

Germany's Experience in Managing Free Economic Zones

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Abstract

The experience of the countries of the world shows that as one of the important factors of the competitiveness of countries in the world economy, their openness to the external environment, the removal of obstacles in economic relations, and the importance of free economic zones in increasing the level of innovative development of the economy is increasing. At the moment, a number of research and development works are being carried out to attract foreign investments to SEZs, increase their effectiveness, and develop entrepreneurship. Special attention is paid to issues such as improving the management system of SEZs, stimulating innovative activities.

Keywords: *SEZ, innovation activity, German experience, competitiveness, start-up, business incubator, and innovation centers, Technology Park, investments.*

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Introduction. By the 21st century, no matter which economy of the world we look at, we will see the existence of free economic zones with a separate economic, political and legal regime by the state. To date, their number has exceeded 7,000 in the world economy. At present, more than 30% of the world trade goes to SEZs. [1] Today, Germany is a country that can be proud of its highly developed economy, and the country is one of the world leaders in many areas of the world economy. Indeed, today, products from the German economy are synonymous with quality for customers anywhere in the world.

Formulation. If we look at the evolution of economic development in Germany, the basis of today's economic potential was created in the post-Cold War period. The economy of the Federal Republic of Germany, recognized as a "growth miracle" in the 1950s, became the engine of European growth in the 1960s and 1970s. Despite slowing growth in the 1980s, it remained Europe's strongest and most innovative economy, building on its unique brand of a model social market economy that combines technological innovation, international openness and industrial competitiveness with a broad social welfare system. In addition, many factors influenced this process, although some disastrous ones, such as two world wars and some political changes - precisely the globalization of the economy, technological changes, local competition, demographic pressure, permanent mass unemployment and the financial burden of reunification with East Germany - institutionalized put pressure on reforms.

In addition, the German government achieved a "growth miracle" by applying scientific advances to the economy, adding important new directions along with excellent economic policies.

Moreover, productivity growth in Germany did not depend on which innovations came first, but on the technological infrastructure that helped private firms to smoothly apply any new technology that became available in the existing industrial context, that is, the development of all industries depended on innovative activity. [2] This focus on reform also affects the innovation debate: the key issue is to restructure Germany's innovation system towards an entrepreneurial approach, combining institutional flexibility in research and education systems with encouraging entrepreneurship in both start-ups and existing firms, while ensuring sufficient risk capital and labor.[3] Innovation in Germany is thus the result of broader institutional changes that transform Germany's coordinated postwar "social market economy" into an institutional hybrid.

The success story of innovation centers in Germany began in 1983. Today, the Federal Republic of Germany has more than 300 innovation, technology and business incubation centers, as well as science parks and similar institutions. Since that time, the German government has considered this area as the main direction of economic development. At the same time, the government tried to centralize everything in the field of innovative development and established BVIZ.

BVIZ (Bundesverband Innovations zentren) is the German federal association of innovation, technology and business incubators and science and technology parks. BVIZ was founded in 1988 as the first innovation and start-up center in Germany and operates in Berlin under the name of ADT (Arbeitsgemeinschaft deutscher Technologiezentren) - Association of German Technology Centers. Since then, the number of innovation centers and the number of association members have steadily increased in Germany. Today, the BVIZ is the only institution in Germany that specializes in start-up, support and supervision of enterprises in the form of innovation centers.

As an association, BVIZ supports the establishment and supervision of its member centers of

start-ups focused on innovative technologies. Following this approach, the BVIZ supports the growth of the small and medium-sized business economy in all regions of Germany, as well as the implementation of innovation-oriented structural changes.

The purpose of the BVIZ is to facilitate the transfer of technology and innovation, as well as the start-up and development of new enterprises. It also seeks to further develop the importance and powers of innovation hubs to support innovative entrepreneurs and adequately represent them as public assets. Thus, as an association, it actively participates in creating favorable conditions for innovative startups in Germany.

Currently, about 150 innovation centers and business incubators are members of the BVIZ, employing more than 5,800 companies and more than 46,000 employees. The centers have successfully outsourced more than 17,400 companies. [4]

Also, the objectives of BVIZ are:

- active support of regional and national economic development;
- improvement of the basic conditions for starting innovation centers and innovative business;
- to continue developing the efficiency potential of innovation centers to support the development of enterprises in the centers;
- expanding the business base of innovation centers and innovation companies by expanding the network between centers, industrial companies, credit services sector, consulting firms and politicians;
- facilitating the exchange of information and experience between the supporting organizations, operators, owners and sponsors of innovation centers;
- preparation of statements, recommendations on actions and programmatic documents to support the activities of the centers in relation to the federal and regional governments;
- as a lobbyist for German innovation centers, BVIZ also protects the interests of young businesses in the centers vis-à-vis its partners and the public;
- maintaining and expanding the national and international network of innovation centers.

This structure provides business founders with the best conditions for rapid and successful growth. In particular, in classic incubation centers, young entrepreneurs stay in the centers for a certain period of time until they reach the age where they can compete in the market. Because they primarily focus on innovative, technology-based startups, innovation hubs tend to be located near colleges, universities, and research institutes. It is these knowledge-demanding companies that make a significant contribution to creating local values and creating new jobs.

The main tasks of innovation centers in Germany are defined in the following three main areas:

1. Startup initiative and support
2. Activities in the field of technology transfer
3. Assistance in economic development

These three key areas distinguish innovation centers from traditional commercial centers that typically do not provide these services. Each center tailors its services to the individual requirements of its customers or industry target group.

Innovation centers have become an integral part of technology-oriented economic policies and have proven to be a successful tool for the development of regional economies.

Recent years have shown that innovation centers are increasingly becoming competence centers, which means they can better meet future demands. [5]

In recent years, SEZs in the form of technology parks have been receiving a lot of attention in Germany. The activities of the technopark are aimed at enriching the scientific and technical culture of the region, creating jobs and added value. Innovation, innovative features, participation in research and development (R&D) are the main features in the creation of new technology parks. [6]

According to another approach, the main purpose of technology parks is to increase competitive advantage and business efficiency with the help of knowledge-intensive, convergent and innovative technologies. This is the ideology of the International Association of Science Parks. [7]

Technoparks are developing in Germany according to the principle of "science for business" or "business for science". The state participates in the activities of most technology parks, so the mission and goals of technology parks largely depend on its national innovation strategy.

Characteristics of Germany's national innovation strategies showed the following trends:

- a strategy to study all spectrums of all technologies, cases, mechanisms and tools available in international markets and gather experience in their use, to create a new unique technological system;
- the strategy of copying the best technologies - the most successful technological solutions are copied, production based on these technologies is launched as soon as possible;
- The strategy of creation and development of unique technologies with minimal use of international experience.

Based on the above analysis of the activity and structure of technology parks, it is possible to develop the following recommendations for improving the activity of technology parks in the field of intensive development of science:

- selection of companies that do not engage in R&D "at the entrance";
- offering financial incentives for the development of technologies requiring science for resident companies;
- providing resident companies with research equipment and advanced infrastructure;
- promotion of mutual cooperation of resident companies with science, education and business (including international structures) and state bodies;
- Active commercialization of scientific results.

Results and discussion. In order to ensure the commercialization of the results of scientific research and the efficiency of large investments, the placement of SEZs should meet the following requirements: availability of qualified labor force; universities and other educational institutions (including secondary vocational education); international airport and rail or water logistics (it is desirable to have a transport hub).

Currently, more than 300 industrial, technological and innovation centers are operating in

Germany, and they always have a significant impact on the economic development of the national economy. To analyze the German experience of working with technology parks, a few famous technology parks in Germany can be considered.

One of the oldest and largest of these is the Heidelberg Technology Park, one of the most important centers for biotechnology research in Germany and one of the leading locations in the world. It is home to more than 90 companies and research organizations employing 2,800 people. [8]

Heidelberg University has a plot of land in the technology park, which is part of the University City, as well as in the new city district of Banstadt.

The Technology Park offers ideal conditions for knowledge exchange between researchers and practitioners in science and business. Several leading international companies such as BASF, Merck and Roche Diagnostics conduct their research here. The Technopark is the result of a joint venture between the city of Heidelberg and the Rhein-Neckar Chamber of Commerce and Industry.

The Heidelberg Technology Park cooperates with many German and international research organizations, including the European Molecular Biology Laboratory (EMBL), the German Cancer Research Center (DKFZ) and the Zentrum für Molekulare Biologie (ZMBH). Other Technopark partners, the Center for Biochemistry of the University of Heidelberg (BZH) and the Max Planck Institute for Medical Research, contribute to Heidelberg's high reputation throughout Germany.

The second is the Bremen Technopark. An innovative solution with impressive results: 30 years ago (1988), the state government of Bremen decided to build a technology park. The 174 hectares surrounding the University of Bremen have since become a center of high technology and research in northern Germany.

The park currently has about 550 companies, including OHB SE, BEGO Group and OAS. It is also home to leading research institutes such as the Center for Applied Space Technology and Microgravity (ZARM), the Max Planck Institute for Marine Microbiology, the German Research Center for Artificial Intelligence (DFKI) and the German Aerospace Center.

The Bremen Technology Park is home to more than 550 high-tech companies and institutes with around 10,000 employees, and the University of Bremen also has 3,400 employees and around 19,000 students. [9]

Next up is the Aldershof Technology Park. Aldershof, located in Berlin, is one of the largest science and technology parks in Germany. [10] The area of the technopark is 4.2 km², there are 1207 enterprises and research institutes, about 22 thousand employees and 6458 students, 5 technological centers, chemical and physical laboratories and other offices are available. The Aldershof technology park brings together many research and development areas.

It seems that Germany attracts many people with its powerful innovation economy; Germany has achieved very high results and has become the fourth largest economy in the world. An innovative approach and a strong focus on the development of knowledge-intensive industries have become the main driving force. Innovative SEZs, in turn, have emerged and are developing as a new driving force of the economy, applying science in practice.

Conclusion. Germany's innovative approach and strong focus on the development of knowledge-intensive industries have become the main driving force. Innovation centers have become an integral part of technology-oriented economic policy and have proven to be a successful tool for the development of regional economies and continue to produce positive results. Making use of these experiences, it is desirable to establish innovative SEZs based on attracting high technologies to the sectors of our economy.

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