



## SEGMENTATION OF SMALL AND MEDIUM SIZE REGIONAL COMPANIES USING DATA MINING APPROACH AS A TOOL FOR OPTIMISING THE ACTIVITIES OF EUROPEAN REGIONAL DEVELOPMENT AGENCIES

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**Abstract:** The important beneficiaries of the EU funding that support the development of competitiveness based on innovation are Small and Medium Size Companies (SMEs). Their profiles may vary with respect to the type of business and the competitive environment. Currently, Regional Development and Innovation Agencies operating in the regions of the EU and in associated countries decide about the type and scale of financial support provided to SMEs on the basis of heterogeneous data resources, applying different SME segmentation criteria. The purpose of this article is to justify the necessity and technical possibilities of creating a coherent and intelligent tool for the segmentation of Small and Medium Size Companies, with the support of Regional Development Agency databases. This would allow to monitor the process of providing regional companies with innovative support and would increase the effectiveness of this support (the beneficiaries of the support would be the companies working most effectively on innovations). The analysis of the SME segmentation methods currently used in 18 different European Regional Development Agencies and associated regions was carried out. Furthermore, the approaches to SME segmentation in 15 countries and the European Commission were compared.

**Keywords:** innovation support measures, Regional Development Agencies, benchmarking, SME segmentation, business intelligence, OaSIS project

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### Introduction

Innovation is one of the essential elements of the Europe 2020 development strategy and, in particular, the initiative for the European Union Innovation Community. One of the aspects of the Europe 2020 development strategy (European Commission 2018) and in particular of the initiatives for the European Union Innovation Community (Directorate, Union, Unit, Innovation, & Policy, 2014) is improving the efficiency, effectiveness and competitive advantage of European enterprises. This goal can be achieved thanks to innovation<sup>1</sup> (Rahman

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<sup>1</sup> Innovation understood as creation, development, or implementation of a new product, process or service, whose purpose is to improve efficiency, effectiveness or competitive advantage.

2010). Europe is building its position of a knowledge-based economy<sup>2</sup> leader (Balcerzak, Pietrzak 2016, pp. 66-81) and therefore requires development based on smart, stable and inclusive solutions provided by innovations (Szczygielski et al. 2017, pp. 219-237).

According to the data presented by the Innovation Union, Europe is currently facing the threat of an ‘innovation crisis’. The level of investments in research and development for the European market measured by the percentage of the gross domestic product (GDP) is lower than in the USA by 0.8%, and by 1.5% lower than the expenditures for this purpose in Japan (Directorate-General for Research and Innovation 2014). Although the percentage of the gross domestic product (GDP) intended for innovations has increased recently, Europe achieves results which are significantly lower than those in South Korea, Canada, Australia, Japan and the USA with respect to the global efficiency of innovation<sup>3</sup> (Hollanders, Es-Sadki 2018). It is expected that accomplishing the EU goal (until 2020) of increasing financial resources for the research and development investments (R&D) in member states up to 3% of gross domestic product (GDP) will stimulate Europe’s economic development, and consequently create about 3.7 million jobs and further increase the gross domestic product (GDP) by 795 billion euro annually until 2025 (Kaufman 2002). Looking for tools and methods which could increase the efficiency of innovation funding instruments currently applied by regional development agencies becomes a challenge for particular EU countries as well as for Europe as an economic area (Dijkstra, Athanasoglou 2015).

The purpose of this article is to substantiate the necessity and technical possibilities of creating a coherent and intelligent tool for segmentation of Small and Medium Size Enterprises (SMEs), with the support of Regional Development Agencies (RDAs) databases. This kind of a tool would allow RDAs to monitor the process of providing SMEs with financial support and would make regional support more effective by tracking companies’ development before, during, and after providing them with regional innovation funding. As a result, the companies working on innovations could benefit from segmentation the most.

The analysis of SME segmentation methods currently used in Regional Development Agencies of 18 European and associated regions was carried out. Furthermore, the approaches to segmentation of SMEs in 15 countries and the European Commission were compared. The data required for the analysis came from an online survey conducted by Regional Development Agencies and the European Commission.

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<sup>2</sup> There are many definitions of a knowledge-based economy. Most researchers agree that a modern developed economy with high growth potential should be considered a global, entrepreneurial, and flexible knowledge-based economy. The factors that stimulate growth depend on the degree to which knowledge, technology and innovation are embedded in products and services.

<sup>3</sup> Annual European Innovation Scoreboard (EIS) ensures comparable assessment of outcomes of research and innovation in the EU, member countries and other selected countries. It also indicates strong and weak points of their research and innovation systems. Furthermore, it enables countries to assess areas with smaller innovation potential and introduce changes in them.

## Segmentation of innovative Small and Medium Size Enterprises, regional experiences, applied tools

An opinion suggesting that the efficiency of innovation results not necessarily from scientific research and technological development but primarily from new business models, implementing technologies, design and organisational changes and business internationalisation (Becker, Hall 2013, pp. 183-202) is relatively new. In this respect, the analysis of mechanisms supporting the development of innovation of particular SME segments requires finding the most adequate measures of support for a vast spectrum of introduced innovations.

The results of the research indicate the complexity of the problem since the European regions are heterogeneous (Engelhardt, Bijleveld 2013). Furthermore, the solutions supporting innovation are regionally diversified and difficult to analyse within a common indicators framework (Ploeg, van der Veen, Arnold 2015).

The effectiveness of the actions undertaken by Regional Development Agencies varies. Many regions try to identify companies with the greatest innovation potential and redirect support to them to make them grow. Unfortunately, the methodologies used in practice to determine high potential SMEs do not focus on the existing local industrial structure or regional Smart Specialisations (RIS3). Instead, RDAs often implement the standard innovation support measures portfolio, not taking into account the regional diversity. The effectiveness of the activities of RDAs is a rarely investigated matter and there is no common stance regarding their optimisation<sup>4</sup>.

Therefore, it is not surprising that programmes supporting innovations receive very diversified assessment, starting from negative in countries like Upper Austria<sup>5</sup> (Kaufman 2002, pp. 147-159; Brzozowska, Kabus 2018) or Poland<sup>6</sup> (Szczygielski et al. 2017, pp. 219-237) to more positive in Great Britain and Spain<sup>7</sup> (Becker, Roper, Love 2017), where the regional aspect of support is included, to an enthusiastic evaluation promoting the public dimension of the provided support<sup>8</sup> (Foreman-Peck 2012).

It has to be emphasised that the low evaluation of support programmes for the SME sector is not the same as the low assessment of innovativeness of companies in this sector.

The problem of adjusting the scope and type of support provided to SMEs in geographically and economically diverse regions is essential in the process of further social and economic development of the regions (Czarnitzki, Lopes-Bento 2011). Optimising the support for SMEs faces various difficulties. One of them is

<sup>4</sup> The scope of the topic INNOSUP-07-2017 *Innovating SMEs – Segmentation along Lifecycle and Sectors (Analytical Research Activity)* in HORIZON 2020.

<sup>5</sup> According to Kaufman Alexander's report, part of the support is poorly targeted.

<sup>6</sup> According to the authors, financial subsidies from the EU resources to modernise human and physical capital were ineffective in supporting innovation and might even complicate the implementation of innovation.

<sup>7</sup> In Great Britain only regionalisation of support leads to the growth of innovative sales. However, in Spain innovative sales are influenced by the regional, national and European support.

<sup>8</sup> SME companies receiving support from British resources for innovation had better chances for innovation than the ones that did not cooperate with the Agency.

lack of a uniform approach to identifying, measuring and assessing innovations implemented in SME segments by the EU and regional institutions (Hollanders, Es-Sadki 2018). Until now, many dispersed efforts have been taken to map the SMEs ecosystems, but they still lack the regional background.

Every year, the European Commission conducts the *European Innovation Scoreboard* analysis (Hollanders, Es-Sadki 2018), which evaluates national innovation systems and thus provides comparable results within the range of innovation in the EU countries, other European and neighbouring countries.

Every second year, *Community Innovation Survey* is conducted by EUROSTAT. Its purpose is to measure innovative activities in companies. The data concerning innovation are collected concerning the types of companies, various kinds of innovations and diversified aspects of innovation development such as goals, information resources, public financing, expenditures on innovation and others. CIS presents statistics divided by country, type of innovators, economic activity and size.

The reference tool utilised by the Enterprise Europe Network, which is an advisory body for innovation, is IMProve – European Innovation Management Academy (IMProve Academy). It is a European methodology applying a wide range of tools which are used to assess and understand the innovative potential of companies, develop abilities and processes connected with managing innovations in enterprises. IMProve administers a set of data from 5000 companies in 80 countries, which diagnosed their innovation possibilities.

The *Innovation Health Check (IHC)*<sup>9</sup> enables more personalised analyses which lead to the assessment of the company's innovation process. This methodology allows a company to identify and assess innovation as a process – from the customer's needs analysis (stated and unspecified), generating ideas, creating a concept, product or service development, to commercial implementation at all stages. *IHC* discusses the impact of this process on the company culture, business strategy and structure, resources and capabilities of the company's and the level of implemented innovative processes.

The Spanish standard *AENOR EA 0047* is an example of a national standard of certification and quality standards<sup>10</sup>. In 2015, AENOR published a compatibility certificate containing all the requirements for SME, which should be perceived as innovative. This certificate provides SMEs with automatic access to the public register of tax reliefs.

Introducing a methodology that would enable the segmentation of local SMEs and, at the same time, create conditions for optimal use of financial means needed at different stages of the innovation process, should be preceded by an in-depth analysis of the solutions applied. The existing approaches mentioned above and segmentation methods concerning SME companies should be examined, the wallets/portfolios of regional measures currently used to support innovations

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<sup>9</sup> Innovation Health Check – a self-assessment tool for companies, also used by the Enterprise Europe Network.

<sup>10</sup> AENOR constitutes reference at the European level as it coordinates the creation of quality standards as well as research management and innovation standards within the framework of the European Committee for Standardization.

should be described and their efficiency as well as potential weaknesses should be analysed. Finally, new instruments and methodology could be created based on historical regional data analysis describing the impact of the selected innovation support instruments on the innovative SMEs.

In the following part of the article, partial results of the research scheduled for 2018-2019 are presented<sup>11</sup>.

### **Characteristics of an innovative company and Key Performance Indicators (KPIs) applied in its identification**

The processes of creating value based on innovation may be characterised differently depending on industry in which companies operate. Also, the effects of implementing innovation depend on various, often overlooked, factors such as regional and cultural differences, capital intensity or the dimension of the region's smart specialisations (RIS3) (Council on Competitiveness 2005). For this reason, creating a set of key performance indicators (KPI) that can be used to analyze the data collected by development agencies poses a challenge. These indicators could also be compared with similar indicators and data currently collected by Regional Development Agencies (Saublens 2013).

As part of the research (OaSIS project together with EURADA association<sup>12</sup>) we selected a set of 10 Key Performance Indicators adequate for the description of an innovative company in the SME sector.

**Table 1. Set of 10 key performance indicators (KPI) which can be applied in the analysis of SME companies innovativeness**

<b>Area</b>	<b>Key Performance Indicators (KPI)</b>	<b>Reasons for the choice</b>
1. Company turnover.	1.1. Change of turnover from a long-term perspective.	Differences in turnover are conspicuous and are objective indicators of business strength. The increase in turnover by 10% is the evidence of customers' acceptance and is usually associated with the innovation of commercialised products or services (Saublens 2013).
2. Human resources.	2.1. Staff assigned to the research and development area (R&D) as opposed to all human resources in the company. 2.2. Percentage of employees with PhD or a	Innovation requires significant workload. The enterprise is more innovative when the percentage of employees working on research and innovation is higher. Qualifications are also of great importance because all activities in research and innovation are specialised and require a high level of competence and abilities.

<sup>11</sup> The study is part of the project *OaSIS – Optimizing support for innovating SMEs*, currently coordinated by the Cracow University of Technology. The project is an example of the European Commission's interest in the problem of creating mechanisms and tools for rational and effective management of financial support provided for the SME sector.

<sup>12</sup> EURADA – European Association of Development Agencies.

	degree higher than masters.	The presence of employees with higher education and doctorate is positively valued (Becker, Hall 2013, pp. 183-202).
3. Economic and financial resources.	3.1. Percentage of turnover invested in research and innovation. 3.2. Participation in programmes supporting innovation financed from public funds.	Innovative enterprises invest a significant part of their turnover in research and innovation. They are active in getting funding from external sources in order to support their innovation investments. The most active ones receive public support from European Commission programmes (most complicated as they are extremely competitive), domestic ministry programmes and from regional authorities (Conti 2018, pp. 134-153).
4. Intellectual property.	4.1. Type of protection. 4.2. Extension to international protection.	Companies protect their innovations utilising intellectual property law to obtain exclusive rights to invest in research and innovation. Patents which safeguard inventions are the most expensive intellectual property rights. They can be extended to an international scale. Useful business models, trademarks, copyrights are also valuable (Radauer, Streicher, Ohler 2009).
5. Internationalisation.	5.1. Percentage of turnover from international trade. 5.2. Access to international markets.	Companies functioning in international trade are usually more innovative than those operating in local markets. They are exposed to international competition and, therefore, forced to constantly improve their products and services. Such companies can be occasional exporters or have a constant share in international markets. Moreover, companies which export outside of the internal European market are positively evaluated as they have to face various regulations, competitors investing in advanced technology or cheaper products (Rahman 2010).
6. Managing innovation.	6.1. Advanced tools and actions in innovation management.	There are other quality indicators showing the company's efficient internal resources, which consequently enable innovation. Some examples of such indicators are: i) the company made deals with universities or competence centres in order to carry out joint projects, ii) the company has internal system of technology surveillance enabling access to modern solutions that could influence their competition strategy, iii) the company has a license for some of the intellectual property rights, iv) the company introduced organisational innovations which change responsibility increasing efficiency of products' design and their commercialization (Saublens 2013).

Source: Authors' study on the basis of D2:2 key performance indicators, OaSIS – Optimising Support for Innovating SMEs, EURADA, H2020 GA 777443

The Key Performance Indicators (KPIs) set together in *Table 1* are nowadays utilised by regions in various configurations in order to identify local companies from the SME sector with the highest growth potential (so-called *gazelle* companies<sup>13</sup>). The experiences of Regional Development Agencies indicate that using support instruments, but excluding the region's characteristics is one of the reasons why the provided support is of low efficiency. There is a necessity to create new methods for SME segmentation in the context of innovation.

### **Audit of Regional Development Agencies' demand for a standard public SME segmentation methodology**

The study was conducted in 18 Regional Development Agencies (RDAs) from 15 European Union countries and associated countries (Spain, Turkey, France, Belgium, Germany, Poland, Bosnia and Herzegovina, Croatia, Bulgaria, Romania, Italy, Czech Republic, Finland, England, and Hungary)<sup>14</sup>. The results indicate that RDAs do not have any internal assessment procedures which would be based on methods of the regional companies segmentation.

*Figure 1* illustrates the results of the survey concerning the methods used by RDAs to identify innovative companies.

What is interesting is the fact that only 55% of the respondents gave a positive answer to the question: *Does the development agency apply any other segmentation methodologies, e.g. according to size, age of enterprise, or number of employees etc.?*

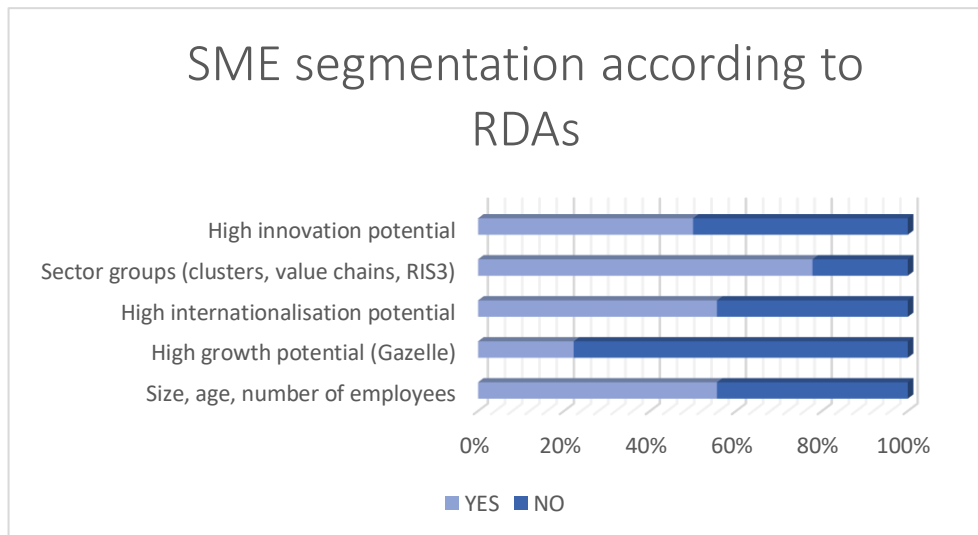
The criterion of internationalisation, understood as identifying companies with high increase of turnover from foreign markets as well as frequent cooperation in international projects, is used by more than a half of the RDAs for the purpose of SME segmentation. The question was: *Has the development agency implemented a system to identify SMEs with "high internationalization potential", e.g. via export data, product catalogue, EU grant?*

Exactly half of the RDAs use tools for identifying companies with high innovation potential<sup>15</sup>. The other half of respondents answered negatively the question: *Does the development agency identify "high innovation potential SMEs", for instance those with more: patents, scientific publications, external funding or grants, employees in R&D, expenses in R&D?*

<sup>13</sup> *Gazelle* companies develop quickly and maintain stable growth of employment and turnover in a longer period (Gazelle Definition from Financial Times Lexicon).

<sup>14</sup> The survey was conducted as part of the Open Call recruitment for the OaSIS project.

<sup>15</sup> Companies with high potential are identified by research and development background such as staff and structures, patents, scientific publications, implemented research and development grants.



**Figure 1. Priorities of SME segmentation according to RDAs**

Source: Authors' study based on the survey [www.surveymonkey.com/r/Project\\_OaSIS](http://www.surveymonkey.com/r/Project_OaSIS) results

In the SME segmentation methodology, Regional Development Agencies use a well-known criterion of belonging to a particular sector group (clusters, industrial value chains, intelligent specialisation of the regions). Almost 80% of the surveyed RDAs gave a positive answer to the question: *Does the development agency profile the areas in which the supported SMEs are active, e.g. if they belong to specific clusters (biotech, aeronautics, robotics), or value chain (aerospace industry, construction industry), or smart specializations (RIS3)?*

The diagnosis presenting the application of tools by RDAs to identify companies with high growth potential (*gazelle* companies) indicates negligence in this area. Almost 80% of the RDAs were negative about the question: *Has the development agency implemented methodologies to identify "gazelle SMEs", which are high growth SMEs?*

At this stage of the study, it is difficult to claim that the lack of this tool has an impact on the quality of decisions made by Regional Development Agencies about providing support to the SME sector.

The conducted survey confirms the assumption that the detailed analysis of the existing segmentation methodologies and focus on regional SMEs (specifying strong and weak points of the used solutions as well as indicating opportunities to overcome barriers) is the necessary condition for selecting the best innovation activity strategies in different SME segments (Navarro et al. 2014, pp. 1-35). Implementing new methodologies for innovative SME segmentation, which could consequently facilitate the process of adjusting regional innovation support measures to the needs of innovative companies, will probably influence the efficiency and effectiveness of this support (Conti 2018, pp. 134-153).



Creating an objective, operational and easy to implement tool for segmentation of local SMEs is a prerequisite for increasing the social and economic impact of expenditure on supporting innovation in the EU and associated countries (Huggins 2010, pp. 639-658).

### **Conditions for the implementation of data mining techniques by Regional Development Agencies and public administration to support SME innovativeness**

Increasing economic growth and innovative potential in Europe, affected by the innovation crisis, may be achieved by optimising programmes of innovation support distributed by RDAs and public administration (Foreman-Peck 2012).

Segmentation of innovative SMEs, identifying groups of entrepreneurs with the highest growth potential and directing them to different programmes which could help them achieve expected results corresponding to their needs, potential and ambitions (Hall, Lerner 2009) constitutes a necessary condition for optimising assistance funds.

Introducing data mining into the analysis of innovative SMEs helps in identifying behaviour patterns and analysing correlations which in further stages will lead to the faster recognition of potential success indicators of an innovative company (Ploeg, van der Veen, Arnold 2015). The results of such an analysis will lead to the optimisation of innovation funding to companies with the highest growth potential based on innovation. However, this task is not simple. On the one hand, regions are accustomed to a comparative analysis based on familiar tools, identifying good practices and adjusting their policies to these models<sup>16</sup>. Such a qualitative, soft approach represented by numerous financial projects, mainly from INTERREG programmes (for instance, ESSPO project) allows RDAs to gain knowledge and monitor new activities stimulating the regional economy.

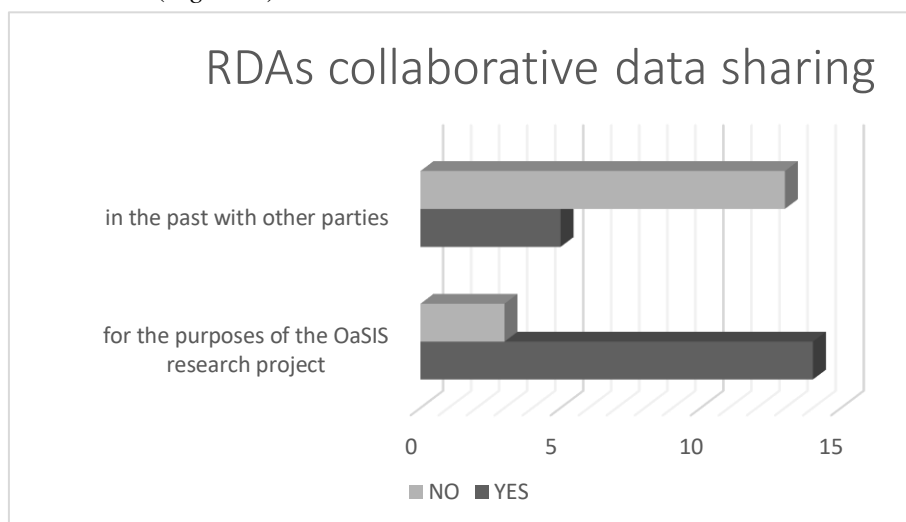
Despite the openness of governmental data managed by the EU Directive on the re-use of public sector information (PSI) (The European Parliament and the Council of the European Union 2003) an attempt to gain access to databases of particular RDAs is perceived as untrustworthy and RDAs are reluctant to do that. It means that the hard approach based on Big Data algorithms is not yet popular at the regional level. Even after the introduction of the EU 2013/37/UE PSI directive on reusing public sector information, which facilitates sharing and publishing databases, the actual access to such information is still significantly limited. What is more, RDAs can enter such experiments only when all legal regulations are secured and the cooperation occurs at the level of security and confidentiality of data. Excluding or censoring personal data from the databases is extremely important in order to avoid the responsibility of adjusting activities to the GDPR

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<sup>16</sup> Examples of such analyses were conducted in countries such as Poland (Plawgo et al. 2013), Israel (Research Proposal Effect of Israeli Government Support for Business R&D on Recipient Firms, n.d.), Germany (Czarnitzki, Lopes-Bento 2011), England (Foreman-Peck 2012), the USA (Council on Competitiveness 2005), Belgium (Engelhardt, Bijleveld 2013), or Turkey (Bas et al. 2014). There are also comparative studies available for Spain and England (Becker, Roper, Love 2017).

directive<sup>17</sup>. Overcoming barriers for the purpose of spreading the approach based on big data analysis is possible, following the up-to-date recommendations of the European Commission, with especially helpful document called *Guidelines on Fair Data Management* published for the research teams taking part in the HORIZON 2020 programme (H2020 Programme 2016). Moreover, this is also encouraged by the EARTO platform as a new approach to the co-creation of governmental innovations for European institutions on the basis of open data for research (EARTO 2018).

The survey conducted in 18 regional development agencies indicates that the agencies are ready to cooperate and are interested in the results of database innovativeness (*Figure 2*).



**Figure 2. The attitude of 18 Regional Development Agencies to sharing companies' databases**

Source: Authors' study based on the survey [www.surveymonkey.com/r/Project\\_OaSIS](http://www.surveymonkey.com/r/Project_OaSIS) results

Implementing the analysis of information resources based on big data algorithms by Regional Development Agencies assessment teams requires standardisation of this process (Ploeg, van der Veen, Arnold 2015). It is necessary to create publicly available and user-friendly software (possibility of using different frameworks of data by entrepreneurs, academics and by all interested parties) (Rahman 2010). The information platform should provide users with the ability to browse, search for and visualize information/reports/study results. Moreover, it should allow users to exchange data and reuse them if needed at the

<sup>17</sup> GDPR or General Regulation on Data Protection is a Regulation of the European Parliament and the Council of Europe 2016/2017 of 27 April 2016 concerning the protection of people with respect to processing personal data, free flow of such data and repealing the directive 95/46/WE. The Regulation came into effect on 17 May 2016 and has been in force in national legal orders/systems since 25 May 2018. The regulation applies to all entrepreneurial entities that process personal data.

level of scientists, market institutions, organisations and countries (Czarnitzki, Lopes-Bento 2011). According to scientists, it is worth considering the application of the CERIF framework<sup>18</sup> for data which are restricted by confidentiality (the data are not shared by regional agencies but are created through the research itself or come from open databases, such as offered by the European Commission – for example: Cordis database<sup>19</sup>).

It has to be emphasised that such 'hard' approach to research based on RDAs databases has recently appeared in the public sector and sharing data by managing entities has limited trust.

The team of researchers working on the OaSIS project together with Regional Development and Innovation Agencies created formal grounds for access to databases. In return to access to databases, the Agencies can get ready-made analysis technologies such as *Business Intelligence* tool<sup>20</sup>.

## Conclusions

Optimising segmentation techniques of regional SMEs is a necessary condition for Europe's development based on smart, permanent and inclusive solutions provided by innovations in companies. The support given by regional institutions, for instance, Regional Development Agencies (RDAs) to companies from the SME sector should be combined with the identification of SME groups with the most significant innovation potential (growth potential, internationalisation, innovativeness) and with assigning dedicated tools of regional support to them. Then, one can expect improvement of the effectiveness of the regional support expenditure on innovation and fast identification of new entrepreneurs with high potential. Individual support is a chance for the development of matching companies by their KPI: turnover, human resources, economic and financial means, intellectual property, internationalisation and innovation management.

The “hard” approach to the management of data collected by RDAs enables regional authorities to apply new techniques of obtaining information concerning the companies' ecosystems. Application of the Business Intelligence tools will help to optimise European resources intended for innovation in the SMEs sector. Currently, this issue poses the greatest challenge but at the same time it is an opportunity for European Regional Development Agencies which combine benchmarking of regional pro-innovative instruments for SMEs and the analysis of databases of beneficiaries of these measures, to improve the effectiveness of the assistance funds management. Only such a solution can lead to effective spending of resources on innovation. The personalized needs of the company should define the scope of support for innovation, and not vice versa.

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<sup>18</sup> Common European Research Information Format.

<sup>19</sup> CORDIS is the Community Research and Development Information Service. It is the European Commission's primary public repository and portal to disseminate information on all EU-funded research projects and their results in the broadest sense.

<sup>20</sup> Business Intelligence – the process of transforming data into information and information into knowledge which can increase the competitiveness of companies.

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## **MOŻLIWOŚCI SEGMENTACJI MAŁYCH I ŚREDNICH PRZEDSIĘBIORSTW W REGIONIE Z WYKORZYSTANIEM PODEJŚCIA DATA MINING JAKO NARZĘDZIA OPTIMALIZACJI DZIAŁALNOŚCI EUROPEJSKICH AGENCJI ROZWOJU REGIONALNEGO**

**Streszczenie:** Ważnym beneficjentem środków UE wspierających rozwój konkurencyjności opartej na innowacji są firmy sektora MŚP, zróżnicowane zarówno pod względem rodzaju działalności, jak i otoczenia konkurencyjnego. Obecnie Agencje Rozwoju Regionalnego oraz Innowacji poszczególnych krajów, regionów UE i państw stowarzyszonych podejmują decyzje o rodzaju i skali udzielanego wsparcia firmom MŚP w oparciu o niejednorodne zasoby danych, wykorzystując odmienne kryteria segmentacji MŚP. Celem artykułu jest uzasadnienie konieczności i technicznych możliwości stworzenia, w oparciu o zasoby informacyjne (bazy danych) Agencji Rozwoju Regionalnego, koherentnego i inteligentnego narzędzia do segmentacji MŚP, które pozwoliłoby nie tylko na monitorowanie udzielanego wsparcia, ale też na uczynienie regionalnego wsparcia bardziej efektywnym (beneficjentem wsparcia byłyby rzeczywiste innowacyjne przedsiębiorstwa). Przeprowadzono analizę metod segmentacji MŚP stosowanych obecnie w Agencjach Rozwoju Regionalnego przez 18 regionów europejskich i stowarzyszonych. W konsekwencji porównano podejścia stosowane do segmentacji MŚP przez 15 krajów oraz Komisję Europejską. Dane do analiz pozyskano metodą sondażu (ankieta online) z Agencji Rozwoju Regionalnego oraz Komisji Europejskiej.

**Słowa kluczowe:** wsparcie innowacji, Agencje Rozwoju Regionalnego, benchmarking, segmentacja MŚP, analityka biznesowa, OaSIS projekt