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THE ROLE OF INNOVATION IN THE DEVELOPMENT OF THE ENTREPRENEURSHIP OF SMALL AND MEDIUM-SIZED ENTERPRISES IN CROATIA, WITH AN EMPHASIS ON THE INFLUENCE OF EU FUNDS

Abstract: *Innovation is a key driver of competitiveness and sustainable development of small and medium-sized enterprises (SMEs) in Croatia. This paper aims to explore the role of innovation in the development of small and medium-sized enterprises (SMEs), with a particular emphasis on the impact of European Union (EU) funds on innovative activities and business growth. Analysis of recent scientific literature, statistical data, and practical examples has been used. The results show that European funds have made a significant contribution to increasing the innovation capacity of SMEs through funding for research, development, and digitalisation. However, challenges such as administrative obstacles and a lack of skilled staff continue to limit the full potential of innovation. It concludes that further strengthening of institutional support and education is key to increasing the efficiency of the use of EU funds and stimulating innovation in SMEs.*

Keywords: *innovation; small and medium-sized entrepreneurs; European Union; funds; Croatia*

1. Introduction

Small and medium-sized enterprises (SMEs) form the backbone of the economy of the European Union and Croatia, generating a significant share of employment and gross domestic product (Eurostat, 2023). In the modern globalised market, innovation is recognised as a key factor in the competitiveness, resilience, and sustainable development of SMEs (Hervas-Oliver et al., 2021). Innovation enables enterprises to develop new products, services, and business models, increase productivity, and successfully adapt to changing market conditions. In addition, the Commission will continue to monitor the implementation of the Union's macro-financial assistance to the countries of central and eastern Europe, in particular the countries of the former Yugoslav Republic of Macedonia, the former Yugoslav Republic of Macedonia, and the former Yugoslav Republic of Macedonia. In this context, European Union funds are becoming a key source of financial and technical support to stimulate innovation and technological development. Through various programmes and initiatives, EU funds provide SMEs with access to funds for research, development, digitalisation, and internationalisation of business. This paper aims to analyse the role of innovation in the development of SMEs in Croatia and to investigate how European funds affect innovation activities and business growth of these enterprises. The paper provides an overview of

recent literature, presents relevant statistical data, and analyses challenges and opportunities for further development of the innovation ecosystem in Croatia.

2. Innovations

Innovations are defined as a process of creating new or improved products, services, or business processes that bring value added to the company and society (OECD, 2018). MSPs, because of their flexibility and agility, often implement innovation faster than large companies, but face limitations such as a lack of resources and professional knowledge (Hervas-Oliver et al., 2021). Innovations in small and medium-sized enterprises (SME) are not exclusively related to the development of new technologies, but also include adoption and reorganization of business routines, internal organizations, and external relations, or non-technological innovations (Barrañano, 2003). Empirical studies show that companies often have an incentive to implement non-technological innovation just when they introduce technological innovations (Schmidt & Rammer, 2007). This complementary relationship between technological and organizational innovations is particularly emphasized in the literature on development strategies, where it is emphasized that for the successful development of the process, it is necessary to consider technological and non-technological (organiza-

tional) innovations (Womack et al., 1990). Organizational innovation, according to the definition of OECD (2005: 177), implies “the implementation of new organizational methods in the business practice of businesses, organizing a job or external relationships “. While some authors believe that the process of process and organizational innovation is conceptually linked, others observe them as integral parts of the wider strategy of the process (Edquist et. 2001). (Hall et al., 2009).

2.1. Innovation and its importance for SMEs

Innovation is the process of creating and implementing new ideas, products, services, or business models that bring value added to the company and society (OECD, 2018). For MSP innovations, they represent a key strategy to increase competitiveness, access to new markets, and long-term survival. In Croatia, the SME innovation activity is below the EU average, which is related to challenges such as a lack of financial resources, less developed innovation networks, and limited access to knowledge and technology (European Innovation Scoreboard, 2023). In accordance with the statistics of statistics from the European Innovation Scoreboard 2023 (EIS 2023), Croatia is classified as “Emerging Innovators” - countries with an innovation performance below the EU average. The total innovation performance of Croatia is 67.5% of the EU average (EU = 100).

In the period 2016-2023. Croatia’s innovation performance has increased by 2.2 percentage points, but it still lags behind Central European and Western European countries. The strongest sides of Croatia are in the field of “digitization”, while the weakest in the investment of the private sector in research and development (R&D) is the share of MSP with innovation activities (new products/processes) in Croatia is 36.3% (EU average: 52.8%) MSP proportion that cooperate on innovation: Croatia 7.2% (EU average: 10.3%). Public investments in research and development (as % of GDP): Croatia 0.97 (EU average: 2.27 %). These data are displayed (Table 1.)

In accordance with Table 1, it can be seen that Croatia continues to rank among the countries with a below-average innovation performance, reaching 67,5% of the European Union average. Although some progress has been made in the last seven years (+2.2 percentage points), Croatian SMEs still lag behind the European average in innovation activities. In particular, there is a lack of private investment in research and development, which further limits the innovation capacity

Table 1. Key Innovation Indicators

Indicator	Croatia	EU Average
Overall innovation performance (EU=100)	67.5	100
SMEs with product/process innovations (%)	36.3	52.8
SMEs collaborating on innovation (%)	7.2	10.3
Public investment in R&D (% of GDP)	0.97	2.27
Growth in performance (2016–2023)innovation	+2.2 p.p.	—

Source: European Innovation Scoreboard 2023, European Commission (Link to Report and Interactive Data), 2023.

of the domestic economy (European Innovation Scoreboard, 2023).

2.2. The role of EU funds in SME innovation

The European Union recognises the importance of SMEs for economic growth and innovation, and through various funds (e.g. the European Regional Development Fund (ERDF, Horizon Europe, and COSME) provides funding to stimulate innovation, and the European Commission is also responsible for the implementation of the European Regional Development Fund (ERDF). In addition, the Commission will continue to monitor the implementation of the Union’s macro-financial assistance to the countries of Central and Eastern Europe, in particular in the context of the implementation of the Union’s macro-financial assistance to the countries of Eastern Europe. In Croatia, EU funds have become a key source of funding for innovation, especially after joining the EU in 2013.

According to the European Commission, more than 4,000 SMEs benefited from EU funding for innovation projects in the period 2014-2023, resulting in an increase in the number of innovative products and services on the market. In addition to the above, the Commission also notes that in the period 2014-2023, more than 4,000 SMEs in Croatia benefited from grants from EU funds for the implementation of innovative projects (Source: European Commission, HAMAG-BICRO). The total value of grants awarded for innovation and SME development exceeded EUR 1,2 billion. The largest number of projects has been funded by the European Regional Development Fund (ERDF), with significant funding also drawn from Horizon 2020/EU, COSME, and the EIT programmes. The most commonly funded activities include:

development of new products and services, digitalisation of business, optimisation of production processes, internationalisation, and green technologies. According to data from the Ministry of Economy and Sustainable Development, thanks to these projects, More than 1,500 new products and services have been put on the market. Over 8,000 new jobs have been created in innovative SMEs. SMEs that have benefited from EU funds have, on average, recorded 2.1 times more revenue growth than SMEs that have not benefited from such funds. In addition, the share of SMEs investing in innovation has increased from 31% in 2014 to 36,3% in 2023. (EIS, 2023). (Table 2).

Table 2 shows key indicators of EU use of Innovation funds in Croatian MSPs from 2014 to 2023. According to the data shown, more than 4,000 MSPs used grants for innovation projects, resulting in the placement of more than 1,500 new products and services on the market. The total value of approved funds exceeded EUR 1.2 billion, and thanks to these projects, more than 8,000 new jobs have been created. Significantly, the SME that used EU funds generated an average of 2.1 times higher revenue growth than those who did not participate in these programs. These results indicate the positive impact of EU funds on the innovation capacity, employment, and competitiveness of small and medium-sized enterprises in Croatia.

2.3. The innovation ecosystem in Croatia

The innovation ecosystem in Croatia includes SMEs, research institutions, universities, development agencies, and state institutions. To achieve the objectives of this Regulation, the Commission may adopt implementing acts, by the examination procedure referred to in Article 58 of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002 (OJ L 298, 26.10.2012, p.

1). The innovation ecosystem in Croatia is characterised by numerous challenges, as confirmed by the latest statistical indicators. The share of small and medium-sized enterprises (SMEs) collaborating on innovation, for example with research institutions, universities, or other enterprises (Edquist, 2001)ⁱ is only 7,2%, compared to the European Union average of 10,3% (European Innovation Scoreboard, 2023). This difference indicates that the links between science and the economy are less developed than the European average. In addition, the share of SMEs with innovative activities, i.e., those introducing new products or processes, in Croatia is 36,3%, while the EU average is significantly higher, at 52,8%. These data point to limited innovation capacities and lower innovation intensity in the Croatian SME sector. Public investment in research and development (R&D) in Croatia amounts to 0,97% of GDP, which is more than twice less than the EU average of 2,27% of GDP. This level of investment limits the development of research infrastructure and technology transfer opportunities. In terms of the results of innovation activities, the number of patents per million inhabitants in Croatia is 3.1, while the EU average is 36.5. This difference further illustrates the lower commercialisation of innovation and the lower contribution of the research sector to the economy. In the case of SMEs, the number of SMEs in the Union is estimated to be around 10 million, while the number of SMEs in the Union is estimated to be around 10 million. Although there are more than 50 research institutions and transfer centres in Croatia, most of the cooperation with the economy is concentrated in Zagreb and several larger cities (Ministry of Economy and Sustainable Development, 2023), indicating regional disparities within the innovation ecosystem. In addition, the share of SMEs using technology transfer services is only 4%, which is another indicator of the limited capacity to transfer knowledge and technology from the scientific to the business sector (European Innovation Scoreboard, 2023). In addition, in order to facilitate the devel-

Table 2. Using EU funds for innovation in Croatian MSPs (2014-2023)

Indicator	Value
Number of SMEs benefiting from EU innovation funds	>4,000
Total value of approved funds	1.2 billion EUR
New products/services launched on the market	>1,500
Number of newly created jobs	>8,000
Average revenue growth of SMEs with EU funds	2.1 times higher than others

Source: European Commission, 2023; Hamag-Bicro, 2023; Ministry of Economy and Sustainable Development, 2023.

opment of the innovation ecosystem in Croatia, it is necessary to provide for the establishment of a network of national and regional innovation partnerships, in order to facilitate the development of the innovation ecosystem in Croatia. These challenges require targeted policy measures aimed at strengthening institutional support, increasing investment in research and development, and fostering cooperation between science and business. The key indicator for the innovation ecosystem in Croatia is available in Table 3.

Table 3. Innovation Performance of SMEs in Croatia Compared to the EU Average (2023)

Indicator	Croatia	EU Average
Share of SMEs collaborating on innovation (%)	7.2	10.3
Share of SMEs with innovation activities (%)	36.3	52.8
Public investment in R&D (% of GDP)	0.97	2.27
Number of patents per million inhabitants	3.1	36.5
Share of SMEs collaborating with scientific institutions (%)	5	—
Share of SMEs using technology transfer services (%)	4	—

Source: European Commission. (2023). European Innovation Scoreboard 2023. Publications Office of the European Union. Available at: https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard_en

Table 3 shows the key indicators of the innovation ecosystem in Croatia compared to the EU average for 2023. The analyzed data indicate several structural weaknesses of the Croatian innovation system. First, the share of small and medium-sized enterprises (SMEs), which cooperate on innovation in Croatia, is only 7.2%, which is significantly below the EU average of 10.3%. The ability of SMEs to leverage external sources of knowledge and collaborate with other entities has proven to be crucial for their innovativeness and business performance (Radicić & Pugh, 2017). This information suggests that the connections between the entrepreneurial sector and other actors of the innovation ecosystem, such as universities and research institutions, are still underdeveloped. Second, only 36.3% of Croatian SMEs are carried out by innovation activities (eg, developing new products or processes), while this EU level is 52.8%. This indicates a lower intensity of innovation in the Croatian MSP sector

and potentially limited capacity for the development and commercialization of innovation. Public investments in research and development (R&D) in Croatia amount to 0.97% of GDP, which is more than twice less than the European average (2.27% of GDP). This level of investment limits the development of research infrastructure and innovation projects. The number of patents per million inhabitants in Croatia is 3.1, while the EU average is 36.5. This difference further confirms the weaker commercialization of knowledge and innovations in the Croatian context. Particularly worrying is that only 5% of SMEs cooperate with scientific institutions, and only 4% use the services of technology transfer services, which indicates a very limited transfer of knowledge from scientific institutions to the economy. Table 3 indicators confirm that the innovation ecosystem in Croatia is fragmented, with insufficiently developed connections between science and economy, and limited capabilities for technology transfer. To strengthen the innovation potential, it is necessary to increase investment and development, to encourage cooperation between entrepreneurs and scientific institutions, and to develop systems for more efficient technology transfer. These data point to limited innovation capacities and lower innovation intensity in the Croatian SME sector, which is also confirmed by previous research on Croatian SMEs (Božić & Rajh, 2016).

2.4. Administrative obstacles

The development of small and medium-sized enterprises (SMEs) in Croatia faces a number of administrative obstacles that significantly affect their innovation and ability to use European Union funds. These obstacles can be viewed through several key dimensions. The first key dimension is the changing and complex regulatory environment. The Croatian business environment is characterized by frequent and unpredictable changes in legal regulations that make it difficult for SMEs to follow and adapt to new regulations (Obadić, Ravšelj, & Aristovnik, 2020). Since 2006, some 500 regulations have been introduced and amended, creating instability and additional administrative costs, in particular for smaller entities that do not have the resources to adapt promptly. The Government of the Republic of Croatia recognises this problem and has introduced the 'Think Small First' principle, which seeks to put SMEs at the centre of the policy and regulation process to reduce their administrative burden (European Commission, 2019). In addition, an SME test has been introduced to assess the impact of by-laws on the SME

sector, but its implementation is still insufficiently digitised and often paper-based, which reduces the efficiency and transparency of the process. In particular, SMEs face disproportionately high administrative and regulatory burdens compared to larger companies. This includes labour market challenges, such as legal restrictions on employment, minimum wages, and working hours, which further hamper their operational flexibility and competitiveness.

The third key dimension relates to the lack of capacity to use EU funds. In particular, one of the key obstacles for SMEs is the lack of information and capacity to prepare and submit projects for EU funds (Božić & Rajh, 2016). This reduces their ability to take advantage of the available financial resources for innovation and development. Although EU funds offer significant support, such as innovation competitions for newly established SMEs with up to 85% of grants, many entrepreneurs lack the necessary expertise or resources to effectively apply and implement projects.

The fourth key dimension is the limitation of EU funds in overall competitiveness enhancement. Thus, EU funding is often focused on specific investments, e.g., the purchase of machinery, while the focus is less on overall competitiveness enhancement of SMEs (Čučković & Vučković, 2018). The Commission considers that the aid is compatible with the internal market within the meaning of Article 107 (3) (c) of the Treaty.

The fifth key dimension is the problems of access to finance and human resources. In addition to administrative challenges, SMEs also face problems in accessing funding, including high human resource costs and a lack of adequate infrastructure to support innovation. These factors further delay their development and ability to compete in the domestic and international markets. In addition, the Commission will continue to monitor the implementation of the Union's macro-financial assistance to the countries of Central and Eastern Europe and the associated countries. In addition to financial support, the EU seeks to increase competitiveness and employment in the sector through various joint investment schemes, start-up capital, and infrastructure support. However, in order to make the most of these funds, it is necessary to strengthen the internal capacity of SMEs to prepare and implement projects and to simplify administrative procedures. (Womack et al., 1990). In order to ensure the effective implementation of the Union's macro-financial assistance, the Commission shall develop and implement a comprehensive and integrated approach

to the macro-financial assistance.

In light of the above, administrative obstacles in Croatia affecting the development of SMEs and their innovation include a complex and changing regulatory environment, high regulatory burdens, a lack of capacity to use EU funds, and limited access to financing and human resources. While EU funds provide significant financial and institutional support, their effectiveness depends on SMEs' ability to adapt and take advantage of these opportunities. The systematic application of the 'start small' principle and further simplification of administrative procedures are key to stimulating innovation and sustainable development of the SME sector in Croatia.

2.5. Lack of skilled staff in Croatia for SMEs

The lack of skilled personnel in Croatia is a key obstacle to the development of small and medium-sized enterprises (SMEs), especially in the context of their innovation and use of European Union funds. The Croatian labour market faces a shortage of qualified workers, which is also confirmed in regional strategic documents such as the Strategy for the Development of Human Potentials of Međimurska County until 2027, which emphasises the need for the development of competences and education in STEM areas and technical professions (Međimurska County, 2020). Scientific analyses indicate that in Croatia, the total number of PhDs in natural sciences, technology, engineering, and mathematics is relatively low, and only about 15% of them are employed in the business sector, which further limits the innovation potential of SMEs (University of Zagreb, Faculty of Geotechnical Sciences, 2023). This shortage of skilled staff makes it difficult for SMEs to prepare and implement projects financed by EU funds, which require specific knowledge and skills for managing innovation and administrative processes. The Commission will continue to monitor the implementation of the Union's macro-financial assistance to the countries of Central and Eastern Europe in order to ensure that the Union's macro-financial assistance is consistent with the Union's macro-financial assistance. However, the existing gap between labour market needs and educational programmes slows down the development of SMEs and their ability to take advantage of EU funding for innovation. As a key instrument to stimulate innovation, EU funds require SMEs not only to have financial resources but also to have the capacity to manage projects effectively. The lack of qualified staff reduces the success of project applications and implementation, which



limits their contribution to competitiveness and the development of entrepreneurship. In order to stimulate innovation and the sustainable development of the SME sector in Croatia, it is necessary to implement policies that will improve the education, training, and retention of professional staff, as well as strengthen cooperation between scientific institutions and enterprises. This will increase the capacity of SMEs to take advantage of EU funds and their capacity for innovative growth.

2.6. Strengthening institutional support and education

The strengthening of institutional support and education is crucial for the development of innovation in small and medium-sized enterprises (SMEs) in Croatia, especially with an emphasis on the exploitation of EU funds. The institutional framework in Croatia includes a number of programs and agencies that provide financial, advisory, and educational support for SMEs in all stages of development and innovation. For example, the Croatian Agency for Small Economy, Innovation and Investment (HAMAG-BICRO) offers a wide range of services, including professional consultation, assistance in the preparation of projects for EU funds, seminar and workshop organization, and support in the internationalization of SME. These activities significantly contribute to the strengthening of the capacity of entrepreneurs for innovation and increase their ability to effectively use EU funds (HAMAG-BICRO, ND) also, through calls such as the "Innovation of the SME" Ministry of Economy continuously encourages the development of innovation with an emphasis on radical innovation and commercialization of products and services. These calls allow SME access to grants ranging from 150,000 to 1,500,000 kuna, which is a significant impetus for strengthening their innovation capacities (Ministry of Economy, 2024). Innovation vouchers represent another important instrument for strengthening the cooperation of SME with scientific research institutions. Through these MSP vouchers, they can financially support research and development activities that result in new products, services or processes, which raises their innovation potential and competitiveness (HOK, 2025) the Ministry of Economy also works to improve the business climate through digitization and simplification of administrative procedures, which further facilitates SME's access to institutional support and (Ministry of Economy, 2025) In short, strengthening institutional support and education through financial instruments, advisory services and encouraging cooperation

with scientific institutions is a key factor for the development of innovation in MSPs in Croatia. These measures increase the ability of SMEs to successfully apply for EU funds, develop competitive innovative products and services, and contribute to sustainable economic growth.

3. Methodology

This work uses a combination of qualitative and quantitative methods. Secondary data from scientific articles, reports of the European Commission, Eurostat, and National Bodies (HAMAG-BICRO, Ministry of Economy and Sustainable Development) were collected. The qualitative part includes an analysis of the study of the Croatian SME case that successfully uses EU funds for innovation. The case study was selected on the basis of publicly available sources and reports on successful projects. The following is an interesting example

3.1. Case study: SME Infobip d.o.o. innovation and international growth supported by EU funds

Infobip d.o.o. is one of the most successful examples of a Croatian SME, which, through the strategic use of European Union funds, has achieved significant technological development and international expansion. Founded in 2006 in Vodnjan, the company specializes in the development of communication platforms in the cloud, allowing companies to send messages, voice calls, and other digital services. Over two decades of business, Infobip d.o.o. has grown into a global leader with offices in more than 60 countries, and its products are used in key sectors such as banking, telecommunications, and retail (Hamag-Bicro, 2023). The key element of the success of SME Infobip d.o.o. is the continuous development of innovation, which is largely enabled through financial support from the European Regional Development Fund (ERDF). As part of the Operational Program Competitiveness and Cohesion, Infobip has used EU funds to finance research and development (R&D) for new digital solutions and to strengthen the capacity of its research team (Ministry of Economy and Sustainable Development, 2023). This financial support has made it possible for a company to develop advanced modules based on artificial intelligence (AI) and machine learning, which automate communication processes and allow personalization of interaction with users. In addition to technological development, EU funds were

key to hiring highly educated experts in the fields of computer science, which further strengthened the company's innovation capacity. Increasing the number of experts by more than 30% during the EU project implementation allowed Infobip to accelerate the development of new products and adapt to the specific demands of different international markets (HAMAG-BICRO, 2023). The results of these investments have been visible in the continuous growth of revenue, which has recorded annual growth rates above 20% in the last five years. This growth is not only a reflection of increased sales but also of the successful internalization of business, which has become one of the largest Croatian exporters in the ICT sector with a significant global market share (Ministry of Economy and Sustainable Development, 2023).

The case study of Infobip d.o.o. illustrates how the strategic and targeted use of EU funds can be crucial for the development of SMEs in high-tech sectors. The financial support has enabled the accelerated development of innovation, the strengthening of human potential, and international competitiveness, which are key factors for sustainable growth and positioning on the global market. This example confirms the importance of EU funds as a catalyst for innovation and an incentive for the competitiveness of Croatian SMEs at the world level. It is particularly significant to note that in 2020, Infobip d.o.o. became the first Croatian "unique" startup to exceed \$1 million, partly as a result of investments in innovation and international expansion made possible through EU funds. Also, global cloud communications platform Infobip was named a leader in the new edition of the Omdia CPaaS Universe report. This is the third such recognition for Infobip, and the company has further improved its position compared to the 2023 edition. The Omdia CPaaS Universe report presents a comprehensive analysis of the Communication Platform-as-a-Service (CPaaS) market, based on the company's forecasts and insights from research among business users. In addition, it provides a projection of the key capabilities, characteristics, and attributes that are important for the development of the market. Omdia recognises Infobip as a leading provider of CPaaS services, delivering superior communications services to businesses, developers, partners, and telecoms. Infobip d.o.o. offers a wide range of communication channels and APIs. One of its key differentiators from other market players is that it is a leader in integrating new communication channels for business users, such as RCS business messages and other forms of communication, which are key growth drivers for the industry and

the company itself. Infobip further strengthens the ecosystem of network APIs and helps users achieve business goals through innovations based on AI and Gen AI technologies", said Pamela Clark-Dickson, Chief Analyst at Omdia.

3.2. Indicators of the involvement of InfoBipa d.o.o. in the project

Infobip d.o.o. has directed EFRR funds to develop advanced digital solutions, especially modules based on artificial intelligence (AI) and machine learning (ML), the employment of highly educated experts from the STEM area, and internationalization of business. These investments have made it possible for companies to remain a technological leader in the field of communication platforms in the cloud, which has strengthened competitiveness and increased market reach (Infobip, 2023). During the EU project implementation period (2018-2023), the number of employees in Infobipa experts increased by more than 30%, which is directly related to the intensity of research and development activities (Infobip, 2023). In the same period, the company's revenues grew at annual rates above 20%, and Infobip developed innovative communication platforms used by millions of users around the world (Ministry of Economy and Sustainable Development, 2023). Thanks to these results, Infobip has become one of the largest Croatian exporters in the ICT sector, with offices in more than 60 countries.

Table 4 shows the key indicators of the business development of Infobip in the period 2018 to 2023, with a particular emphasis on the impact of using funds from EU funds on innovation activities and international companies' growth. Analysis of the available data indicates a strong positive effect of EU funds on all aspects of this SME from the ICT sector. First, the number of Infobip employees increased by more than 30% during the implementation of EU projects, indicating a direct strengthening of human resources and research and development capacity of the company. This employment growth is the result of the need for new knowledge and skills, especially in the field of advanced digital technologies, artificial intelligence, and machine learning, which were focused on funded projects. The average annual revenue growth rate was more than 20% in the observed period, which significantly outweighs the average of the sector and confirms that innovations and internationalization, EU funds, are key triggers of sustainable growth. Thanks to these investments, Infobip has expanded its business to more than 70 countries, making it one of the most important

Croatian exporters in the ICT sector and a globally recognizable market actor. It is especially important to emphasize the development of more than five new modules and platforms based on artificial intelligence and machine learning, which testifies to the high level of the company's innovation capacity. These results are directly related to the use of EU funds for research and development, which enabled accelerated development and commercialization of innovative solutions. Finally, Infobip, in 2020, became the first Croatian "unicorn", that is, a startup whose value exceeded one billion US dollars. This status is not only a symbolic success, but also a certificate that strategic use of EU funds in combination with innovation culture and internationalization of business is crucial to achieve global competitiveness and sustainable growth of Croatian SME.

Table 4 data confirms that EU funds have had a multiple positive effect on the development of Infobip from strengthening human resources and innovation activities, through revenue and internationalization growth, to global market success. This example can serve as a model of good practice for other Croatian MSPs that seek to strengthen their innovation and exporters of capacity through the effective use of European financial instruments available. In the context of the development of high-tech companies in the territory of Croatia and the wider region, the Analysis of the Infobipp Business Company - one of the most prominent Croatian technological entities with global reach - indicates a number of structural and regulatory challenges that act limiting to innovation capacity and organizational growth. Although Infobip has been able to position itself as a global leader in the field of communication platforms, its action in the domestic and regional markets is continuously confronted with some obstacles arising from the fragmentation of the legal framework, administrative complexity, lack of qualified labor, and general regulatory inconsistency. One of the key challenges refers to the fragmentation of the legal regulation, especially in the domain of the protection of personal data. As a company that operates in more than 70 countries, Infobip is facing the need for simultaneous compliance with different legal frameworks, including the General Data Protection Regulation (GDPR) in the European Union, as well as local regulations in every country of business. Such complexity not only increases legal risks when collecting and processing data, but also requires the engagement of local legal advisers and additional resources to align, which directly affects the costs and operational efficiency. In the Croatian

Table 4. Key indicators of the development of Infobip in the context of EU funds (2018-2023)

Indicator	Value (2018–2023)
The number of employees increased during the EU projects	+30%
Average annual revenue growth rate	>20%
The number of markets present in	>70 countries
Number of innovative solutions developed with EU funds	5+ new AI/ML modules/platforms
Status	First Croatian "unicorn" (2020)

Note: Data were collected from publicly available sources and summarized for analysis.

context, although the GDPR is formally aligned, its application is often uneven and unclear, which further hinders the legal safety of businesses.

Additional weights represent administrative and bureaucratic obstacles, which are particularly prominent in situations where it is necessary to respond quickly, make business decisions, and implement new projects. Croatian bureaucratic infrastructure often slows down key business processes, such as registration of business units, employment of foreign experts, especially those outside the European Union, and access to institutional sources of financing, such as EU funds or national incentives. This administrative sluggishness contradicts the dynamic nature of the technological sector and thus limits the speed at which companies like Infobip can adapt to market changes. One of the structurally most pronounced problems is the lack of qualified experts in the field of information and communication technologies (ICT). The outflow of talents, that is, the emigration of highly educated ICT staff abroad, significantly reduces the available work forces available within the country. In response to this challenge, Infobip invests in the development of its educational capacity, including an internal academy and professional training programs. However, long-term addiction to external (including foreign) experts implies additional administrative and regulatory requirements, which further reduce business agility. The synthesis of these factors can be concluded that, although these challenges do not prevent Infobip from its overall growth and internationalization, they significantly affect its innovation potential and adjustment



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