

## SEZIONE XIII. MECCANICA GENERALE E INGEGNERIA MECCANICA

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### PECULIARITIES OF THE DEVELOPMENT OF THE FOURTH INDUSTRIAL REVOLUTION «INDUSTRY 4.0»

ORCID ID: 0000-0001-9282-4880

Huliieva Nataliia Mykhailivna

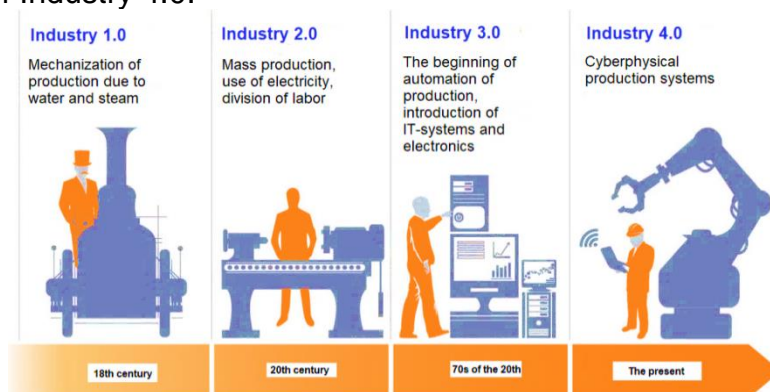
Cand. tech. Sciences, Associate Professor,  
Associate Professor of Applied Mechanics and Mechatronics  
*Lutsk National Technical University*

*UKRAINE*

The fourth industrial revolution, or "Industry 4.0" is the projected changes in all spheres of public life, due to the current trend of automation and information exchange in production processes. This term was introduced by Klaus Schwab. He is the President of the World Economic Forum [1].

The fourth global industrial era, which dates back to the first industrial revolution of the eighteenth century (Fig. 1). Companies in Europe, the United States and Asia are competing with elements of Industry 4.0. Back in March 2012, the German government approved the High-Tech Strategy Action Plan, as the initiator of the Industry 4.0 program, which aims to be a leading supplier of cyberphysical systems until 2025.

The high-tech USA corporations (R&D, M&A, etc.), which have invested billions of dollars in the core technologies of Industry 4.0, also participate in the global market competition of Industry 4.0.



**Fig. 1. History of industrial revolutions**

In recent years, Chinese companies have increased investment in high-tech developments around the world and, as a result, according to the International Federation of Robotics, since 2013, the Chinese market for industrial robots has become the largest in the world. At the same time, in 2020, China has an average of 150 robots per 10,000 industrial jobs, which is three times more than in 2015 [2].

Developed countries such as the United States and Germany can find it very difficult to surpass the Eastern Dragon. But the struggle for leadership continues.

Japan is also trying to keep up, and is discussing its own concepts of Connected Factories for the development of its industry.

The introduction of innovative technologies in Ukraine was initiated at about the same time as in other countries. Developed and approved by the Government "On approval of the Strategy for the development of innovation for the period up to 2030", which provides for an increase in the share of domestic funding for research and development to 2.5-3 % of GDP, which will contribute to the industrial revolution "Industry 4.0" [3].

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