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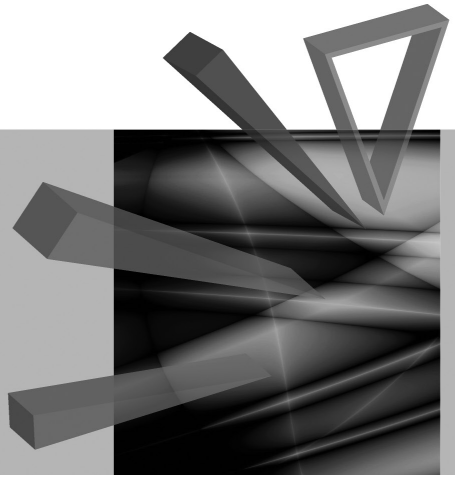

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PROSPECTS FOR INNOVATION DEVELOPMENT IN THE EUROPEAN UNION ACCORDING TO THE NEW EUROPE 2020 STRATEGY

Abstract: Nowadays the main factors of the development of companies, regions or countries are innovations. At the level of the European Union and its member countries the increasing interest in innovation and its impact on the socio-economic development can be observed. Also in the new strategy for socio-economic development of the European Union – Europe 2020, innovations occupy a prominent place. This paper presents the issue of innovation as well as decribes the future of innovation according to general guidelines contained in the document "Innovation Union" drafted by the European Commission.

Keywords: innovation, European Union, strategy.

1. Introduction

Innovations play an important role in the development of the modern economy and are the major factor in proving the competitiveness of enterprises, as well as national and regional economies. Although the EU market is one of the largest in the world, it is not sufficiently innovation-friendly. We should also note that other countries such as China and South Korea are catching up fast in the field of innovation [http://ec.europa.eu/research/innovation-union]. Currently Europe is facing many challenges associated for example with exhaustible natural resources, climate change, an aging population and increasing competition from the United States. Europe needs more and better investment in research and innovation to support the competitiveness of its industry and to upgrade its research and innovation system. Public and private investment in R&D is crucial to enable Europe to take advantage of any rebound in the economy [European Commission 2013, p. 6].

One of the European solutions to deal with these problems is the new strategy dedicated to help socio-economic development of the European Union – Europe 2020. The new strategy for Europe 2020 emphasizes the need for Member States to

undertake joint action, which would help to overcome the crisis and implement reforms enabling them to face and deal with different problems.

In order to achieve the above objectives three fundamental priorities were included in the strategy [http://ec.europa.eu/europe2020/index_en.htm]:

– smart growth – means growth based on education (encouraging people to learn, study and update their skills), research and innovation (creating new products and services that generate growth and jobs and help address social challenges) and digital society (using information and communication technologies);
– sustainable growth – growth based on more competitive low-carbon economy that makes efficient, sustainable use of resources, protection of the environment (reducing emissions and preventing the loss of biodiversity), capitalization on Europe's leadership in developing new green technologies and production methods as well as introduction of efficient smart electricity grids;
– inclusive growth – based on raising Europe's employment rate (more and better jobs, especially for women, young people and senior workers), helping people of all ages anticipate and manage change through investment in skills and training, modernizing labour markets and welfare systems.

It is noteworthy that one of the priorities is the development based on innovation, which will be possible in the future through the implementation of flagship initiative called "Innovation Union," aimed at improving the framework conditions for innovation and the use of innovations to solve major social and economic problems.

The interest in innovation and its impact on socio-economic development is growing, both at the European Union level and in member states, as well as in regions. Regional authorities can interact directly with the region through its own social and economic activity. They have their own property, their own financial resources and pursue their own business ventures. In addition, regional authorities carry out investment in technical and social infrastructure. But the most popular action taken by the authorities to improve the regional economy in the field of innovation was the formulation and implementation of regional innovation strategies.

The aim of this article is to describe the issue of innovation and present the future of innovation in the European Union, on the basis of the strategic concept of "Innovation Union," endorsed at the highest political level of the EU, which is the part of the new Europe 2020 strategy [http://www.mg.gov.pl].

2. The concept of innovation and its types

In the scientific literature the term "innovation" is attributed to J.A. Schumpeter, who defined it as follows: "innovation involves creation of a new product or market introduction of a product characterized by new properties." The author defines innovation as the use of new combinations in the following cases [Schumpeter 1960, p. 104]:

– introduction of a new product, i.e., a product yet unknown to consumers or a new kind of an existing product,

- introduction of a new production method, i.e., a method not yet tested in practice in a given branch of industry,
- opening of a new market, i.e., a market in which a given branch of industry was not previously represented,
- acquisition of a new source of raw materials or semi-finished products,
- reorganization of an existing industry, e.g., creation of a monopoly position or breaking up the existing monopoly.

A.J. Harman perceives innovation as the introduction of new or significantly improved products or production processes into the economy [Harman 1971, p. 34]. J. Parker defines this process as a sum of all activities leading to practical application of a new product or method of production. A. Pomykalski defines innovation as a process involving all activities related to the generation of ideas, development of inventions and possible incorporation in the form of a new product or process. Ch. Freeman postulates that innovation can be associated with the introduction of a new product, process, system or device into the market [Janasz, Kozioł 2007, p. 14]. To sum up, what is common to all of the above definitions is that they are based on the notion of novelty which serves as the foundation for a narrow or wide understanding of innovation. In the narrow approach, innovation is perceived as the practical application of an invention. However, modern authors tend to shift towards a wider perspective, defining innovation in terms of a management process, which covers a variety of activities aimed at creation, development and introduction of new product values or new combinations of means and resources, which offer new values for the actors that develop or introduce them on the market [Drewe 2007]. M.E. Porter supplements the concept of innovation with technological improvements and enhanced methods of production that may show not only in changes of products and processes, but also in new approaches to marketing and new forms of distribution [Janasz, Kozioł 2007, p. 18]. According to the OECD terminology, innovation is a change to a product or to a production process which is new from the standpoint of the introducing company or unknown in the region. W. Spruch points out that the phenomenon of innovation involves all changes in activities and products which are of significance to production processes and services in the sense that they contribute to economic progress [Spruch 1973, p. 31].

Innovation is defined as the introduction of something new or something that deviates from the established doctrine or practice. An innovation is an idea, practice or object perceived as new by the individual. There are also technological innovations which include all new or improved products, services or methods of production [Drewe 2007, pp. 82, 83]. Innovation may occur in different forms, for example: new products, new services, or new technologies. In addition to traditional technological innovation, there is innovation through new business models, new ways of organizing work, and innovation in design or marketing [*Oslo Manual* 2005, p. 46].

It is also worth noting that the majority of innovations undergo constant changes. Subsequent modifications can prove more valuable than the original inventions. The

learning process (which applies both to the original inventors and their potential followers) consists of a lot of feedback, which in turn results in significant modifications of the original invention. The last classification criterion is the source of inspiration that leads to innovation. Innovations can be a result of: R&D, market research, improvement of a process or a product, reaction to an unforeseen event within the company or its environment, or the imitation of existing solutions through diffusion or technological adaptation [Skawińska, Zalewski 2009, p. 95].

Nowadays, it is becoming increasingly popular to emphasize the cooperation of various individuals and institutions in the creation of innovations (business, science, entrepreneurs, regional and state administration). Innovation is often a result of systematic, cost-intensive research which requires the collaboration of many actors or even specialized teams representing various disciplines of knowledge. At the same time, global competition is forcing companies to continuously introduce new products and solutions into the market. What is also very important is that innovation is a process which incorporates many activities, such as creating ideas, inventing, and implementating new or improved products, processes and services [Szatkowski 2001, p. 22].

Over the recent years innovations have become the most important "weapon" in competitive struggle and the most fundamental element of strategy for well-managed companies [Christensen, Raynor 2008, p. 7], regions and countries [Zajączkowski 2003, p. 38].

Innovation plays a vital role in driving sustainable growth and employment. Policy makers across the world recognize its importance and it has been high on the list of European Union priorities since the launch of the Lisbon Strategy in 2000. The image of innovativeness in Europe is very diverse across sectors, countries and regions. While there are some world leaders and eager reformers, there are also some worrying under-performers [Zuleeg et al. 2007, p. 1]. Everybody talks about innovation today. Nowadays, innovation is no longer conceived as a specific result of individual actions, but more as the following:

- a process, more specifically a problem-solving process [Dosi 1982],
- a diversified learning process; learning may arise from different issues: learning-by-using, learning-by-doing or learning-by-sharing [Rosenberg 1982, pp. 33–40],
- a process involving the exchange of codified and tacit knowledge,
- an interactive process of learning and exchange where interdependence between actors generates an innovative system or an innovation cluster.

Innovation is also defined by the European Commission as the renewal and enlargement of the range of products and services and the associated markets, the establishment of new methods of production, supply and distribution, the introduction of changes in management, work organization, and the working conditions and skills of the workforce [European Commission 1995]. When discussing the issue of innovation it is important to mention the benefits that it

brings. The most important benefits that arise as a result of the launching innovation are: reduced costs, improved product quality, saved time, improved working conditions and safety, environmental protection. Therefore, it can be said that the concept of innovation has evolved over the years and now innovation is no longer solely associated with the production process in an industrial enterprise, but it is combined with all the activities, both in the production, research and development, as well as marketing, management and organization. In addition, innovation is the best way to deal with the most important challenges facing our society such as climate change, energy and resource deficit, health and aging society. Therefore, innovation has been placed at the heart of the new strategy – Europe 2020 – in the flagship initiative "Innovation Union."

3. "Innovation Union" overview

The "Innovation Union" is one of the seven flagship initiatives of the Europe 2020 strategy for a smart, sustainable and inclusive economy, which was adopted by EU Member States in June 2010. The main aim of the "Innovation Union" is to improve the conditions for innovation and better access to financing research and innovation in Europe. In the paper on "Innovation Union" authored by the European Commission it is stressed that the EU should deal with the problem of unfavourable conditions for innovation (such as: inadequate access to finance, high costs of patents, outdated regulations and procedures), and focus on joint efforts to create a European Research Area. Table 1 presents general guidelines of the European Commission's flagship initiative "Innovation Union" which should help the EU to become more innovative in the future.

It is worth noting that the document "Innovation Union" lists thirty-four obligations for the Member States, of which the following should be emphasized [European Commission 2010, pp. 2–40]:

- formulate strategies in place to train researchers to meet their national R&D targets and to promote attractive employment conditions in public research institutions,
- support an independent multi-dimensional international ranking system to benchmark university performance, which will allow the best performing European universities to be identified,
- support collaboration between business and academia through the creation of "Knowledge Alliances,"
- strengthen cross-border matching of innovative firms with suitable investors,
- undertake a screening of the regulatory framework in key areas, for example in eco-innovation,
- set aside dedicated budgets for public procurements of innovative products and services,
- treat scientific cooperation with third countries as an issue of common concern and develop common approaches,

Table 1. General guidelines of the European Commission's flagship initiative "Innovation Union"

Guidelines		Characteristics
1		2
Strengthening the knowledge base and reducing fragmentation	Promoting excellence in education and skills development	• Create a perfect, modern education system in all Member States, • strengthen EU capacity to attract and train young people to become researchers and offer internationally competitive research careers to keep them in Europe and attract the best from abroad, • involve businesses in curricula development and doctoral training so that skills better match industry.
	Developing the European Research Area	• Avoid costly overlaps and unnecessary duplication in national research, • set a deadline of late 2014 for achieving a well-functioning European Research Area, • simplify and harmonize procedures relating to the system of support for research and development, • invest in modern infrastructure.
	Focusing EU funding instruments on Innovation Union priorities	• EU research and innovation funding instruments need to be streamlined and focused on the objectives of Innovation Union, • procedures of applying for funding ought to be simplified.
	Promoting the European Institute of Innovation and Technology (EIT) as a model of innovation governance in Europe	• Support innovative research, • bring the world's best creative and innovative partners from research, business and academia to work together on major societal challenges, • develop new flexible financing of high-risk entrepreneurial activities and leverage philanthropic funds in support of innovation.
Getting good ideas to market	Enhancing access to finance for innovative companies	• Improve venture capital market in Europe by creating incentives to invest and by improving regulation, • use public private partnerships in an intelligent manner and implement changes to the regulatory framework.
	Creating a single innovation market	• Simplify patent procedures, • introduce more stringent targets and standards for the protection of the environment, as a stimulus for the creation of eco-innovation, • increase the EU public procurement of innovative products and services.
	Promoting openness and capitalising on Europe's creative potential	• Deliver the so-called "fifth freedom," which is free movement of researchers and the free movement of innovative ideas, • intensify the transfer of knowledge between business and academia, • increase the availability of the results of publicly-funded research, • improve the information system research.
Maximising social and territorial cohesion	Spreading the benefits of innovation across the Union	• Avoid an "innovation divide" between the most innovative regions and the others, • encourage cooperation between the most innovative regions in the Member States and regions, which have a lot of catching up to do in this area.
	Increasing social benefits	• Development of social innovation, use of ingenuity humanitarian organizations, associations and social entrepreneurs to find new ways to meet social needs, • creation of an innovative public sector.

1		2
Pooling forces to achieve breakthroughs: European innovation partnerships	Starting European Innovation Partnerships as part of the Innovation Union flagship initiative	• Increase efforts related to research and development, coordination of investment in demonstration and pilot projects, • create partnerships for innovation in key areas such as energy security, transport, climate change, energy efficiency, health and aging, environmentally friendly production methods and land management.
Leveraging our policies externally	Make Europe more attractive to companies and investors	• Creating opportunities for foreigners to remain in Europe, using the capabilities of the "scientific visa package" and of the "Blue Card," • strengthening international cooperation in science and technology.
Results	Reforming research and innovation systems	• Significant reforms to national and regional policies are required.
	Measuring progress	• Develop a new indicator measuring the share of fast-growing innovative companies in the economy, • build the European Innovation Scoreboard to ensure the comparability of the results of the EU and the Member States in relation to a broad set of indicators.
	A commitment by all to turn Innovation Union into reality	• A joint effort of the EU institutions (the European Council, the Commission and Parliament) and other stakeholders (Member States, regions, companies, etc.) is crucial for the success of the Innovation Union.

Source: own study based on: [European Commission 2010, pp. 9–30].

– create partnerships between higher education institutes, research centres and businesses, at regional, national and international level,
– develop indicators on aspects such as non-technological innovation, design, service innovation, and performance at regional level.

Mentioned recommendations for countries and regions are only a few examples of many others activities that should take place in EU in the field of innovation. The "Innovation Union" initiative sets a direction for future development of innovative economy and states that integrated activities should be carried out at all levels (regional, national, EU).

What is also worth mentioning is the "Horizon 2020" – the new EU instrument for research and innovation funding from 2014, which will bring together all European-level support for research and innovation. In line with the ambition set out in the "Innovation Union," "Horizon 2020" marks an important break from the past, with funding having a more challenge-based approach, simpler rules for participants, and more effective delivery of results. A key feature of "Horizon 2020's" new approach is the emphasis given to innovation. Specifically, this means

more funding for: testing, prototyping, demonstration and pilot type activities, business-driven R&D, promoting entrepreneurship and risk-taking, shaping demand for innovative products and services through standard-setting and public procurement, and encouraging innovation in non-technological areas such as design, service innovation and creativity, new business models and social innovation, thereby reflecting a broad approach to innovation [European Commission 2013, p. 16].

4. Summary

The new "Innovation Union" initiative as well as the new "Horizon 2020" instrument are crucial in achieving the objectives of the Europe 2020 strategy, aimed at creating a smart, sustainable and inclusive economy. The main objective is to improve access to finance for research and innovation in Europe, which will effectively convert innovative ideas into new products and services that contribute to the growth of employment and economic development.

Implementation of the obligations mentioned in the article, as well as others aims (included in the Innovation Union document) will contribute to a number of changes in the countries and regions of the European Union in the field of innovation. Moreover, there will be an accumulation of EU community efforts to create innovation. Owing to the "Scoreboard research and innovation" Annex, which was included in the "Innovation Union" document, it will be possible to monitor the annual EU status of innovation economy and to compare it with potential competitors (USA, Japan, China). All these activities will surely contribute to building an innovative economy in the future.

To sum up, the formulation of the "Innovation Union" by European Union authorities constitutes a very important step towards creating an innovative European economy.

To achieve this goal it is necessary to combine all the potential and efforts throughout the Community at all levels (regional, national and EU). Moreover it is important to implement, in a consistent and timely manner, all the principles and commitments included in the document "Innovation Union." Otherwise, the innovative European economy will remain an unfulfilled postulate.

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PERSPEKTYWY ROZWOJU INNOWACJI W UNII EUROPEJSKIEJ WEDŁUG NOWEJ STRATEGII EUROPA 2020

Streszczenie: We współczesnej gospodarce głównymi czynnikami rozwoju przedsiębiorstw, regionów i krajów są innowacje. Na poziomie Unii Europejskiej i jej państw członkowskich można zaobserwować wrastające zainteresowanie innowacjami i ich wpływem na rozwój społeczno-ekonomiczny. W nowej strategii na rzecz rozwoju społeczno-gospodarczego Unii Europejskiej – Europa 2020 – innowacje także zajmują ważne miejsce. W artykule wyjaśniono pojęcie innowacji, a także scharakteryzowano przyszłość innowacji w Europie, nawiązując do ogólnych wytycznych zawartych w dokumencie „Unia innowacji" opracowanym przez Komisję Europejską.

Słowa kluczowe: innowacja, Unia Europejska, strategia.