СЕКЦИЯ 2. КОНСТРУИРОВАНИЕ И ПРОИЗВОДСТВО ПРИБОРОВ

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AUTOMATED WASTE SORTING SYSTEM

Belman O.I., Stelmakh N.V.
National Technical University of Ukraine
"Igor Sikorsky Kyiv Polytechnic Institute"

Introduction. Ukraine's accession to the European Union is impossible without effective implementation of the basic principles and norms of sustainable development. In this aspect, it is important to revise approaches to the management of the sphere of solid waste (SHW) management in order to reveal the innovative and investment potential of this sphere, to transfer it into a profitable, investment-attractive industry. Management of the sphere of handling SHW is due to the need to take into account the social and environmental features of the development of the region and the search for the most effective ways of rational use of its secondary resources and ensuring environmental safety. Currently, the problem of the accumulation of solid household waste is extremely urgent. The relevance lies in their negative impact on the environment and human health. This is due to the fact that MSW occupy vast areas of land [1].

Main part. Since all people will not immediately begin to sort used products, therefore, to solve this problem, it is advisable to develop an automated system that, without preliminary sorting SHW, is able to isolate useful materials suitable for recycling. Unlike modern sorting solutions, where people at certain stages perform the role of sorters, in the proposed system their participation in the process is minimized. Despite the work with SHW, there is no unpleasant odor at all at all the main stages of sorting, due to the initial sterilization [2].

Conclusion. To summarize the above, it is obvious that the processes of collection, sorting and recycling of waste can be almost completely automated, and on the basis of existing technologies [3]. Moreover, automatic waste disposal can bring considerable profit with minimal human intervention.

References

1. Горлицкий Б.А. Обращение с бытовыми и промышленными отходами – основные изменения стратегии и тактики // Экология и здоровье человека: Тезисы докл. XIV Междунар. научно-пр. конф. – Харьков – Щелкино, 2006. – С. 192.

2. Belman O.I., Stelmakh N.V. AUTOMATED WASTE SORTING SYSTEM BASED ON VISUAL SPECTROMETRY // Belman O.I., Stelmakh N.V. // Материалы 13-й МНТК Новые направления развития приборостроения. – Минск, 2020. – С. 4.

3. Alamgir M., Ahsan A. Municipal Solid Waste and Recovery Potential. Iran. J. Environ. Health. Sci. Eng., 2007, vol. 4, no. 2, pp. 67–76.