

New Technological Challenges: Drivers and Inhibitors of Industrial Production

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key words

industrial production, technological challenge, technological structure, driver, inhibitor

We have presented the analysis of trends in the development of high-tech production and the factors hindering its development in the context of new technological challenges. We have given the results of systematization of drivers and inhibitors of the high-tech industry, based on the modeling.

Thus, based on the results of the analysis, the following conclusions can be drawn, that Russian industry development drivers are the implementation of the (a) import substitution policy, (b) modernization of industry, (c) an optimistic forecast regarding changes in demand for high-tech products in the manufacturing industry, (d) changes in the conjuncture in the field of industrial production.

The proposed tools and findings of the simulation will improve the methodological developments in the field of high-tech manufacturing industry development to improve its competitiveness and R & D intensity, we believe. The reported study was funded by RFBR, project number 20-010-00655.

References

1. Barsegyan N.V. Otkrytie innovatsii kak resurs upravleniya vysokotekhnologichnymi predpriyatiyami [Open innovation as a resource for managing high-tech enterprises] *Vestnik Belgorodskogo universiteta kooperatsii, ekonomiki i prava*, 2018, no. 5, pp. 118–127.
2. Zholobova Yu.S., Kushchiy N.A., Savon D.Yu., Safronov A.E. Minimizatsiya vozdeystviya na okruzhayushchuyu sredu pri primenении novykh tekhnologiy obogashcheniya ugley i utilizatsii otkhodov dobychi [Minimizing the impact on the environment when applying new technologies for coal preparation and disposal of mining waste], *Gornyy zhurnal*, 2016, no. 5, pp. 109–112.
3. Kirshin I.A., Izmaylov A.E. Industriya 4.0: sozdanie tsifrovogo predpriyatiya i transformatsiya mirovoy promyshlennosti [Industry 4.0: building a digital enterprise and transforming global industry], *Nauchnye trudy Tsentralskogo ekonomicheskikh issledovanii*, 2018, no. 14, pp. 65–73.
4. Kochetkov E.P. Tsifrovaya transformatsiya ekonomiki i tekhnologicheskie revolyutsii: vyzovy dlya tekushchey paradigmy menedzhmenta i antikrisisnogo upravleniya [Digital transformation of the economy and technological revolution: challenges for the current paradigm of management and crisis management], *Strategicheskie resheniya i risk-menedzhment*, 2019, vol. 10, no. 4, pp. 330–341.
5. Krasnova O.M., Kudryavtseva S.S. Tendentii razvitiya innovatsionnoy deyatel'nosti v Respublike Tatarstan [Trends in the development of innovative activities in the Republic of Tatarstan], *Ekonomicheskiy vestnik Respubliki Tatarstan*, 2017, no. 2, pp. 50–59.
6. Kudryavtseva S.S. Professional'noe obrazovanie v tekhnicheskikh vuzakh na osnove modeli universiteta 3.0 — podkhod tsifrovoy ekonomiki [Vocational education in technical universities based on the university model 3.0 — a digital economy approach], *Obrazovanie i problemy razvitiya obshchestva*, 2018, no. 1(5), pp. 53–63.
7. Lastovskaya M.R., Polina A.A., Safaryan D.M. Mirovoy neftegazovyy rynok i osnovnye vyzovy dlya Rossii: tekhnologicheskie proryvy [The global oil and gas market and the main challenges for Russia: technological breakthroughs], *Problemy ekonomiki i upravleniya neftegazovym kompleksom*, 2018, no. 9, pp. 55–60.
8. Lola I.S., Bakeev M.B. Tsifrovaya transformatsiya predpriyatiy obrabatyvayushchey promyshlennosti Rossii [Digital transformation of manufacturing enterprises in Russia], *Informatsionnoe obshchestvo*, 2020, no. 1, pp. 2–14.
9. Rosstat; <https://rosstat.gov.ru>.
10. Ryl'nikov A.G., Pytalev I.A. Tsifrovaya transformatsiya gornodobyyayushchey otrassli: tekhnicheskie resheniya i tekhnologicheskie vyzovy [Digital transformation of the mining industry: technical solutions and technological challenges], *Izvestiya Tul'skogo gosudarstvennogo universiteta. Nauki o Zemle*, 2020, no. 1, pp. 470–481.
11. Skobelev D.O., Fedoseev S.V. Politika povysheniya resursoeffektivnosti i formirovanie ekonomiki zamknutogo tsikla [Resource efficiency policy and circular economy], *Kompetentnost' / Competency (Russia)*, 2021, no. 3, pp. 5–13.
12. Ushakova S.E. XVII aprel'skaya mezhd. nauch. konf. po problemam razvitiya ekonomiki i obshchestva. Tekhnologicheskie vyzovy i innovatsii [17th April international scientific conference on the problems of economic and social development. Technological challenges and innovations], *Nauka. Innovatsii. Obrazovanie*, 2016, vol. 11, no. 3, pp. 147–148.
13. Shumkin G.N. Tekhnologicheskie vyzovy i otvety v oboronnoy promyshlennosti: teoreticheskaya model' [Technological challenges and answers in the defense industry: a theoretical model], Ekaterinburg, *Institut istorii i arkheologii UrO RAN*, 2018, pp. 283–290.