prevailing industry in the region.

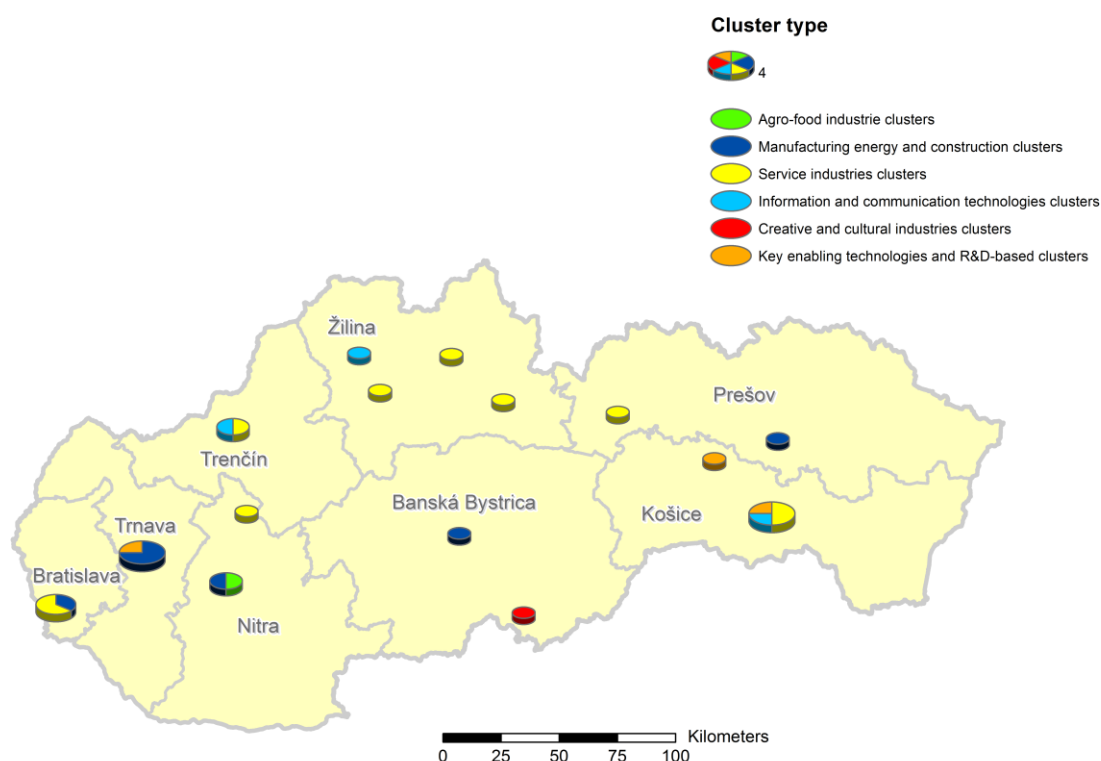


Figure 7: Map of the cluster organisations distinguished by sectors in the Slovak Republic (December 2016)

Source: own processing

4.4 EVALUATION OF CLUSTER ORGANISATION PERFORMANCE

In the Slovak Republic systematic tool for cluster performance evaluation absents. Slovak clusters attend the assessment process realized by ESCA that promotes cluster management excellence through benchmarking and quality labelling of clusters and cluster management organizations. Cluster management organizations that are benchmarked demonstrate their interest in striving for excellence. The quality labelling system consists of three levels – Bronze, Silver and Gold. 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 label is a quality label based on very high standards of cluster management practice. Cluster management organisations that do not meet the Gold standards yet, but are interested in demonstrating both to their cluster and potential partners that they are on the path towards cluster management excellence can subject themselves to a Silver label audit. For being benchmarking under the ESCA benchmarking approach by one of the ESCA experts cluster management organizations are awarded with the Bronze Label of the European Cluster Excellence Initiative.³⁷ In frame of Benchmarking 14 of Slovak clusters obtain the Bronze Label of the European Cluster Excellence and one cluster within the Quality audit: Gold Label of the European Cluster Excellence Initiative (ECEI) obtain Gold label (see in table 2).

³⁷ <http://www.cluster-analysis.org/benchmarked-clusters/?complete=1>

Table 2

	Cluster name	Comparative portfolio	www	Label valid until
Quality audit: Gold Label of the	Kosice IT Valley	ICT	http://www.kosiceitvalley.sk	2017/07/21
Benchmarking: Bronze Label of the European Cluster Excellence Initiative (ECEI)	1st Slovak Engineering Cluster	Production and engineering	http://www.1ssk.sk	2015/01/03
	Automotive Cluster - West Slovakia	Transportation and mobility	http://www.autoklaster.sk	2014/12/06
	BITERAP	ICT	http://www.biterap.sk/	2016/07/25
	Electrotechnical Cluster - West Slovakia	ICT	http://www.elektroklaster.sk/	2016/07/26
	InTech Žiar nad Hronom z.p.o.	Sports, Leisure and Tourism		2016/07/27
	Cluster AT+R	Production and engineering	http://www.clusteratr.sk	2015/01/15
	Klaster HOREHRONIE	Sports, Leisure and Tourism	http://www.horehronie.net/	2016/07/27
	Klaster Liptov	Sports, Leisure and Tourism	http://www.visitliptov.sk	2015/01/23
	Klaster ORAVA	Sports, Leisure and Tourism	http://www.orava.sk	2015/01/24
	Košice IT Valley	ICT	http://www.kosiceitvalley.sk	2015/01/16
	National Energetic Cluster	Energy and environment	http://www.energetickyklaster.sk	2015/01/23
	Oblasťná organizácia cestovného ruchu Dudince	Sports_Leisure and Tourism	http://www.dudince.sk/	2016/07/26
	Slovak Plastic Cluster	New materials and chemistry	http://www.spksk.sk	2015/01/21
	Z@ict	ICT	http://www.zaict.sk/	2016/07/25

Source: own processing based on data <http://www.cluster-analysis.org/>

4.5 AWARENESS AND SATISFACTION OF CLUSTER ORGANISATIONS' MANAGERS WITH THE CURRENT STATE OF CLUSTER POLICY

According Methodology Guide (see Appendix 1) cluster managers of six selected clusters from the different sectors have been involved in survey using semi-structured interviews.

The aim of the interviews with cluster managers was to get the feedback on the issues of cluster policy and funding programmes – how they are effective and helpful or whether they miss some of the important components and how it can be improved.

1) The structure of the respondents in the Slovak Republic

Six functional clusters in the Slovak Republic were contacted with the questionnaire to be responded within the interview. The interview was carried out with the cluster manager or other delegated person. The sample of six clusters comprise of the following sectors while each sector was represented by one cluster:

1. **Manufacturing** – traditional (processing) industries with value chains delivering final products to the market – **1st Slovak Engineering Cluster** is the representative cluster
2. **ICT** – **Cluster Z@ict** is the representative cluster
3. **KETs** (preferably one of the six key enabling technologies: micro and nanoelectronics, nanotechnology, industrial biotechnology, advanced materials, photonics, and advanced manufacturing technologies) or other technology / R&D-based cluster – clusters that have been addressed: **Cluster Monocrystal**, **Cluster AT+R** and **Cluster Radar** are the representative cluster is AT+R despite the fact, that fulfil the questionnaire only partially.
4. **Agro-food industries** – **Bioeconomy Cluster** is the representative cluster
5. **Services** – tourism, spa, health, social work, education, transport & logistic – **cluster Váh** is the representative cluster
6. **Creative & cultural industries** – **Cluster of Border Castles** Cluster is the representative cluster

The reason for the above structure of respondents was as follows: The results of the cluster policy assessment by cluster managers representing five from six sectors will show their opinions/experiences with respect to the indicator **6 - Integrity** from the desk research (Does the cluster policy cover all sectors and industries / is limited to certain sectors and industries / only one sector?) The answers of clusters from different sectors will help to evaluate the existing cluster policy rules and their possible changes when considering the justified needs of clusters and the consequent benefits for the society.

2) Results of the questionnaire

Item 0. Identification

According to year of establishment of the cluster, three clusters could be categorized as developed (mature) clusters (**1st Slovak Engineering Cluster**, **cluster Z@ict**, **Cluster AT+R** and **Cluster of Border Castles**³⁸), the rest as a start-up/immature ones.

Item 1. - Sector of operation

The sector of operation of the interviewed cluster was defined by one of the six sectors mentioned above. From these interviews we received back 6 questionnaires.

³⁸ Although due to the realized activities, it would be preferable to categorize the Cluster of Border Castles as start-up/immature cluster.

Item 2. Awareness – policy

Gives us the feedback, that in the Slovak republic the cluster policy doesn't exist and the respondents are not aware of it.

Item 3. Awareness - funding programme

Gives us the feedback, which confirmed the main results of desk research in category of funding programme. This was confirmed mainly by clusters: 1st Slovak Engineering Cluster, cluster Z@ict and Bioeconomy Cluster, the rest of respondents have not awareness about possibilities of cluster-devoted funding programmes

Item 4. Exploitation

As results from questionnaire surveys, respondents confirmed that direct support exists only for industrial cluster organization, but in Slovakia straight support for each category of clusters doesn't exist. There are a lot of problems with funds being obtained from different programmes, due to the many limitations and problems with cluster policy absence.

Some of the clusters have received funding from:

1. funds supported from state budget:

- The Scheme of aid De minimis for support of industrial cluster organizations :1st Slovak Engineering Cluster, Z@ict;
- *1. We recover our monument, 1.3 The activities of cultural policies and editorial activity in the field of protection of monuments (1. Obnovme si svoj dom, 1.3 Aktivita kultúrnej politiky a edičnej činnosti v oblasti ochrany pamiatkového fondu) - Cluster of Border Castles;*

2. various European programmes:

- Erasmus+ - 1st Slovak Engineering Cluster;
- Cross border cooperation – Z@ict;

Item 5. Satisfaction

The Satisfaction item should help to assess the general attitude of cluster managers towards the existing V4 cluster policies/programmes and discover some of the reasons for dissatisfaction. The most respondents from Slovak clusters are fully dissatisfied with the concept, scope of measures and support of clusters within the cluster programmes in country. The main reasons are: lack of cluster support, legal form of clusters (associations of legal entities) is in many cases the limiting factor (eligibility of applicants as clusters, developing business, the opportunity to apply for a bank loan, ...). Cluster AT + R has neutral attitude to the satisfaction with the concept, scope of measures and support of clusters within the cluster policy.

Item 6. Relevance

All respondents have agreed that cluster policy and programmes are completely relevant towards their cluster. It is very important to solve the problem of cluster policy due to the fact that every cluster performs its activities in their own way. There is no policy and there is not a basic strategic

framework that would form the skeleton of the existence of this kind of business entity. Problems arise with intellectual property financing possibilities, risks and other matters relating to contract. Regional development and the clusters' agenda might have greater authority in self-government of regions. This could help better organize StartUp activities, promotion in the region, and better connection among the academic and business entities.

Item 7. Needs

Respondents answered, that cluster policy/programmes in Slovakia do not cover all their needs. Most of them are missing all mentioned needs, mainly better governance from the public sector – more communication, care and involvement in support of cluster's activities.

Item 8. Improvement suggestions

This open question motivated the cluster managers to suggest possible improvements of the cluster policy/programme so that they can better fit the needs of the clusters and are a valuable source of information for the policy-makers. The improvement suggestions are as follows:

- support of existing clusters and their innovative projects
- support of new clusters creation,
- support of clusters' management including support of basic infrastructure, marketing, setting up of incubators, spin-off, start-up, transfer of technologies)
- support of international networking, development of partnerships, participation in international projects.

V. Analysis of cluster policy approach and results

5.1 SWOT ANALYSIS OF CLUSTER POLICY IN THE SLOVAK REPUBLIC

SWOT analysis of the Slovak Custer policy is stated in Table 3.

Table 3: SWOT analysis of the Slovak cluster policy

Strengths	Weaknesses
Quality elaboration of documents consist the issues of clusters: Strategy for Smart Specialisation of the Slovak Republic and Operational Programme of Research and Innovation	Low level of implementation of documents consist the issues of clusters: Strategy for Smart Specialisation of the Slovak Republic and Operational Programme of Research and Innovation.
The way of clusters' establishment on a "bottom – up" base approach.	Insufficient support from government at national, regional and local level.
Social and other ties among members of active clusters, from which influenced the negotiating power.	Low level of trust and cooperation in Slovak conditions and low diffusion of information among business entities and other cluster's members about clusters' activities.

<p>The participation of Slovak clusters within the international projects</p> <p>Capacity utilization of available resources for individual members of clusters (production, human, financial, etc.)</p> <p>Impact on regional development</p> <p>Information sharing</p> <p>Diversification and activities expansion of cluster members</p> <p>Access to new emerging markets</p>	<p>Distrust among cluster members.</p> <p>Insufficient the conception of cluster policy and cluster strategy.</p> <p>Weak implementation of ESIFs' system.</p> <p>Loss of trust between cluster members.</p> <p>Poor awareness of the issues of clustering among politicians both at national and regional levels.</p> <p>Lack of interest on the part of stakeholders influenced from poor awareness about the importance of cluster cooperation.</p>
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Table 3: SWOT analysis of the Slovak cluster policy – cont.

Opportunities	Threats
<p>Cooperation of clusters with universities and secondary schools.</p> <p>Increasing of support from regional institutions (from budgets of Cities, Municipalities, Regional authorities).</p> <p>Regional, national and international cooperation with other enterprises or clusters.</p> <p>Cross sector cooperation of clusters and connection into new activities.</p> <p>Approach of Government to the R&D.</p> <p>Joint research and development</p> <p>Increasing of awareness to the education towards explanation of the cluster definition</p> <p>Single market access on the EU area</p> <p>Cooperation with technology parks and incubators</p> <p>Attracting the FDIs, the export could create partnership in the international context.</p> <p>For creation of cluster conception the basic preconditions are fulfilled (experiences with benchmarking and labelling of Slovak clusters in the international context, experiences with</p>	<p>Insufficient legislative and financial support from the national and regional level.</p> <p>Low involvement and interest at all of national and local governments.</p> <p>Difficult access to scientific research projects support.</p> <p>The outflow of skilled labor from regions.</p> <p>Low level of enlightenment about the meaning of cluster cooperation.</p> <p>Insufficient of Operational Programme Research and Innovation implementation towards clusters.</p> <p>The trends in EU are focused on support of strong clusters, if Slovak clusters don't growth, they will not have possibility to obtain support from European resource.</p> <p>This reduces the opportunity to participate in international projects</p>

<p>straight cluster support within the frame of Schemes de Minimise, experiences of SIEA with implementation of Schemes de Minimise, international clusters' project, existence of Slovak Clusters Union and its experiences).</p> <p>Interest of clusters' members, stakeholders and Slovak Clusters union on cluster cooperation and extension of cluster's concept awareness.</p>	
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Source: own development

5.2 CLUSTER POLICY BEST PRACTICES FROM THE SLOVAK REPUBLIC

Practice No. 1: THE SLOVAK INNOVATION AND ENERGY AGENCY

Period of its application:

2013 – 2014, 2014 – 2016 selected activities

Responsible organization:

SIEA has been established by the **Ministry of Economy of the Slovak Republic** as a professional state subsidy organization

General introduction of the best practice:

- Implementator of Scheme de Minimis
- Responsible body for: projects focused on clusters (ClusterCOOP), elaboration of various analysis and studies focused on clusters, clusters policy and clustering.

Main results:

- representative of SIEA (Miroslav Balog, Pavol Duman) have belonged to Benchmarking experts,
- several documents and projects towards cluster cooperation and cluster policy was elaborated by representative of SIEA,
- First official proposal of Cluster policy in study „Cluster policy in Slovak conditions“. The publication deals with a comparison of different cluster policies, and highlights the requirement to implement a systemic assistance for clusters in Slovakia.

Main lessons learned:

- Experience with cluster support.
- Realized studies and analysis about situation in clusters' environment in the Slovak Republic
- Expert activities and presentations of industrial cluster organizations.

Practice No. 2: UNION OF SLOVAK CLUSTERS³⁹

Period of its application:

Since 2010

Responsible organization:

The Union of Slovak Clusters (UKS) was established in 2010 as a non-profit organisation. It is the only organisation representing clusters in Slovakia. Currently, UKS has 11 members (6 of them awarded with the European Cluster Management Excellence Label Bronze and 1 with Gold Label).

General introduction of the best practice:

- Promoting the creation and development of cluster policy in Slovakia.
- Strengthening of research, product development, innovation and technology transfer.
- Improving the quality of all education systems in the areas of interest of the member clusters.
- Supporting the exchange of information at national as well as international level in the area of innovation.
- Participating in international partnerships through projects in the area of education, research, development and transfer of know-how.

Main results:

The Union of Slovak Clusters is experienced in the implementation of international projects from various funds as a member of consortium:

Currently implemented projects::

- V4ClusGO

Finished projects:

- NoGAP (FP7)
- CluStrat (Central Europe Programme)
- ClusterPoliSEE (South East Europe Programme)
- V4Clusters (International Visegrad Fund)

Main lessons learned:

- Experience with various projects at national and international level.
- Experience and focusing on cluster policy creation.
- Member of the Steering Committee of Priority Area 8 of the Danube Strategy (Competitiveness and cluster development), participation in the working group “Clusters of Excellence”.

³⁹ http://uksk.sk/en/?noredirect=en_US

- Member of the National Committee for Priority Area 7 of the Danube Strategy.
- Signatory of the Memorandum of Understanding on cooperation in the field of the cluster organisation development and cluster policy support within the Danube Region countries (Bulgaria, Croatia, Czech Republic, Romania, Serbia, Slovakia).
- Member of the working group “Partnership for Cohesion Policy”.
- Member of the Monitoring Committee for Operational programme Research and Innovation for 2014-2020.
- Expert within the Standing Committee on Agricultural Research, strategic working group Agricultural Knowledge and Innovation Systems (SCAR AKIS).

5.3 SUCCESS STORY

For the Slovak Republic we choose as a successful case of selected cluster organization the cluster Košice IT Valley. We consider this cluster as a key cluster that can create added value for its members.

Focus of cluster:

Cluster Košice IT Valley plays an important role in the development of the IT industry in the Košice region. The association was established in 2007 as a joint initiative of educational institutions, government and leading IT companies. In 2012 it was transformed into the cluster. In 2015 the cluster was certified for “Cluster Management Excellence Label GOLD” as the first in central Europe and is one of three certified clusters in the area of information and communication technologies.

Main participants:

It currently has 49 members and 4 associate members. Members are divided into three categories: gold members, silver members, basic members and associate members.

Main activities of the cluster:

- Motivation of children and youth to study and later to work in the Information Technologies and Robotics
- Improving the quality of IT training programs offered by universities, high and elementary schools and IT businesses.
- Supporting all forms of cooperation and innovation.
- Preparation and implementation of joint scientific – research projects and providing consultancy in this area.
- Support the cooperation of members internally and cooperation of cluster with other organizations on national and international level.

- Elaboration of analyses, studies and prognoses of the further development of region and society.⁴⁰

Novelty of the case activity:

The Koišice IT Valley cluster draws together various initiatives, courses, seminars, research and their activities offering its members the connection into various activities and projects.

The vision of Košice IT Valley cluster is creating regional partnership of IT companies, education institutions and regional authorities that will contribute to extension and quality increase of educational programs, creation of broad portfolio of job opportunities for qualified work force and the elaboration of a common strategy necessary for achieving prosperity of the region of Eastern Slovakia and thus ensuring gradual increase of quality of life of its citizens.

The mission of cluster is in creating a business friendly environment stimulating all forms of cooperation and innovation within the region of Eastern Slovakia and thus strengthening the sustainability and competitiveness of IT companies globally. Cluster also see its mission in bringing jobs with high added value to the region in close cooperation of all parties involved. In addition to that it is to offer educational programs needed for these jobs and motivate the youth to study and work in IT and Robotics, and to contribute to elaboration and implementation of knowledge economy and information society strategy using the concept of „learning region “and implementation of digital ecosystems.

The role of cluster

The main objective of Košice IT Valley cluster is to create conditions for the development of the IT industry and thus improving the quality of life in Eastern Slovakia.

Main activities of clusters are concentrated on:

- Education
- Innovation
- Collaboration

Over the years focus on education stays as one of the priorities, but scope of the cluster itself has gone beyond. Innovations, research and development and support of collaboration within the cluster and support of investments become an integral part of the cluster, together with acting as a good practice ambassador and strong networker⁴¹.

Lesson learned

The scope of cluster's activities is extensive. The members of clusters are actively involved in implementation phase of activities but also at the stage of their formation. For this purpose cluster established four working groups: WG Education, WG Innovation, WG Collaboration, WG PR and marketing.

Cluster tries to bring new and interesting topics in the areas of innovation, education, IT, employment, business and so on to the members with impact on region. Projects are also important means of creating effective international partnerships and developing cooperation between the different actors of the private, public and state sector. They support dynamic environments and knowledge transfer to continuously improve competencies and skills for the emerging market trends.

⁴⁰ <http://www.kosiceitvalley.sk/en/about-kosice-it-valley/>

⁴¹ <http://www.kosiceitvalley.sk/en/about-kosice-it-valley/strategy-and-objectives/>

During its existence Kosice IT Valley joined national and international projects in various fields, whether as a coordinator or project partner.

VI. RECOMMENDATIONS FOR IMPROVEMENT THE SLOVAK CLUSTER POLICY

The description of current situation in the Slovak Republic concerning cluster policy and cluster organisations is basis for analysis what aspects are most importance for consideration what could be improved and how it can be done. Table 4 summarizes all these aspects and recommendations for the Slovak cluster policy being close to a smart cluster policy model.

Table 4: Summarization of analysis results and recommendations for improving cluster policy in the Slovak Republic

Requirements of smart cluster policy model.	Where are we in the Slovak Republic with their fulfilment?	What should be improved? (What is wrong?)	How can it be improved?
A. Time span			
Document/programme operation has long-term character	Documents and operational programme (mainly OPR&I) devoted to the development of clusters are within a long-term period and their elaboration is at high level.	Implementation of planned clusters' support. Focus on improving the issues regarding call proposals. Set up the long term cluster policy document	Increase the number of proposal calls.
Governments positive attitude towards the cluster policy issue is the permanent part of policy-making tools with regular updates to follow the new needs and context of cluster policy	There is no positive approach from the policymakers' point of view to the creation of cluster strategy and cluster policy. Clusters are established on the "bottom-up" principle. National Cluster Strategy and Policy is missing. There is not any permanent part of the policy making tools with regular updates. Many documents involve the cluster's policy issues. Regional governments have only little knowledge of needs for cluster development and principles of cluster policy. There are no cluster policy documents and no programmes on the regional level. Support only from the Scheme de Minimis (Ministry of Economy of the Slovak Republic – ME SR).	Develop and put into practice documents relating to cluster policy into practice at national and regional level To improve the work and using of existing OPR&I. To improve the direct assistance for clusters. Improve the direct support for cluster. To enforce the practice regarding documents relating to cluster policy into practice at national and regional levels It is necessary to improve the training of policy makers regarding awareness of cluster policy in Slovakia.	Real application of planned activities in area of cluster policy. To put into practice documents relating to cluster policy at national and regional levels It is must arise the system of implementation. Increase the pressure on the raising awareness policy level among policy makers.
B. Executive aspects			
The national/regional government recognizes the importance of the cluster policy issue, i.e.	At national level: The government's positive approach to „cluster policy“ was expressed in the	The autonomous cluster policy document is missing on the national level.	To prepare and adopt the holistic cluster strategy and policy document.

devotes the cluster issue an independent or autonomous document/programme.	<p>documents on Innovation Policy for 2011 – 2013, Innovation strategy of SR for period 2007 – 2013.</p> <p>At regional level: Plan for economic and social development: BA - part of the priority areas and strategic objectives TT – Support of cluster policy TN – Support of clustering, creation of suitable conditions of clusters' establishment NR - Support of suitable conditions of clusters' establishment BB – info about clusters only in analytical part ZA – Networking for the creation and development of clusters PO - Support of suitable conditions of clusters' establishment KE - Promotion of R & D base and innovation activities within IT Valley cluster, Establishment and operation of Creative cluster region, Support R & D base and innovation activities within biomedical cluster At regional level is missing: - tools for support, - document focused on cluster policy, - financial and other sources. Regions are initiators of clusters' establishment, but they don't know how to execute the cluster policy.-</p>	<p>Real support of clusters. The cluster policy documents is missing on the regional level Relatively low interconnection of RIS3 and OPR&I with clusters, At regional level the regional RIS3 is missing. To increase the awareness among regional policy makers.</p>	<p>Target real proposal call. To prepare and adopt the new cluster policy document at regional level. To set up the system of financing.</p>
Cluster policy document/programme is fully operable vertically, i.e. it has been adopted by the government as a government decree	SR is without this type of documents.	<p>Establish cluster policy based on the knowledge of other V4 countries. Raise awareness among policy makers about the importance of cluster cooperation</p>	To prepare and adopt the new cluster policy document (building on the holistic principle) using the bases of main documents relating with clusters in Slovakia (RIS3 and OPR&I)
Cluster policy document/programme is fully operable horizontally, i.e. it has a general force across the sectors of governmental departments	<p>SR is without this type of documents. A managing authority for clusters development is missing. Low level of cooperation between ME SR and The Ministry of Education, Science, Research and Sport of the Slovak Republic (MESRS) and Ministry of Transport, Construction and Regional Development of the Slovak Republic (MTCRD SR).</p>	The cluster policy document is missing on the national level and thus the horizontal operability is not addressed.	<p>Implement the horizontal cooperation of different ministries and coordination of national and regional cluster policies must be incorporated into the new cluster policy document. To entrust the SIEA or Department of industry development and investment, Department of industry environment and investment at ME</p>

			SR as a special managing authority for the cluster concept support. Increasing the level of cooperation with USC. Enforcement of regional stakeholders in the formation and support of cluster organizations by regional authorities or the ME SR, in collaboration with MESRS and MTCRD SR.
The existing allocation of financing from the public budget.	Ministry of Economy through the Scheme de Minimis: 2013 - 160 569,96 EUR (100%) 2014 - 127 527,00 EUR (70%) 2015 - 130 000,00 EUR (70%) 2016 - 242 200,00 EUR (70%)	Better explanation of eligible applicant. Implement into practice the operational programs that are focused on cluster support (OP Research and Innovation, Slovakia - Rural Development Program)	To improve process of preparing and operation of programs and Scheme de Minimis that would be supporting COs
Cluster policy document/programme is fully operable functionally, i.e. the implementation of the policy is fully working in accordance with the planned scheme.	Very low implementation degree of Operational programs only the Scheme de Minimis being implemented	Documents in previous programming period was not implemented	To focus on better adopting and implementation of strategic and programming documents in actual programming period
There is a clearly entrusted governance body for the cluster policy development, implementation and monitoring	SR is without clearly entrusted governance body for the cluster policy development. We can consider as this body the Ministry of Economy of the SR, respectively the SIEA The competence in this time is carrying by ME SR.	Extend the SIEA's competences or competences of innovation department at the Ministry of Economy	By being put into practice
C. Thematic aspects			
The SCPM builds on the fact that a cluster can appear in any industry and be the specific competitive advantage of the given territory, so the inclusion of all government sectors and industries in the cluster support scheme is the necessity.	SR is without SCPM. Official definition of cluster term is missing. Only Industrial cluster organizations are supported directly. A form of operational programs should be supported: industrial, automotive, plastic, ICT and agricultural Clusters.	Determine competent institutions or bodies (SIEA, UCS, department of ministries) who will be responsible for SCPM creation and building.	To set up a holistic cluster policy. To set up the cluster policy goals, To set up the support of clusters (COs) in each type of industry in national economy. To set up cluster a policy at regional level. To set up the effective mechanism for funding managing, monitoring and evaluation of cluster policy.
All development stages of clusters are taken into account within the cluster policy structure and related measures	Nowadays the support is mainly focused on projects on industrial COs	Establish the systematic support to all stages of clusters development at regional and national level.	Establish and implement the holistic strategy of cluster development at regional as well as national level. Better cooperation with USC
The national accreditation scheme for cluster	The accreditation scheme for clusters is missing.	Establish the accreditation scheme or	Implementing the accreditation scheme.

organisations, or a similar system, i.e. the cluster organisation's performance assessment based on a set of unified parameters for categorising the capability of cluster organisation to achieve the strategic goals and capitalise the public support efficiently	Slovak clusters are connected into labelling system of ESCA	appropriate ranking system for clusters in SR: <ul style="list-style-type: none"> - Define the exact cluster typology, - Define the rules of ranking, - Categorization of clusters, - Define the indicators that clusters have to observe and register. 	Delegate institution, body or organization which will be responsible – (SIEA, or department at ME SR). Create the system of monitoring and evaluation of cluster performance and efficiency.
The training schemes for cluster stakeholders, including the availability of experienced lecturers and trainers efficiently operates.	In SR totally absent the system and tools of public support for education of cluster managers and other cluster stakeholders from both national and regional levels.	Create the system of training scheme for different target groups of cluster stakeholders.	Implement the system of support for education of cluster stakeholders, facilitators and managers to be delivered by a contracted expert body (such as UCS). To run accredited certification centre (SIEA, or department at ME SR), obtained certificate for COs management as condition for project applications (funding).
The cluster concept awareness is building	SIEA, UCS, SBA is building the concept of awareness about clusters' issues through the international projects and labeling.	It is necessary to start with real support of clusters. It is necessary to improve the support from national sources resp. OPR&I.	To provide events, conferences, workshops both nationally and regionally, issue brochures, etc. by the national cluster competent body.

Source: Own processing

VII. CONCLUSION

The European Commission's objective concerning clusters is to maximise clusters' contribution to the reindustrialisation of the European economy, entrepreneurship & SME growth and regional economic competitiveness (through synergies with smart specialisation)⁴². The efforts towards upgrading and at least partially integrating cluster policies within the Visegrad countries through the "V4 Cluster Policies and their influence on the viability of cluster organisations" project are thus more than relevant.

The project methodology consequently tends to streamline the V4 cluster policies from just a policy to a fact-based policy, from a partial cluster concept oriented to a more holistic and consistent view, from separate and incompatible to smart and strong V4 cluster policies based on a long-term partnership and collaboration of the Visegrad countries.

Despite the absence of a systematic cluster policy or strategy in Slovak Republic, the creation and development of clusters was carried out mainly at bottom up approach- based on the initiative of individual subjects or government and regional authorities. Legal and organizational basis for the creation and development of clusters were the documents and legislation acts being adopted in the context of economic policy, development of small and medium enterprises, increasing their competitiveness, innovation policy and so on. Organizational arrangements and regulatory standards adopted in the above stated economic areas of economic subjects and government and regional authorities were possible to be applied for the purposes of the establishment and development of clusters, which were carried out on the bottom up initiative. However, in recent years, particularly within the next programming period for the years of 2014-2020 regarding the support usage from the EU structural funds in individual programming documents and legislative amendments measures are being adopted that are intentionally aimed at clusters promotion and development.

The results of this project pointed on the best practices from cluster policy in each of V4 country, from which the Slovak republic can obtain important sources of information for improvement of basis of cluster policy. Among best practices of other countries we can include the holistic cluster policy and strategy (Czech republic), certification or accreditation system of clusters (Hungary and Poland), the specific cluster typology (Czech republic, Hungary, Poland) and system of cluster support, awareness among clusters' stakeholders (Czech republic, Hungary, Poland) and many others. The Slovak republic fulfil basic preconditions for creation of cluster policy and based on the example of other V4 countries could start with its formulation.

There is the managing body or authority responsible for cluster policy in each V4 country. In the Slovak Republic suitable body, who could be responsible for cluster policy could be the Slovak Innovation and Energy agency or some of departments of Ministry of economy of the Slovak republic.

The Slovak clusters take part in the assessment process realized by ESCA, but the specific system of cluster categorization in Slovakia doesn't exist. SIEA categorizes clusters into two group: technological and tourism. In the frame of this project the Slovak clusters were classified by branch classification into 6 categories while clusters of tourism are ranked among cluster of

⁴² Ekroth-Manssila Kirsi (2015) Overview of latest developments in EU Cluster Policy. Head of Unit – SMEs: Clusters Emerging Industries, Cluster Excellence Day 2015, Brussels.
<http://static1.squarespace.com/static/514068dbe4b07e09335cbef0/t/54eb6266e4b02db31b49b612/1424712294010/Clusters+in+COSME+and+H2020+-+Kirsi+Ekroth-Manssila.pdf>

service industries. The important role in Slovak “cluster policy” play Union of Slovak clusters, who could be the disseminator of awareness among stakeholders

On this basis, with some degree of optimism it can be assumed that these individual measures and legislative amendments soon become the basis for the elaboration of a comprehensive national and regional cluster policy.

V4 CLUSTER POLICIES AND THEIR INFLUENCE ON THE VIABILITY OF CLUSTER ORGANISATIONS

METHODOLOGY GUIDE

- I. Desk research
- II. Semi-structured interviews

I. Introduction

This Methodology Guide is considered to be the first step towards the design and evaluation of the Smart Cluster Policy (SCP) model based on the V4ClusterPol project pilot. This guide has been built respecting the V4ClusterPol methodology framework. All recommendations in this guide are practical and realistic to achieve the goals of the project within its timeframe and with given resources. However, the criteria used in this guide for comparative analysis of cluster policies in the Visegrad countries are new in the sense of the holistic approach and qualitative point of view especially in the part of the desk research which forms the first part of this guide giving the detailed instructions to the project partners. The second part of the guide (chapter III) will include the semi-structured interviews with cluster managers.

II. Instructions for the desk research

1) The structure of the data collection forms

There are three types of forms for two periods of time prepared for the comparable assessment of cluster policies in the Visegrad countries and their degree of approximation to the Smart Cluster Policy (SCP) model:

- a. Existing/Preceding cluster policies/strategies (mandatory documents)
- b. Other existing/preceding documents for cluster policy (optional documents)
- c. Existing/Preceding cluster funding programmes

Expressed as a percentage, the SCP represents 100% (the highest values) in all surveyed parameters. Based on data gained from the desk research, it will be possible to identify the proximity of each cluster policy of the V4 country to the SCP model using the spider graph visualisation.

Concerning the **two periods of time**, we mean the programming periods of 2007-2013 and 2014-2020. Filling in the tables for both periods of time (2 x 3 forms), it will be possible to better compare the results in the V4 countries based on the already closed period (2007-2013), especially in case of the funding programmes where data, such as allocation of funds, number of calls, number of projects funded and the total expended, are available.

For the current period 2014-2020, the desk research will only show how the policy is set conceptually in each country, and this will serve for the comparison, as the output data are not known yet.

Concerning the **regional level** of documents/programmes, it is the **partner's region** only to be analysed. So, on the regional level, we will have **four V4 regions** for evaluation and comparison of the existing and preceding cluster policies/strategies materialised in documents and programmes.

2) The structure of the value of the indicators within one category

Based on the structure of indicators with one choice of three options within each category of indicators, the evaluation of the data will count with three levels of values:

1. **High-level** aspect of the country/region's cluster policy that is fully functional and corresponding to the SCP model.
2. **Medium level** of cluster policy attention is given to this aspect of the SCP model and thus it still gives the possibility to the policy-makers to increase the given status by new, better targeted policy measures;
3. **Low level** aspect of the cluster policy in the country/region, maybe not addressed at all by policy measures and thus showing the deficit in relation to the SCP model, which offers the space for policy action;

3) The explanation of the categories of indicators used:

0. **Identification** – the basic identification data including the name of the document/programme, the responsible body/author/managing body, implementation body or the target group that is the document devoted to, the year of the adoption/issue of the document/programme.
1. **Durability** – the length of the time span of the document/programme operation divided into long-term, mid-term and short-term duration.
2. **Autonomy** – the degree of focus on cluster policy showing that the document is either exclusively devoted to it, or is a part of a broader/similar policy but with a corresponding proportion of the cluster policy focus, or the cluster issue is only generally mentioned without any specifications.
3. **Functionality** – the combination of the government level of the document adoption, its scope of force throughout the sectors of the governmental departments (i.e. industry, agriculture, services etc.) and the degree of implementation. The criterion should show whether the cluster policy is firmly anchored in the system vertically (the government decree vs. just strategic document), horizontally (general force throughout the sectors vs. some sectors only) and functional in terms of whether the implementation of the policy is working. For the programme evaluation, the functionality includes specific quantitative data.
4. **Viability** – the premise is used that viability is connected with the existence of clearly entrusted governance body (an exclusively established institution for cluster policy vs. incorporated within duties of an existing government body) and existing allocation of financing from the public budget.
5. **Continuity** – the confirmation of the governments positive attitude towards the cluster policy issue being a permanent part of the policy-making tools with regular updates to

follow the new needs and context vs. just included in the current programme period – or something in between?

6. **Integrity** – the degree of covering the sectors of public administration and the industries (no matter if traditional, such as automotive, or from technological or service/creative industries etc. including emerging and inter-sectoral industries) with no limits. A cluster can appear in any industry and be the specific competitive advantage of the given territory, so the inclusion of all government sectors and industries in the supporting scheme is the optimum.
7. **Complexity** – One of the most important aspects of a good cluster policy is to understand the needs of individual cluster development stages and offer the cluster's developmental stage the relevant support. The development segments of clusters, in this methodology, are:
 - vi. **Cluster mapping and analysis;**
 - vii. **Cluster initiative development** (cluster actors facilitation);
 - viii. **Cluster organisation incubation** (the start-up support for the cluster management capacity building);
 - ix. **Cluster organisation development** (cluster management excellence, R&D projects, internationalisation)
 - x. **Cluster governance** influencing all of the previous segments if efficiently performing.
8. **Consistency** – the degree of the provision of the essential supportive measures and actions that the public sector institutions (policy-makers) can/should offer within their governance to assist and optimise the cluster policy with the conscious goal to receive the best quality on its output. For the purpose of this analysis, the supportive measures include the existence of:
 - i. **The national accreditation scheme for cluster organisations**, or a similar system, i.e. the cluster organisation's performance assessment based on a set of unified parameters for categorising the capability of cluster organisation to achieve the strategic goals and capitalise the public support efficiently);
 - ii. **The training scheme for cluster stakeholders** targeted at cluster analysts, cluster facilitators, cluster managers and the cluster organisation staff, cluster governance representatives and other actors of the regional/national cluster-relevant development and innovation infrastructure;
 - iii. **The cluster concept awareness building** – the basic good that the policy-makers can do for clusters – to inform about them and communicate their successes, benefits, examples worth following and the best practices in all five types of cluster activities (i.e. information & networking, HR development, R&D and innovation projects, PR & marketing and internationalisation) in the form of conferences and other public events, publications and various media outputs.

4) The instructions for the desk research in individual steps

Step 1 – Search out the existing cluster policy documents in your country according to the three types of documents to be described in the three types of questionnaire forms:

1. Existing/Preceding cluster policies/strategies (mandatory documents)

This questionnaire is targeted at those identified policies/strategies that are embodied in legally approved documents and adopted by some of the government administrations in a form of a government decree or other binding procedure.

2. Other existing/preceding documents for cluster policy (optional documents)

This questionnaire is designed for those less binding documents concerning the cluster policies and strategies that have the form of recommendations, best practices, methodologies, studies etc. and can be used as the basis for some policy/strategy implementation but are not mandatory.

3. Existing/Preceding cluster funding programmes

This questionnaire will be used for the description of all financial tools identified to allow the cluster policy implementation.

Step 2 – Classify the identified documents according to their belonging to the territorial administration: national, regional, local and fill in the relevant data in the right columns.

Step 3 – Fill in the available data in four possible ways:

- a) Write complete texts / figures after the colon (:)
- b) Mark with x your answer on the questions (?) to show your choice of the three options.
- c) Add specification in text/figure where needed (Which one/s?)
- d) Choose the right statement from the proposed options, add your own one where appropriate (for example “Choose the type of the document ...” – question 2 in the Form 2) and write the right word/s in the column.

Step 4 – Fill in the Partner's Identification data

III. Instructions for the semi-structured interviews with cluster managers

The aim of the interviews with cluster managers is to get the feedback on the cluster policy and funding programmes – how they are effective and helpful or whether they miss some of the important components and how it can be improved. The results of the interviews evaluation and their comparison in the V4 countries together with the results of the desk research on cluster policies will enable to formulate the recommendations towards the policy-makers and propose relevant upgrades and/or amendments.

3) The structure of the respondents

Each partner will contact five (5) functional cluster organisations / clusters represented by cluster managing organisations with the questionnaire to be responded within the interview. The interview will be carried out with the cluster manager or other delegated person.

The sample of five clusters will comprise of the following sectors while each sector will be represented by one cluster:

7. Manufacturing – traditional (processing) industries with value chains delivering final products to the market and ICT;
8. KETs (preferably one of the six key enabling technologies: micro and nanoelectronics, nanotechnology, industrial biotechnology, advanced materials, photonics, and advanced manufacturing technologies) or other technology / R&D-based cluster;
9. Agro-food industries;
10. Services – tourism, spa, health, social work, education, transport & logistic;
11. Creative & cultural industries.

The reason for the above structure of respondents is as follows: The results of the cluster policy assessment by cluster managers representing all five sectors will show their opinions/experiences with respect to the indicator 6 - **Integrity** from the desk research (Does the cluster policy cover all sectors and industries / is limited to certain sectors and industries / only one sector?) The answers of clusters from different sectors will help to evaluate the existing cluster policy rules and their possible changes when considering the justified needs of clusters and the consequent benefits for the society.

4) The structure of the questionnaire and explanations/instructions for the interview

The questionnaire consists of a cluster identification item (0) and eight thematic items (1 - 8) containing the questions and options of answers. The first column serves for ticking the selected answer (**Tick the choice - x**) and the second column serves for the specifications and more details (**Specification details**).

Item 0. Identification

- Name of the cluster organisation/cluster vs. Name of the cluster managing body (HU, PL)

While the cluster organisations in a form of legal body with its executive management exist in the Czech Republic and Slovakia (associations, cooperatives etc.), the Hungarian and partly Polish clusters have a specific cluster managing body – a legal entity with its own name which differs from the name of the cluster.

- Cluster organisation/cluster established in the year

The year of establishment of the cluster organisation or cluster defines the “age” of the cluster in terms of the cluster development segment (start-up/immature – e.g. up to three years; developed/mature – above three years) that can play role in the cluster policy exploitation, its relevance for clusters and needs of a cluster.

Item 1. - Sector of operation

Question: Choose one sector where your cluster belongs (see the explanation in the Guide)

- a) Manufacturing, specify which:
- b) ICT, specify which:

- c) KETs or other technology/R&D-based cluster, specify which:
- d) Agro-food industries, specify which;
- e) Services, specify which:
- f) Creative & cultural industries, specify which:

The sector of operation of the interviewed cluster is defined by one of the five sectors – see the previous paragraph ad III 1) The structure of the respondents.

Item 2. Awareness – policy

Question: Are you aware of the cluster policy existing in your country?

- If YES, please specify the document (name, period of validity, responsible body)
 - a) on the national level
 - b) on the regional level
 - c) on the local level (municipality, sub-region)
 - d) on the European level
- if NOT, please specify why:
 - i) I am not aware
 - ii) no policy existing in the country

This question should give the feedback on the existence of different cluster policies and the respondent's awareness of it.

Item 3. Awareness - funding programme

Question: Are you aware of cluster-devoted funding programme? If yes, please specify the programme (name, period of validity, responsible body)

- a) on the national level
- b) on the regional level
- c) on the local level (municipality, sub-region)
- d) on the European level
- e) no

Similar as the Item 2.

Item 4. Exploitation

Question: Are you the beneficiary of the funding programme/s ad 3 a), b), c)? If yes, specify and use next columns for more programmes you exploited.

- a) Name of programme/s you applied for funding
- b) Number of projects applied for / time period of projects duration (years from-to per project)
- c) The value of each project implemented (in €)
- d) The obligatory co-financing percentage per project (%)

This item helps to see, how the cluster funding programmes have been used by clusters from different sectors.

Item 5. Satisfaction

Question: Are you satisfied with the concept, scope of measures and support of clusters within the cluster policy / programmes in your country?

- a) fully satisfied
- b) rather satisfied
- c) neutral
- d) rather dissatisfied - specify the reasons why:
- e) fully dissatisfied - specify the reasons why:

The Satisfaction item will help to assess the general attitude of cluster managers towards the existing V4 cluster policies/programmes and discover some of the reasons for dissatisfaction.

Item 6. Relevance

Question: How would you assess the relevance of the cluster policy / programmes in your country towards your cluster?

- a) completely relevant
- b) partly relevant - specify the reasons why:
- c) irrelevant - specify the reasons why:

The Relevance item discovers the cases when cluster policy and its measures are not applicable to all clusters and, vice versa, the clusters cannot make full use of it, giving the objective reasons for its partly relevance or complete irrelevance.

Item 7. Needs

Question: Does the cluster policy/programmes in your country cover all your needs? If not, please choose what you are missing and specify:

- a) the periodicity of calls at least once a year (if other - please specify)
- b) the higher amount of allocated money/lower co-financing (if other – please specify)
- c) more and better awareness building and training – lack of human capital for cluster management (please specify)
- d) funding for start-up clusters and clusters in services, agro-food and creative industries (please specify)
- e) better governance from the public sector – more communication, care and involvement in support of cluster activities (please specify)
- f) other needs/comments

The item offers possible needs of clusters that can be potentially incorporated in the cluster policy upgrade.

Item 8. Improvement suggestions

Question: Can you suggest some improvements of the cluster policy / programmes in your country that would help your cluster to prosper better?

- a)
- b)
- c)

The open question motivates the cluster managers to suggest possible improvements of the cluster policy/programme so that they can better fit the needs of the clusters and are a valuable source of information for the policy-makers.

APPENDIX 2: Documents and programs related to the cluster policy in the Slovak Republic

0. The project partner's identification and contact data

1	Country	The Slovak Republic
2	Region	Trenčín
3	Project partner	Trenčianská univerzita, Fakulta sociálno-ekonomických vzťahov
4	Form Completed by	Katarína Havierniková
5		katarina.adamkova@gmail.com
6	Consultations (if appropriate)	Daniel Ács, Únia kláštorov Slovenska

1.A Existing cluster policies/strategies (mandatory documents 2014-2020)

INDICATORS			Cluster policy territorial administration level					
No.	Type	Questions	National					
1	0. Identification	Name of the document:	Research and Innovation Strategy for Smart Specialisation of the Slovak Republic (RIS3)	National Regional Development Strategy of the Slovak Republic	The basis of strategy of creative industry development in the Slovak Republic	National Reform Programme of the Slovak Republic 2014	National Reform Programme of the Slovak Republic 2015	National Reform Programme of the Slovak Republic 2016
2		Responsible body:	Ministry of economy, Ministry of Education, Science, Research and Sport of the Slovak Republic	Ministry of Transport, Construction and Regional Development	Ministry of culture	Government of the SR	Government of the SR	Government of the SR
3		Implementation body:	Ministry of economy, Ministry of Education, Science, Research and Sport of the Slovak Republic	Ministry of Transport, Construction and Regional Development	Ministry of culture	Government of the SR	Government of the SR	Government of the SR
4		Adopted by the government in the year:	2013	2010	2014	2014	2015	2016
5	1. Durability	Long-term (7 years and more)?	x/7	x	x			
6		Mid-term (3-6 years)?						
7		Short-term (1-2 years)?				1	1-2	1-2
8	2. Autonomy	Specifically devoted to clusters?						
9		Explicit part of another policy document? Which one?						
10		Generally mentioned in an existing strategy?	x	x	x	x	x	x
11	3. Functionality	Adopted as the government decree with general force and fully implemented ?						
12		Adopted as the government decree with sectoral force	x	x	x	x	x	x

		/partly implemented ?						
13		Adopted as strategic document with unstated force / not implemented ?						
14	4. Viability	Supported by public budget and governed by specialised institution?						
15		Supported by public budget and governed by traditional government body?	x	x	x	x (statet budget/the Prime Minister, and the Deputy Prime Minister and Minister of Finance)	x (statet budget/coordinator - Minister of Finance cooperated with Government Office of the SR)	x (statet budget/coordinator -Minister of Finance cooperated with Government Office of the SR)
16		Not supported by public budget / partly governed by a government body?						
17	5. Continuity	Continuously valid with regular updates?				x	x	x
18		Valid for the period 2014-2020 and existing also in previous years?		x				
19		Valid in the period 2014-2020?	x		x			
20	6. Integrity	Covering clusters in all sectors and industries?						
21		Limited to certain sectors/industries? Which ones?	x/Key branches - Production of: motor vehicles, consumer electronics, machinery and equipment and metals.	x/industry	x/creative industry			
22		Only one sector supported? Which one?				none	x /industrial cluster organization	x /industrial cluster organization

23	7. Complexity	Measures for all cluster development stages included?						
24		Measures only for three to four cluster development stages? Which ones?						
25		Measures only for one to two cluster development stage? Which one/s?	none	none	x/ iv	none	none	none
26	8. Consistency	National accreditation of cluster organisations, training of cluster stakeholders and cluster concept awareness building provided?						
27		Only two of the cluster concept support activities provided? Which ones?						
28		At least one of the cluster concept support activities provided? Which one?	none	none	none	none	none	none

1.A Existing cluster policies/strategies (mandatory documents 2014-2020)

INDICATORS			Cluster policy territorial administration level	
No.	Type	Questions	Regional	
1	0. Identification	Name of the document:	The program of economic and social development of Trnava Self Governing Region	Integrated regional territorial strategy Trnava region for the period 2014 - 2020
2		Responsible body:	Trnava Self-Governing Region	Trnava Self-Governing Region
3		Implementation body:	Trnava Self-Governing Region	Trnava Self-Governing Region
4		Adopted by the government in the year:	2015	2016
5	1. Durability	Long-term (7 years and more)?		7
6		Mid-term (3-6 years)?	5 (2016-2020)	
7		Short-term (1-2 years)?		
8	2. Autonomy	Specifically devoted to clusters?		
9		Explicit part of another policy document? Which one?		
10		Generally mentioned in an existing strategy?	x	x
11	3. Functionality	Adopted as the government decree with general force and fully implemented?		
12		Adopted as the government decree with sectoral force /partly implemented?	x	x
13		Adopted as strategic document with unstated force / not implemented?		
14	4. Viability	Supported by public budget and governed by specialised institution?		
15		Supported by public budget and governed by traditional government body?	x	x
16		Not supported by public budget / partly governed by a government body?		
17	5. Continuity	Continuously valid with regular updates?		
18		Valid for the period 2014-2020 and existing also in previous years?		
19		Valid in the period 2014-2020?	2016-2020	2014-2020
20	6. Integrity	Covering clusters in all sectors and industries?		
21		Limited to certain sectors/industries? Which ones?	x (energetics and renewable energy, tourism)	
22		Only one sector supported? Which one?		none
23	7. Complexity	Measures for all cluster development stages included?		
24		Measures only for three to four cluster development stages? Which ones?		
25		Measures only for one to two cluster development stage? Which one/s?	x /iv)	none
26	8. Consistency	National accreditation of cluster organisations, training of cluster stakeholders and cluster concept awareness building provided?		
27		Only two of the cluster concept support activities provided? Which ones?		

28		At least one of the cluster concept support activities provided? Which one?	none	none
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1.B Preceding cluster policies/strategies (mandatory documents 2007-2013)

INDICATORS			Cluster policy territorial administration level				
No.	Type	Questions	National				
1	0. Identification	Name of the document:	National Strategic Reference Framework for the period of 2007 – 2013	Innovation Policy for 2011 – 2013	Innovation strategy of SR for period 2007 -2013	National Reform Programme of the Slovak Republic 2012	National Reform Programme of the Slovak Republic 2013
2		Responsible body:	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Ministry of Economy of the Slovak Republic	Central government bodies	Government of the SR	Government of the SR
3		Implementation body:	Ministry of Transport, Construction and Regional Development of the Slovak Republic	Ministry of Economy of the Slovak Republic	Central government bodies	Government of the SR	Government of the SR
4		Adopted by the government in the year:	2006	2011	2007	2012	2013
5	1. Durability	Long-term (7 years and more)?	7		7		
6		Mid-term (3-6 years)?		3			
7		Short-term (1-2 years)?				1	1
8	2. Autonomy	Specifically devoted to clusters?					
9		Explicit part of another policy document? Which one?					
10		Generally mentioned in an existing strategy?	x	x	x	x	x
11	3. Functionality	Adopted as the government decree with general force and fully implemented ?	x	x			
12		Adopted as the government decree with sectoral force /partly implemented ?			x	x	x

13		Adopted as strategic document with unstated force / not implemented ?					
14	4. Viability	Supported by public budget and governed by specialised institution?	x				
15		Supported by public budget and governed by traditional government body?		x	x	x	x
16		Not supported by public budget / partly governed by a government body?					
17	5. Continuity	Continuously valid with regular updates?					x
18		Valid for the period 2007-2013 and existing also in previous years?					
19		Valid in the period 2007-2013?	x	x	x	x	
20	6. Integrity	Covering clusters in all sectors and industries?					
21		Limited to certain sectors/industries? Which ones?					
22		Only one sector supported? Which one?	x / industry	x - industry	none	x / high-tech	none
23	7. Complexity	Measures for all cluster development stages included?					
24		Measures only for three to four cluster development stages? Which ones?					
25		Measures only for one to two cluster development	x/ iii	x/iv	none	x/ii	x/ii

		stage? Which one/s?					
26	8. Consistency	National accreditation of cluster organisations, training of cluster stakeholders and cluster concept awareness building provided?					
27		Only two of the cluster concept support activities provided? Which ones?					
28		At least one of the cluster concept support activities provided? Which one?	none	none	none	none	none

1.B Preceding cluster policies/strategies (mandatory documents 2007-2013)

INDICATORS			Cluster policy territorial administration level			
No.	Type	Questions	Regional			
1	0. Identification	Name of the document:	Action Plan for the Development of Industry in territory of Trnava Region	The strategy of industrial development in the Trnava region	Strategy of tourism development in the Trnava Region (2008 -2013)	The program of economic and social development of Trnava Self Governing Region
2		Responsible body:	Trnava Self-Governing Region	Trnava Self-Governing Region	Trnava Self-Governing Region	Trnava Self-Governing Region
3		Implementation body:	Trnava Self-Governing Region	Trnava Self-Governing Region	Trnava Self-Governing Region	Trnava Self-Governing Region
4		Adopted by the government in the year:	2009	2008	2008	2010
5	1. Durability	Long-term (7 years and more)?	x			
6		Mid-term (3-6 years)?		5 (till 2013)	6	5 (2009-2015)
7		Short-term (1-2 years)?				
8	2. Autonomy	Specifically devoted to clusters?				
9		Explicit part of another policy document? Which one?			x/The program of economic and social development of Trnava Self Governing Region	
10		Generally mentioned in an existing strategy?	x	x		x
11	3. Functionality	Adopted as the government decree with general force and fully implemented?				
12		Adopted as the government decree with sectoral force /partly implemented?	x	x	x	x
13		Adopted as strategic document with unstated force / not implemented?				
14	4. Viability	Supported by public budget and governed by specialised institution?				
15		Supported by public budget and governed by traditional government body?	x	x	x	x
16		Not supported by public budget / partly governed by a government body?				

17	5. Continuity	Continuously valid with regular updates?				
18		Valid for the period 2007-2013 and existing also in previous years?				
19		Valid in the period 2007-2013?	x	x (2008-2013)	x(2008-2013)	2009-2015
20	6. Integrity	Covering clusters in all sectors and industries?				
21		Limited to certain sectors/industries? Which ones?	x/growth poles: the automotive, electronics industries and the energy sector	x/growth poles: the automotive, electronics industries and the energy sector		x/automotive, electronics, energy
22		Only one sector supported? Which one?			x/tourism	
23	7. Complexity	Measures for all cluster development stages included?				
24		Measures only for three to four cluster development stages? Which ones?				
25		Measures only for one to two cluster development stage? Which one/s?	x/iii	x/iii, iv	x/ii	x/ii,iii, iv
26	8. Consistency	National accreditation of cluster organisations, training of cluster stakeholders and cluster concept awareness building provided?				
27		Only two of the cluster concept support activities provided? Which ones?				
28		At least one of the cluster concept support activities provided? Which one?	iii	iii	iii	iii

3.A Existing cluster funding programmes (2014-2020)

INDICATORS			Cluster policy territorial administration level				
No.	Type	Questions	National				
1	0. Identification	Name of the programme:	The Scheme of aid de minimis DM18/2014	The Scheme of aid de minimis DM18/2014 (in Commercial Bulletin 20/2015)	The Scheme of aid de minimis DM18/2014 as amended by amendment no.2 for 2016	OP Research and Innovation	Slovakia - Rural Development Programme
2		Managing body:	Ministry of Economy	Ministry of Economy	Ministry of Economy	CCA - Government Office of the SR Managing authority: Ministry of Economy, Ministry of School, Science, Research and Sport of SR	CCA - Government Office of the SR, managing authority: Ministry of Agriculture and Rural Development of the Slovak Republic
3		Implementation body:	Slovak Innovation and Energy Agency	Ministry of Economy	Ministry of Economy	Managing Authority of the OP Research and Innovation	Ministry of Agriculture and Rural Development
4		Choose the priorities of the programme: networking, human resources, R&D and innovation projects, marketing, internationalisation, others:	The aid is aimed to intensify the information transfer, specialist activities, presentations of industrial cluster organizations (industrial clusters) and their involvement in international projects and networks.	The increasing of competitiveness of clusters organizations through their support and their cooperation in area of innovation projects realization	The increasing of competitiveness of clusters organizations through their support and their cooperation in area of innovation projects realization	PA 1 Promotion of research, development and innovation, Investment Priority 1.2 Investment Priority 2.2 Investment Priority 3.3.	P: 2 -6: strengthening the competitiveness of the Agricultural Sector (Agriculture, Forestry and Food).
5		Officially approved by the government in the year:	2014	2015	2016	2014	2015
6	1. Durability	Long-term (7 years and more)?				x	x
7		Mid-term (3-6 years)?					
8		Short-term (1-2 years)?	x	x	x		
9	2. Autonomy	Specifically devoted to clusters?	x (industrial cluster organizations)	x (industrial cluster organizations)	x (industrial cluster organizations)		
10		Explicit part of another					

		programmer? Which one?					
11		Partly concerning clusters?				x	x
12	3. Functionality	Allocated funds for the whole programme concerning clusters in thousands €:	113,0	130,0	245,0		
13		Min.-max. budget per project in thousand €:	Min:10,0 Max: 20,0	Min:10,0 Max: 20,0	Min:10,0 Mas: 50,0		
14		Average percentage of public funding per project:	70% from state budget per project	70% from state budget per project	70% from state budget per project		
15		Number of calls published/to be published:	1	1	1	0	0
16		No. of projects funded by the programme/tot al expended in thous. €:	7/184,3	7/199,1	7/354,6		
17							
18	4. Viability	Supported by public budget and governed by specialised institution?	x (SIEA)				
19		Supported by public budget and governed by traditional government body?		x	x	x	x
20		Not supported by public budget / not governed by a specific body?					
21	5. Continuity	Continuously valid with regular updates?	x	x	x		
22		Valid for the period 2014- 2020 and existing also in previous years?					
23		Valid in the period 2014- 2020?				x	x
24	6. Integrity	Covering clusters in all sectors and industries?					
25		Limited to certain sectors/industr ies? Which ones?	x (industrial cluster organisations)	x (industrial cluster organisations)	x (industrial cluster organisations)	x (industrial, automotive, plastic, ICT)	

25		Only one sector supported? Which one?					x (agricultural)
26	7. Complexity	Funding covering all 5 cluster development stages?					
27		Funding only for three to four cluster development stages? Which ones?					
28		Funding only for one to two cluster development stages? Which one/s?	x/iv	x/iv	x/iv	x/iii, iv	x/ii
29	8. Consistency	Does the evaluation of applications for funding valorize the cluster organisation's achievements in the national accreditation system, participation in trainings and other capacity indicators with respect to eligibility for different levels of grants?					
30		Does the evaluation of applications for funding valorize some type of cluster organisation's capacity indicators with respect to eligibility for different levels of grants? Which ones?					
31		No levels of grants to differentiate the cluster organisation capacity?	iii	iii	iii	iii	

3. Preceding cluster funding programmes (2007-2013)

INDICATORS			Cluster policy territorial administration level		
No.	Type	Questions	National		
1	0. Identification	Name of the programme:	OP Competitiveness and Economic Growth	Regional Operational Programme	The Scheme of aid de minimis DM 3/2013
2		Managing body:	CCA: Ministry of Construction and Regional Development of the Slovak Republic	CCA: Ministry of Construction and Regional Development of the Slovak Republic	Ministry of economy
3		Implementation body:	Ministry of Economy of the Slovak Republic	Ministry of Construction and Regional Development of the Slovak Republic, since 2010 Ministry of Agricultural and Rural Development	Slovak Innovation and Energy Agency
4		Choose the priorities of the programme: networking, human resources, R&D and innovation projects, marketing, internationalisation, others:	Priority Axis 1 - Innovations and Economy Growth, Priority Axis 2 - Energy Sector, Priority Axis 3 - Tourism.	Priority Axis 3: Strengthening the cultural potential of the regions and development of tourism	Increasing of competitiveness of industrial cluster organizations
5		Officially approved by the government in the year:	by EC 28.11.2007.	by EC 24.09.2007.	2013
6	1. Durability	Long-term (7 years and more)?	7	7	
7		Mid-term (3-6 years)?			
8		Short-term (1-2 years)?			1
9	2. Autonomy	Specifically devoted to clusters?			x (industrial cluster organizations)
10		Explicit part of another programmer? Which one?			
11		Partly concerning clusters?	x	x	
12	3. Functionality	Allocated funds for the whole programme concerning clusters in thousands €:	1 139 117,7	1 828 828,2	200,0
13		Min.-max. budget per project in thousand €:	-	-	min: 10,0 max: 40,0
14		Average percentage of public funding per project:	85,0%	85% 0,0311% per clusters project	100,00%
15		Number of calls published/to be published:	-	22 for whole programme	1
16		No. of projects funded by the programme/total expended in thous. €:	-	2301 projects (not only clusters)/ 3 projects for clusters/457,55043€	6/160,6
17	4. Viability	Supported by public budget and governed by specialised institution?			x (SIEA)

18		Supported by public budget and governed by traditional government body?	x	x	
19		Not supported by public budget / not governed by a specific body?			
20	5. Continuity	Continuously valid with regular updates?			
21		Valid for the period 2007-2013 and existing also in previous years?			
22		Valid in the period 2007-2013?	x	x	x
23	6. Integrity	Covering clusters in all sectors and industries?			
24		Limited to certain sectors/industries? Which ones?			
25		Only one sector supported? Which one?	x/tourism	x/tourism	x (industrial cluster organisations)
26	7. Complexity	Funding covering all 5 cluster development stages?			
27		Funding only for three to four cluster development stages? Which ones?			
28		Funding only for one to two cluster development stages? Which one/s?	x/ii	x/ii	x/iv
29	8. Consistency	Does the evaluation of applications for funding valorize the cluster organisation's achievements in the national accreditation system, participation in trainings and other capacity indicators with respect to eligibility for different levels of grants?			
30		Does the evaluation of applications for funding valorize some type of cluster organisation's capacity indicators with respect to eligibility for different levels of grants? Which ones?			
31		No levels of grants to differentiate the cluster organisation capacity?	iii	iii	iii

Notes: CCA: Central Coordinating Authority:

APPENDIX 3: List of cluster organisations by type in the Slovak Republic

Region		Official name of cluster (in English)	Cluster typology
Bratislava	1	Danube Knowledge Cluster	Service industries clusters
	2	National Energetic Cluster NEK	Manufacturing, energy and construction clusters
	3	ABC - Academic Business Cluster	Service industries clusters
Banská Bystrica	1	1st Slovak Engineering Cluster	Manufacturing, energy and construction clusters
	2	Cluster of Border Castles	Creative and cultural industries clusters
Košice	1	BITERAP	Information and communication technologies clusters
	2	Cluster AT+R	Key enabling technologies and R&D-based clusters
	3	Cluster of Tourism Košice - Turism	Service industries clusters
	4	Cluster RADAR	Key enabling technologies and R&D-based clusters
	5	Košice IT Valley	Information and communication technologies clusters
Nitra	1	Bioeconomy Cluster	Agro-food industries clusters
	2	Cluster Topoľčany - association of tourism	Service industries clusters
	3	Slovak Plastic Cluster	Manufacturing, energy and construction clusters
Prešov	1	Energetic Cluster of region Prešov	Manufacturing, energy and construction clusters
	2	Railway Transport Cluster	Service industries clusters
Trenčín	1	SLOVAK IT CLUSTER	Information and communication technologies clusters
	2	Cluster VÁH	Service industries clusters
Trnava	1	Automotive Cluster Slovakia	Manufacturing, energy and construction clusters
	2	Electrotechnical Cluster - West Slovakia	Manufacturing, energy and construction clusters
	3	Energetic Cluster - West Slovakia	Manufacturing, energy and construction clusters
	4	Cluster for Green and Innovative Technologies Support	Key enabling technologies and R&D-based clusters
Žilina	1	Cluster LIPTOV - association of tourism	Service industries clusters
	2	Cluster Orava	Service industries clusters
	3	Cluster TURIEC - association of tourism	Service industries clusters
	4	Z@ict	Information and communication technologies clusters