

УДК 007.52=111

## **PROSPECTS OF INNOVATIVE TECHNOLOGY INTRODUCTION INTO THE UKRAINIAN INDUSTRY**

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*The article is devoted to investigation of prospects of the fourth industrial revolution arriving in the Ukrainian industry and to the analysis of opportunities of smart machines application into manufacturing.*

*Статтю присвячено вивченню перспектив набуття досягнень четвертої промислової революції українською промисловістю та аналізу можливостей введення у виробничий процес розумних машин.*

**Problem setting.** Information technology plays an important role in various sectors and industries. Similarly, IT strives to make things simpler in the manufacturing sector as well.

In the industry that automates things for the benefit of humankind, IT helps to make the manufacturing process less cumbersome and more automated. IT helps drastically in delivering just-in-time insights, swift visibility, and seamless innovation for implementing new age solutions.

**Analysis of recent research and publications.** Many academics and IT experts in the industrial sphere have researched the prospects of innovative technology introduction into the Ukrainian industry. So, director of the state enterprise *Ukrpromvneshexpertiza* Vladimir Vlasjuk is actively engaged in the study of the 4th industrial revolution implementation in Ukraine. And Anton Avrinsky, CEO of *Clobbi*, cited real examples of achieving a significant economic effect from the introduction of information technology in production.

**The purpose** of this article is to investigate the fourth industrial revolution arriving in Ukrainian industry and to analyze prospects of smart machines application into production.

**Basic material research.** A special role in the development of any modern enterprise is played by the automation of the production process, the meaning of which consists in the partial or complete exclusion of a human from the production process. The use of automatic systems is undoubtedly economically profitable, as it allows increasing labor productivity, expanding production without increasing the labor force, obtaining high product quality consistently, reduction of time for end-product manufacturing. A wide introduction of new technologies takes place in the service sector, and in particular in trade, where this process is especially necessary, given the huge size of modern supermarkets, as well as storage facilities. Naturally, there is a need to develop software, create an automation system that involves the use of highly efficient modern equipment: data collection terminals, bar code scanners, programmable keyboards, electronic scales, cash registers, label printers and more.

Figure 1 shows the examples of smart machines applied to production.

## Smarter Machine Today

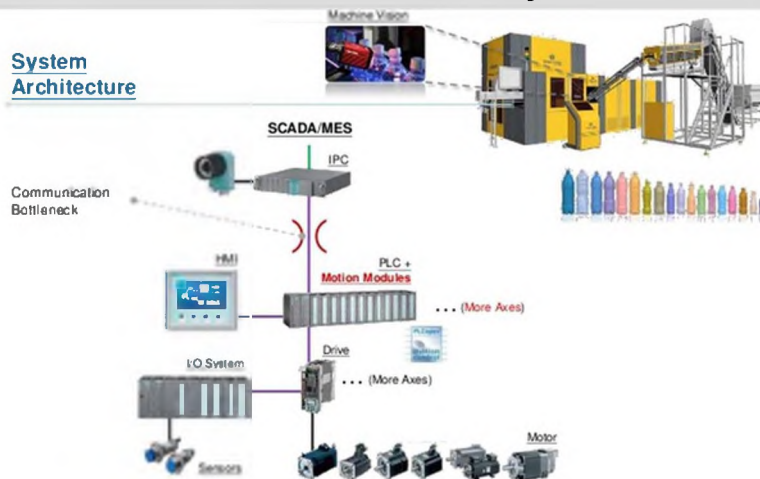


Figure 1 – Examples of smart machines introduced into manufacturing process  
Retrieved from <https://www.slideshare.net/EricLol1/sales-kits-for-nexcom-automation-controller20160504eric-lo-61941090>

According to the recent studies, the fourth industrial revolution is arriving in Ukrainian industry. There were three main industrial breakouts before the beginning of the 21-st century worldwide (Fig. 2).

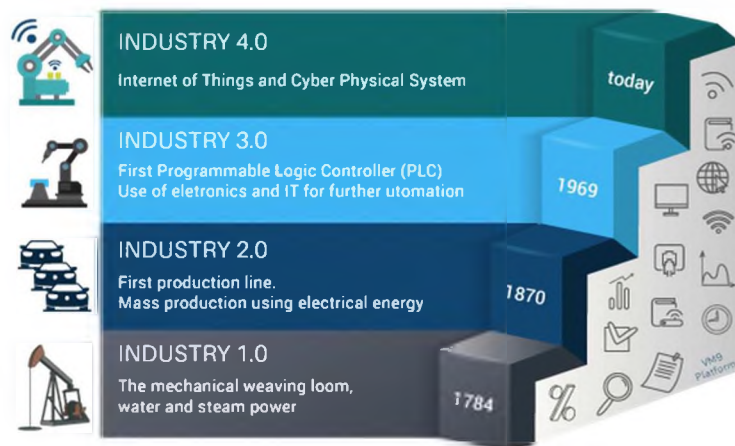


Figure 2 – Industrial breakouts and their features in chronological order  
Retrieved from <https://www.vm9it.com/industry.html>

Modern age is characterized as time of the fourth industrial revolution of things. The fourth industrial revolution combines all the most innovative and needed techniques and technologies. Industry 4.0 is considered to be the next industrial revolution. It is the current trend of data exchange, automation and interrelationship in manufacturing technologies towards Smart Industries.

This revolution is driven by giant leaps in ICT innovation and promises to radically alter the face of industry in the coming decades, based on a network-centric communication between players, humans and systems that implement high quality business processes and management, in the entire value network, including the end-users.

Speaking of manufacturing, namely the fourth industrial revolution technologies provide numerous benefits like: automation, saving production time, providing high precision, customer-friendly atmosphere in manufacturing. It should also be mentioned that the most innovative Ukrainian franchise manufacturing companies like *Indasoft* and franchise companies like *Bosch* and *Arce-lorMittal* implement and use the fourth industrial revolution achievements. For example, in Melitopol the manufacturing company *Turbokom Ltd* also uses the fourth industrial revolution achievements like 3D printing, CNC machines, CIM-Computer Integrated Manufacturing. The fourth industrial revolution influence on manufacturing tends to grow.

**Conclusion:** the presented research takes a snapshot of the public sector's digital evolution and gives pointers as to how the most ambitious public bodies can accelerate their rate of progress. Every advancement has its strengths and weaknesses that are more apparent in big industries including manufacturing. The IT advantages are perceived more evidently by the industry itself. With automatons and enhancement, they can reduce production time with an increase of production volumes. They can also reduce the expenses for human employees. Human errors in production occur less, thus another increase in the number of products is ensured. Most of the disadvantages greatly influence the outside of the industry or company. Pollution becomes more rampant whenever there is an increase in the use of automatons. Unemployment also increases because of the automated system employed by a company.

The company is also a subject to these disadvantages. Automatons are costly, and maintenance of these machines to work also affects the revenues of the company.

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