

Innovation infrastructure of engineering and small innovative business in development of national innovation system

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Abstract

© 2016. ASERS Publishing. All rights reserved. The urgency of the problem stated in the paper is conditioned by the fact that the structural changes in the components of the global socio-economic development are characterized by the alternative models for the modernization of NIS, take place in conditions of instability, low activity of industrial companies in the development of high-tech industrial lines. Despite intensive efforts to modernize NIS of Russia, the number of organizations implementing various innovations is reduced. The purpose of the article is to develop a model for the national innovation system's functioning based on the development of regional engineering centers and small innovative business to achieve sustainable innovation development. The leading method to the study of this problem is the simulation method allowing the addressing of this issue as a purposeful and organized process to establish regional centers of engineering and integrated with them small innovative companies as the key elements of the national innovation system's development to distinguish areas of activities and their functions in the stages of advanced industrial technologies' development, implementation, maintenance and replication of the results among the rest of the companies. The analysis of theoretical and practical approaches to NIS development, based on the engineering activities is conducted, a concept of innovative development is proposed, where the central part belongs to the phenomenon of innovations' diffusion. The model is aimed at increasing of the level of innovation development of NIS, facilitating in the attraction of small innovative entrepreneurship in high-tech projects, ensuring the integration of research and education and industrial capacity, transferring of knowledge and scientific developments in the industrial sector, creating unified technological chains and the flows of innovations.

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Keywords

Diffusion of innovations, Engineering activities, Innovative development concept, Modeling method, National innovation system, Small innovative entrepreneurship