

## THEORETICAL ASPECTS OF THE INTRODUCTION OF ROBOTIZATION AND AUTOMATION IN THE AGRICULTURAL SECTOR OF THE REGION

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*The article actualizes the issue of increasing labor productivity in agricultural production through automation and the introduction of robotics. As a result of the study, it was found that farms of various types feel the need for automation of the harvesting process, which led to further areas of analysis. A review of the current state of the agricultural robot market is presented and its key players are identified. The tasks of agricultural robotization are posed and formulated. Automation of agricultural processes is a means of increasing the efficiency of production, as well as a means of adapting the enterprise to changes in the social, economic and environmental environment. The authors of the article also revealed negative aspects of the impact of the introduction of agricultural robotics, primarily related to the loss of large volumes of the working class from the production process.*

**Keywords:** technological development, robotics, agricultural industry, solving applied problems, unmanned aerial vehicles, production efficiency.

### REFERENCES

1. Boyko A. *Sel'skoye khozyaystvo i roboty* [Agriculture and robots] [Electronic resource]. <http://robotrends.ru/robopedia/selskoe-hozyaystvo-i-roboty>
2. Ananyev A.N. *Problemy primeneniya robotov v sel'skokhozyaystvennom proizvodstve* [Problems of using robots in agricultural production] [Electronic resource]. [http://www.cckrb.ru/news/Innovatsii-v-APK/Problemy-primeneniya-robotov-v-selskokhozyaystvennom-proizvodstve-/?sphrase\\_id=2302](http://www.cckrb.ru/news/Innovatsii-v-APK/Problemy-primeneniya-robotov-v-selskokhozyaystvennom-proizvodstve-/?sphrase_id=2302)
3. Volchkevich L.I. *Avtomatizatsiya proizvodstvennykh protsessov* [Automation of production processes] / *GUP PPP "Tipografiya "Nauka" RAN* [GUP PPP "Printing house" Science "RAS]. 2007. P. 24-27.
4. Anchekov M.I., Kilchukova A.L., Shalova S.Kh. *Resheniye problem avtomatizatsii protsessov sbora plodoovoshchnoy produktsii* [Solving problems of automation of the process of collecting fruits and vegetables] // *Engineering Herald of the Don*, 2016, No. 4 (43). P. 73.
5. The journal "Bulletin of the North Caucasus" / 2019.
6. Shalova S.Kh. *Obzor i analiz issledovaniy v oblasti sistem obvolakivayushchego intellekta* [Review and analysis of studies in the field of enveloping intellect systems] / *Engineering Bulletin of the Don* // 2016, No. 4 (43). P. 125.
7. Zagasezheva O.Z., Mambetov A.Kh. *Innovatsionnyye tekhnologii kak faktor operezhayushchego razvitiya regiona* [Innovative technologies as a factor of the leading development of the region] // *Bulletin of the KBSC RAS*. 2017. No. 6 (80). Part. 2. Pp. 97-101.
8. Skvortsov E.A. *Kadrovyy aspekt vnedreniya robototekhniki v sel'skom khozyaystve* [Personnel aspect of the introduction of robotics in agriculture] [Electronic resource]. [docplayer.ru/37832721-Kadrovyy-aspekt-vnedreniya-r...skom-hozyaystve.html](http://docplayer.ru/37832721-Kadrovyy-aspekt-vnedreniya-r...skom-hozyaystve.html)
9. Aseem Prakash. *Agriculture Robots: Four Global Trends to Watch* [Electronic resource]. Tractica. URL: <https://www.precisionfarmingdealer.com/articles/1966-agriculture-called-the-most-attractive-robotics-market-opportunity>

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