

**MULTIFUNCTIONAL MANIPULATOR ROBOT FOR PERFORMING  
OPERATIONS IN LIGHT INDUSTRY**

*Harbar Ye.A.* – graduate student, *garbarzhenia@gmail.com*

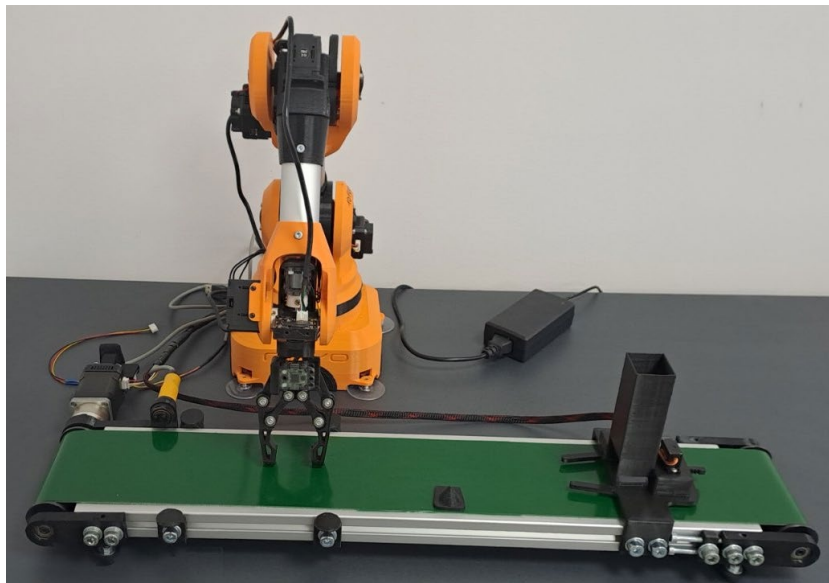
*Polishchuk A.O.* - graduate student , *andrepol215@gmail.com*

*Polishchuk O.S.* - Doctor of Technical Sciences, Prof., *opolishchuk71@gmail.com*

*Khmelnytskyi National University*

**The purpose of the work** is the automation of light industry operations through the use of multi-functional manipulator robots [1, 2].

The multifunctional robot-manipulator (Fig. 1) is an advanced means of automation and production, which can find wide application for performing various operations in industrial engineering. Thanks to its advanced technologies and unique capabilities, it becomes an indispensable assistant in solving various production tasks.



*Figure 1 - Multifunctional robot manipulator for execution  
operations of light industry*

One of the key areas of application of a multifunctional robot-manipulator is the assembly of parts on production lines. This robot can be programmed to accurately place and connect components, which significantly speeds up the production process and ensures high-quality assembly of finished products. Any task of assembling products or components is performed with great accuracy and speed, which ensures increased productivity and reduced costs.

## **Платформа: ЕЛЕКТРОМЕХАНІЧНІ СИСТЕМИ. ЕНЕРГЕТИЧНІ СИСТЕМИ. ВІДНОВЛЮВАЛЬНА ЕНЕРГЕТИКА ТА ЕНЕРГОЗБЕРЕЖЕННЯ**

Other important functions of a manipulator robot include performing tests and inspections. It can automatically check the quality of manufactured parts, perform measurements and detect defects, ensuring high product quality and avoiding production deviations.

Also, the manipulator robot can be used to automate operations with packaging and labeling of products. It can load goods into containers, pack them and place them on pallets for onward shipment, which ensures efficient logistics and reduces labor costs.

In addition, the manipulator can be used for robotic assembly of products, ensuring accurate and fast connection of parts. It can work in different environments and perform various tasks according to production needs.

**Conclusion.** A multifunctional robot manipulator is a reliable and effective tool for automating production, in particular in light industry. Its use allows you to increase productivity, reduce costs and improve product quality, making the production process more efficient and effective.

### **R e f e r e n c e s**

1. Industrial work [Electronic resource]. Access mode: <https://termobud.com.ua/ua/products/promishlennyi-roboti/>.
2. Industrial work. Classification industrial robots [Electronic resource]. Access mode: [https://kemppi.in.ua/articles/promochlenie\\_roboti.htm](https://kemppi.in.ua/articles/promochlenie_roboti.htm).