

The Innovation Ecosystem of the Biomedical Engineering Sector in the Silesian Voivodeship

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Abstract

A regional innovation ecosystem consists of entities offering innovative solutions, entities implementing them, and intermediary and supporting entities. Innovation ecosystems play a key role in the implementation of innovations and in enhancing the innovativeness and competitiveness of the economy. Innovation ecosystems can be national or regional in scope and can encompass all sectors or be industry-specific. This article presents the results of a regional quantitative study focused on the biomedical engineering sector. The study aimed to gather information from key stakeholders in the biomedical engineering ecosystem, including businesses, local government entities, business support institutions, academic institutions, research institutes, and research and development centers operating within and outside the Silesian Voivodeship. The survey was conducted using random sampling within each respondent group: $n_1=50$ companies in the biomedical engineering sector, $n_2=20$ local government units, $n_3=20$ business support institutions, and $n_4=20$ scientific entities—universities and research institutes (10 from the Silesian Voivodeship and 10 from outside the voivodeship). The main objective of the study was to characterize innovation processes within the regional innovation ecosystem and to identify the problems and barriers that limit the effectiveness of the regional innovation ecosystem. The article presents the research findings, conclusions, and recommendations for enhancing the potential of Silesian biomedical engineering in the face of the challenges of the digital and green economy.

Keywords: innovation ecosystem, region, biomedical engineering

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