DigI-VET

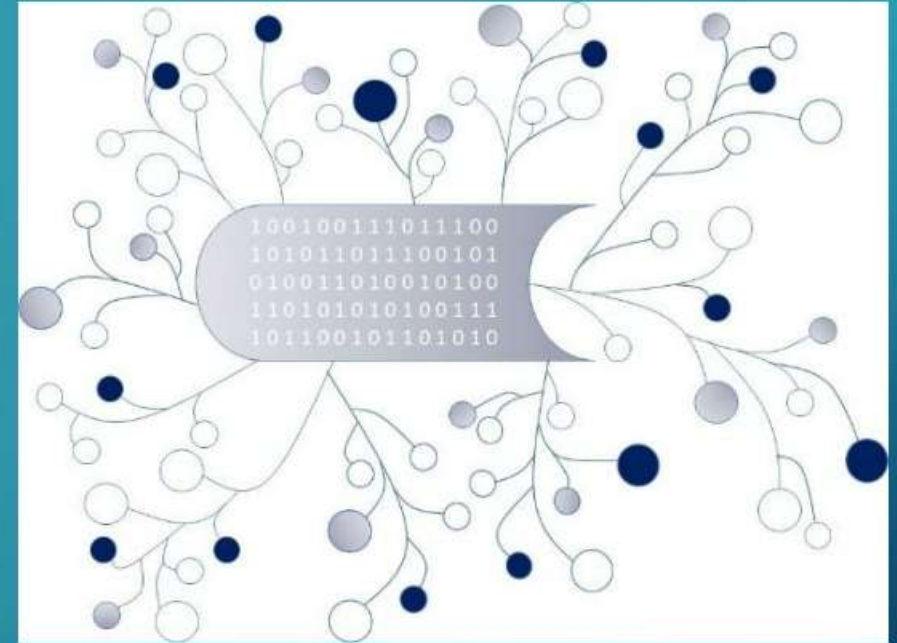**PROMOVAREA DIGITIZĂRII ȘI INDUSTRIEI 4.0**

ÎN EDUCAȚIA ȘI FORMAREA PROFESIONALĂ

Modul de Training pentru Cursanti

Modulul B:

Industria 4.0 Termeni si istorie

University of Paderborn, Jennifer Schneider

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Erasmus+ Programme
of the European Union

Cuprins Modul B: Termenii si istoria Digitizarii
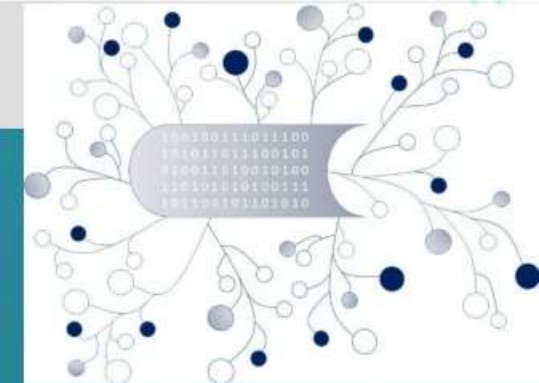
1. Aparitia Mecanizarii si istoria Industriei 4.0
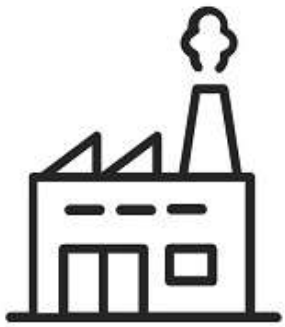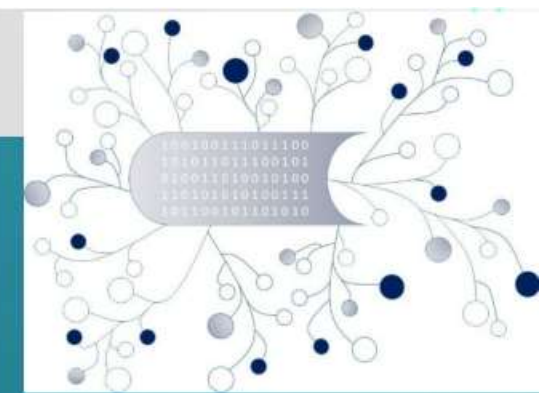
First revolution

(end of the 18th century)

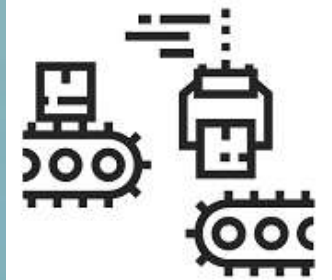-mechanical production on the basis of water and steam.

Second Industrial Revolution (beginning of the 20th century)

- happens during the introduction of conveyor belt, mass production

- Henry Ford and Frederick Taylor
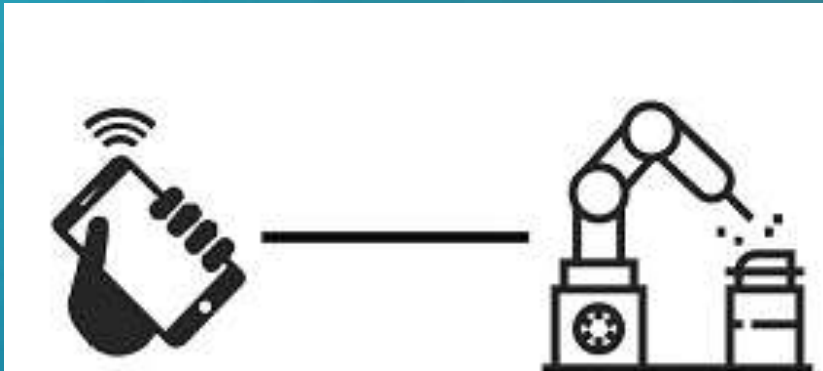
Third revolution

(middle of the 20th century)

- digital automation of production by means of electronics and information technology (IT) system

(Lasi, H., Fettke, P., Kemper, H. *et al.*, 2014)

1. Aparitia Mecanizarii si istoria Industriei 4.0

Fourth revolution- Industry 4.0

(last decades of the 20th century)

- rise of autonomous robots, contemporary automation, cybersecurity systems, the internet of things, the internet of services, etc.

- one of the key driver: Industrial robots

(Lasi, H., Fettke, P., Kemper, H. *et al.*, 2014)

2. Industria 4.0
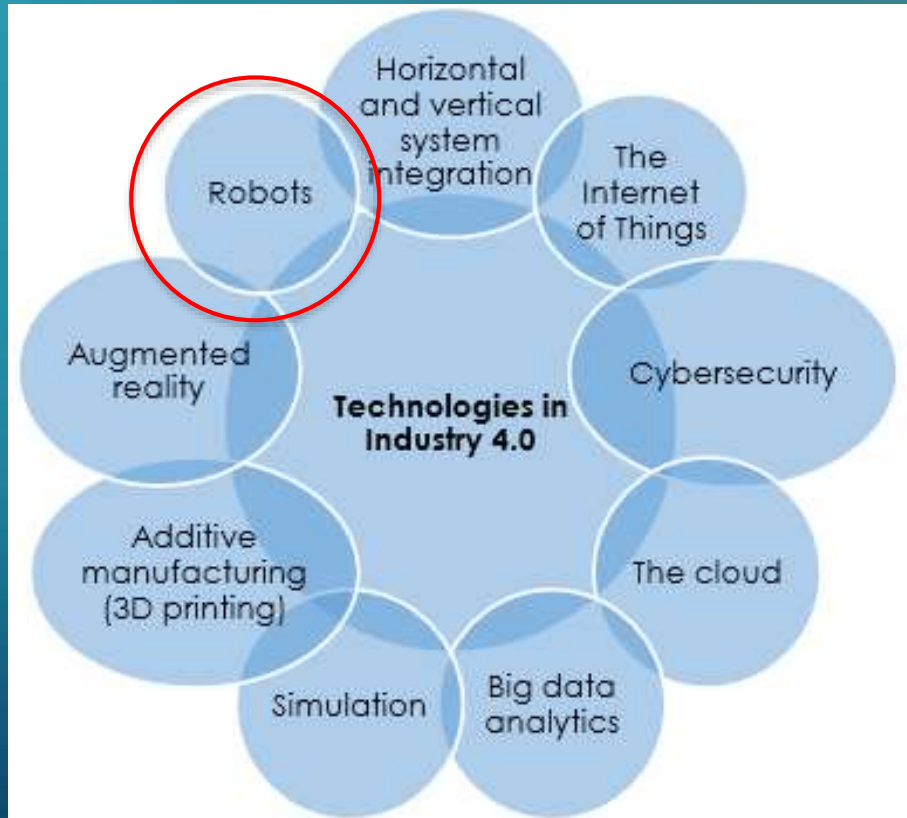
Figure: Own figure, following: Technologies Related to Industry 4.0 by Bahrin et al.; 2016.

Industria 4.0

Unul dintre factorii cheie:**Roboti industriali**

-Devene astfel mai productiv, flexibil, versatil, mai sigur și colaborativ și

-se creează astfel un nivel fără precedent de valoare în întregul ecosistem.

-Fabricile inteligente (inima Industriei 4.0), vor lua la bord tehnologia informației și comunicațiilor pentru o evoluție în lanțul de aprovizionare și

-linia de producție aduce aduce astfel un nivel mult mai ridicat atât de automatizare, cât și de digitizare.

(Lasi, H., Fettke, P., Kemper, H. *et al.*, 2014)
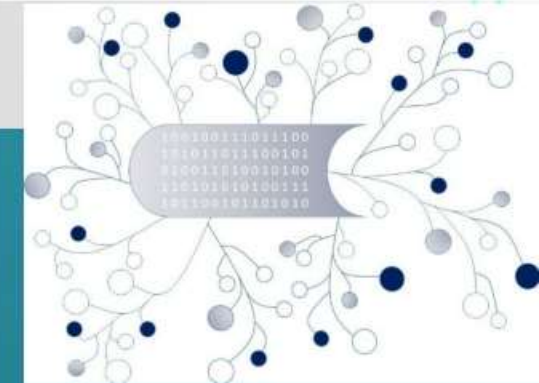
2.1 Tema

Urmariti va rog urmatorul clip video referitor la **istoria Industriei 4.0.**
Rog luati notite!

2.1 Tema

https://www.youtube.com/watch?v=RPC7yo99Nxs
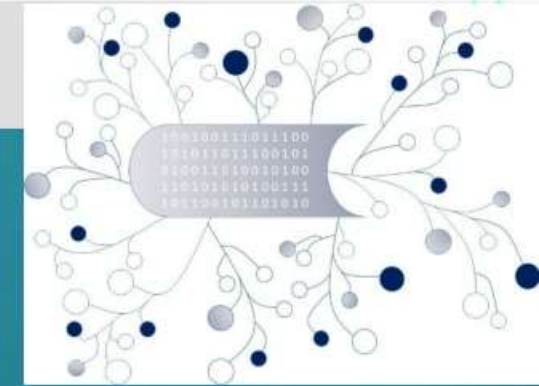
2.2 Tema

Raspundeti va rog la chestionarul H5P.org!

2.2 Tema
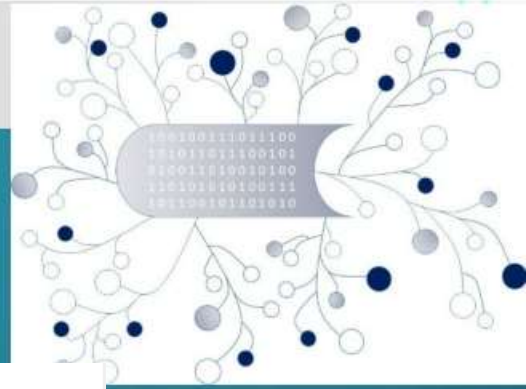
TASK

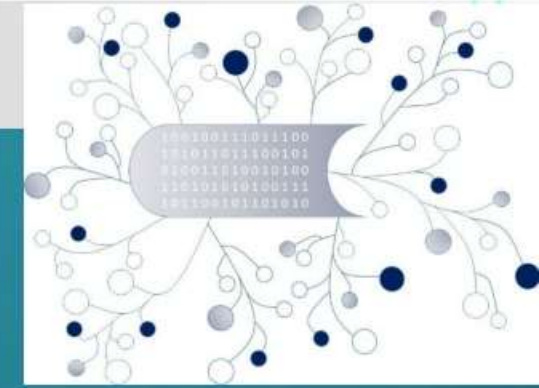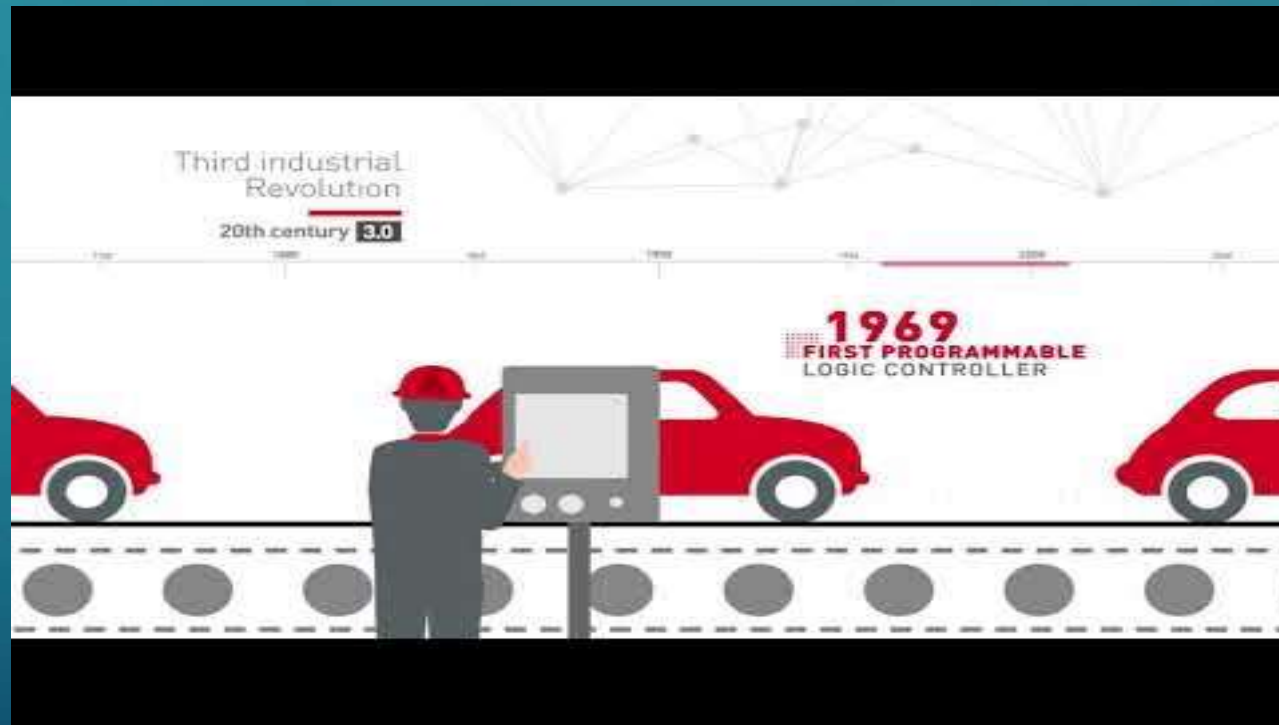The third revolution was in the middle of the 20th century.

What were the main changes for this revolution?

○ Automatical production on the basis of water and sun.

○ Mechanical production on the basis of water and steam.

○ Digital automation of production by means of electronics and information technology (IT) system.

○ The introduction of conveyor belt and mass production.

✔ Check

↻ Reuse   <> Embed   H5P

What's next?

You can use the following shortcode to insert this interactive content into posts, pages, widgets, templates etc.

[h5p id="1"]

2.3 Tema

TASK

What are technologies in Industry 4.0?

- ☐ big data analysis
- ☐ the cloud
- ☐ simulation
- ☐ no horizontal system integration
- ☐ cybersecurity
- ☐ vertical system integration
- ☐ robots

✔ Check

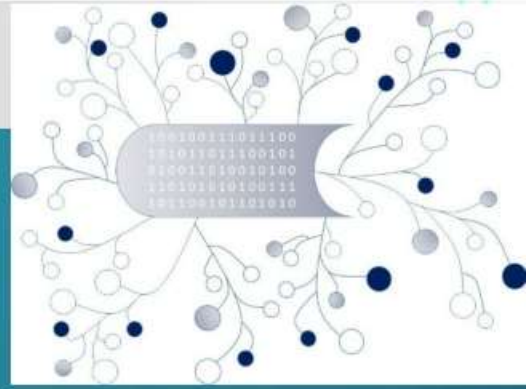⟳ Reuse   <> Embed   H5P
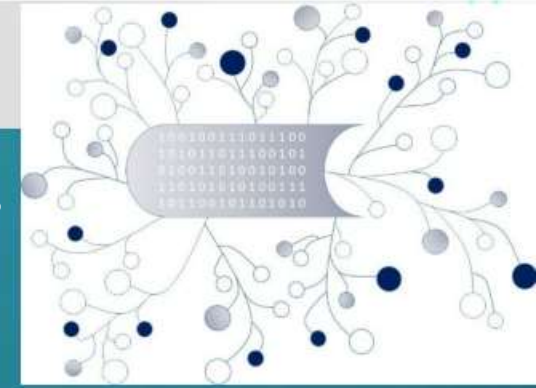
Shortcode

What's next?

You can use the following shortcode to insert this interactive content into posts, pages, widgets, templates etc.

[h5p id="2"]

Agenda Modulului B: Temenii si Istoria Digitizarii

- Bahrin, M. A. K.; Othman, M- F.; Azli, N. H. N.; Talib, M. F. (2016):   INDUSTRY 4.0: A REVIEW ON INDUSTRIAL AUTOMATION AND ROBOTIC. Jurnal Teknologi , Centre for Artificial Intelligence and Robotic, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia. Link: https://www.researchgate.net/profile/Fauzi_Othman/publication/304614356_Industry_40_A_review_on_industrial_automation_and_robotic/links/57ac15aa08ae3765c3b7bab8.pdf
- Geisberger E, Broy M (2012) agendaCPS: Integrierte Forschungsagenda Cyber-Physical Systems. acatech, München
- H. Kagermann, W. Wahlster, J. Helbig. 2013. Recommendations For Implementing The Strategic Initiative Industrie 4.0: Final Report of the Industrie 4.0 Working Group. Ulrike Findeklee: Acatech – National Academy of Science and Engineering.
- Lasi, H., Fettke, P., Kemper, H. *et al.* (2014): Industry 4.0. *Bus Inf Syst Eng* **6,** 239–242. https://doi.org/10.1007/s12599-014-0334-4
- Willliam M. D. (2014): Industrie 4.0 - Smart Manufacturing For The Future. Berlin: Germany Trade & Invest.

Online Source:
YouTube: https://www.youtube.com/watch?v=RPC7yo99Nxs

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Link: https://elektrohelden.rexel.de/cfs-file/__key/communityserver-wikis-components-files/00-00-00-00-71/0_5F00_Industrie_5F00_Revolution.jpg

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