DigI-VET

FOSTERING DIGITISATION AND INDUSTRY 4.0 IN

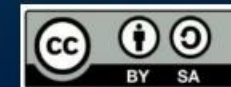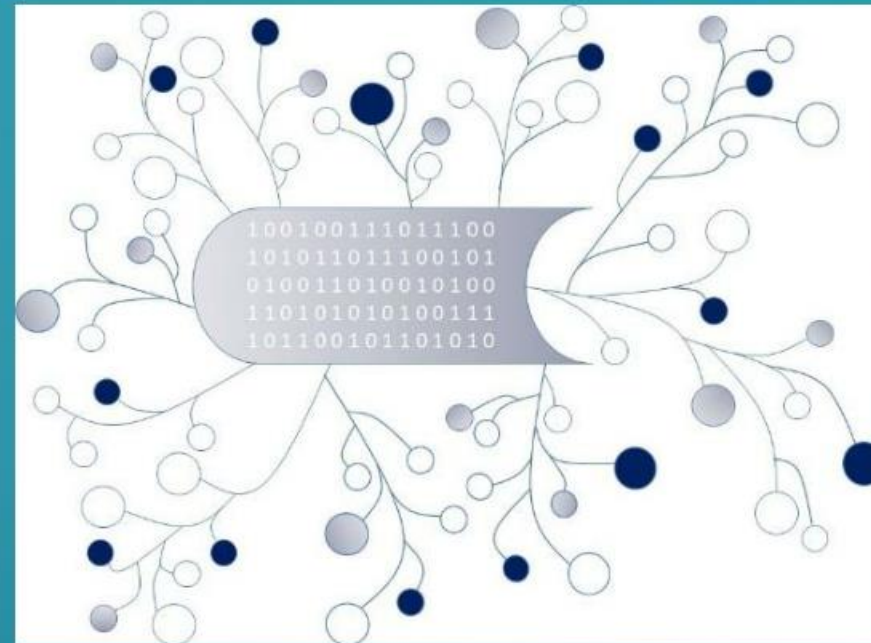VOCATIONAL EDUCATION AND TRAINING

Training Modules for the Learner
Module 1:
Digitisation Terms and History
AR Vocational Education and Training Ltd., Gelija Tamulyte and Rajesh Pathak

Agenda of Module 1 : Digitisation and Industry 4.0
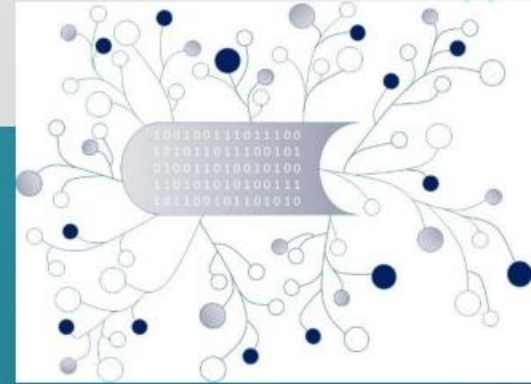
1. **Digitisation**

   a) **Terms and History**

   b) **Tasks**

2. **Industry 4.0**

   a) **Tasks**

What means Digitisation?

- Increased incorporation of technologies into daily lives
- Greater efficiency
- New learning platforms
- Boosted productivity
- Resource efficiency
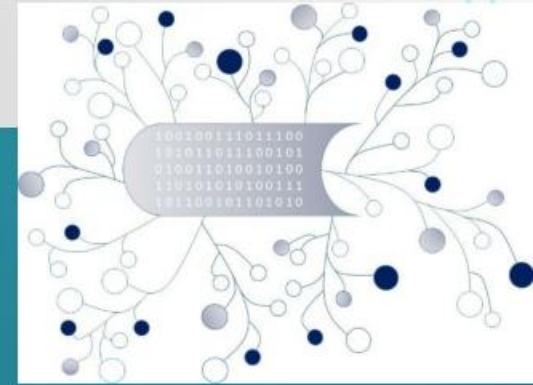- Environmentally friendly
- Research partnerships

OR ?
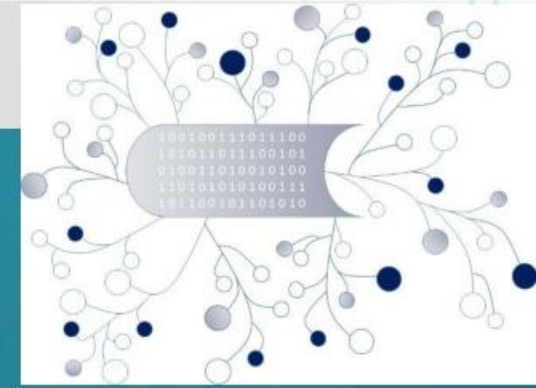
What means Digitisation?

- Increased incorporation of technologies into daily lives
- Greater efficiency
- New learning platforms
- Boosted productivity
- Resource efficiency
- Environmentally friendly
- Research partnerships

OR

- Lack of human labour
- Incompetence to use technologies for teaching purposes
- Lack of social interactions
- Lack of focus
- Unfulfilled job positions

4
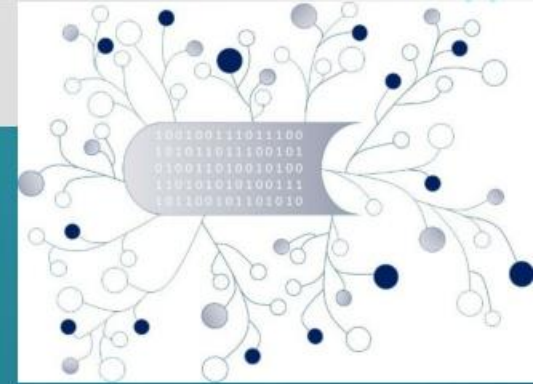
Task

1. What are the 3 most essential factors defining the process of Digitisation?
-

-

-

2. Finish writing the definitions:

Digitisation is _____ .

Digitalisation _____ .
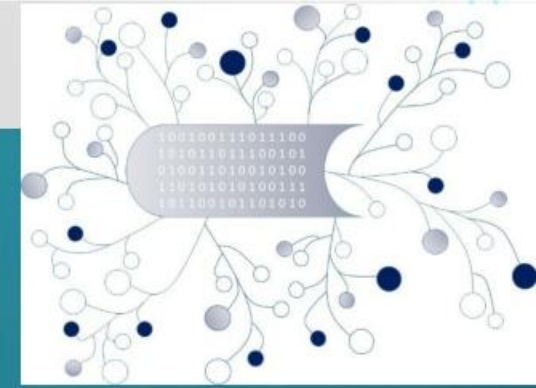
Digital transformation is _____ .

Task

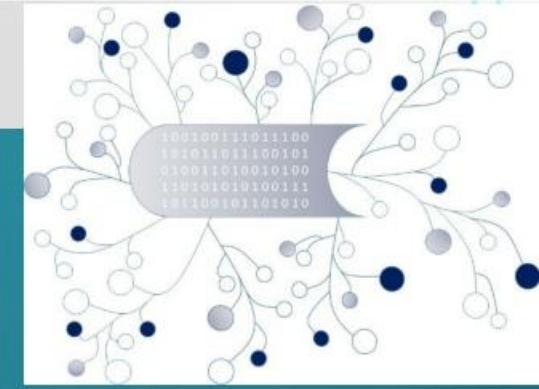Digitisation and Education during the COVID19 pandemic

Was your school or college affected during COVID19 pandemic? Share in few lines the effect you experienced. _____ .

2. Name three digital platforms that your school / college used or could have used to interact with the students.
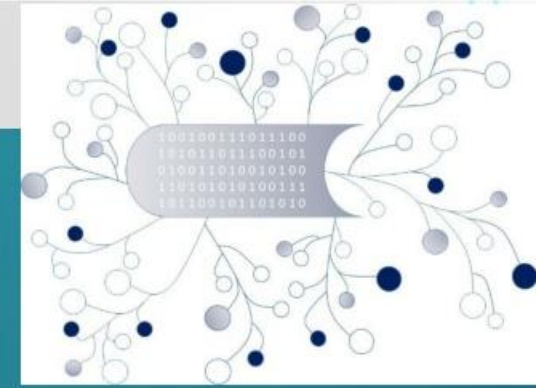
1.
2.
3.

Industry 4.0

Industry 4.0

Industry 4.0 is the

- **digital transformation of manufacturing/production** and

- **related industries and**

- **value creation processes.**

Industry 4.0 is used interchangeably with the fourth industrial revolution

and represents a new stage in the organization and control of the industrial value chain.

Fourth revolution- Industry 4.0

(last decades of the 20th century)

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

- key driver: Industrial robots

Industry 4.0

Cyber-physical systems form the basis of Industry 4.0 (e.g., 'smart machines').

They use modern control systems, have embedded software systems and dispose of an Internet address to connect and be addressed via the Internet of Things (IoT).

This way, products and means of production get networked and can

- 'communicate',

- enabling new ways of production,

- value creation, and

- real-time optimization.

Cyber-physical systems create the capabilities needed for smart factories. These are the same capabilities we know from the Industrial Internet of Things like remote monitoring or track and trace, to mention two.'
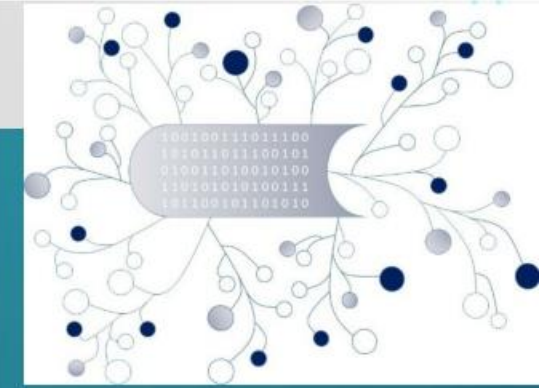
Industry 4.0
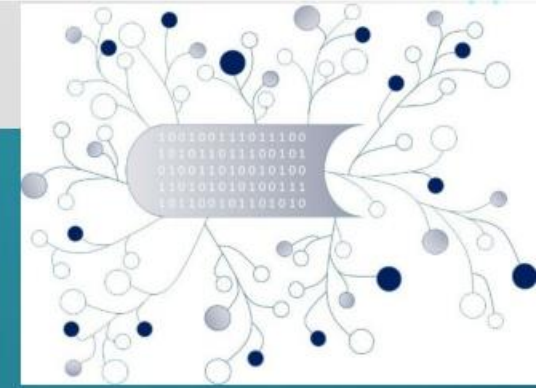
https://www.i-scoop.eu/industry-4-0/
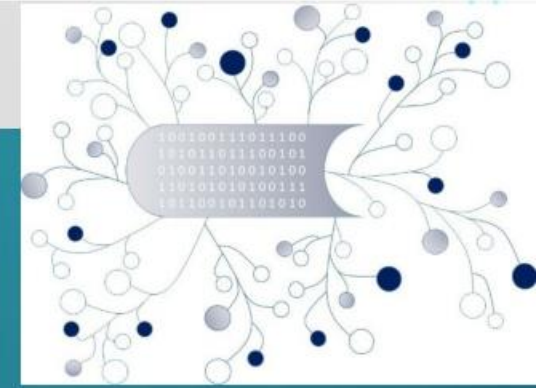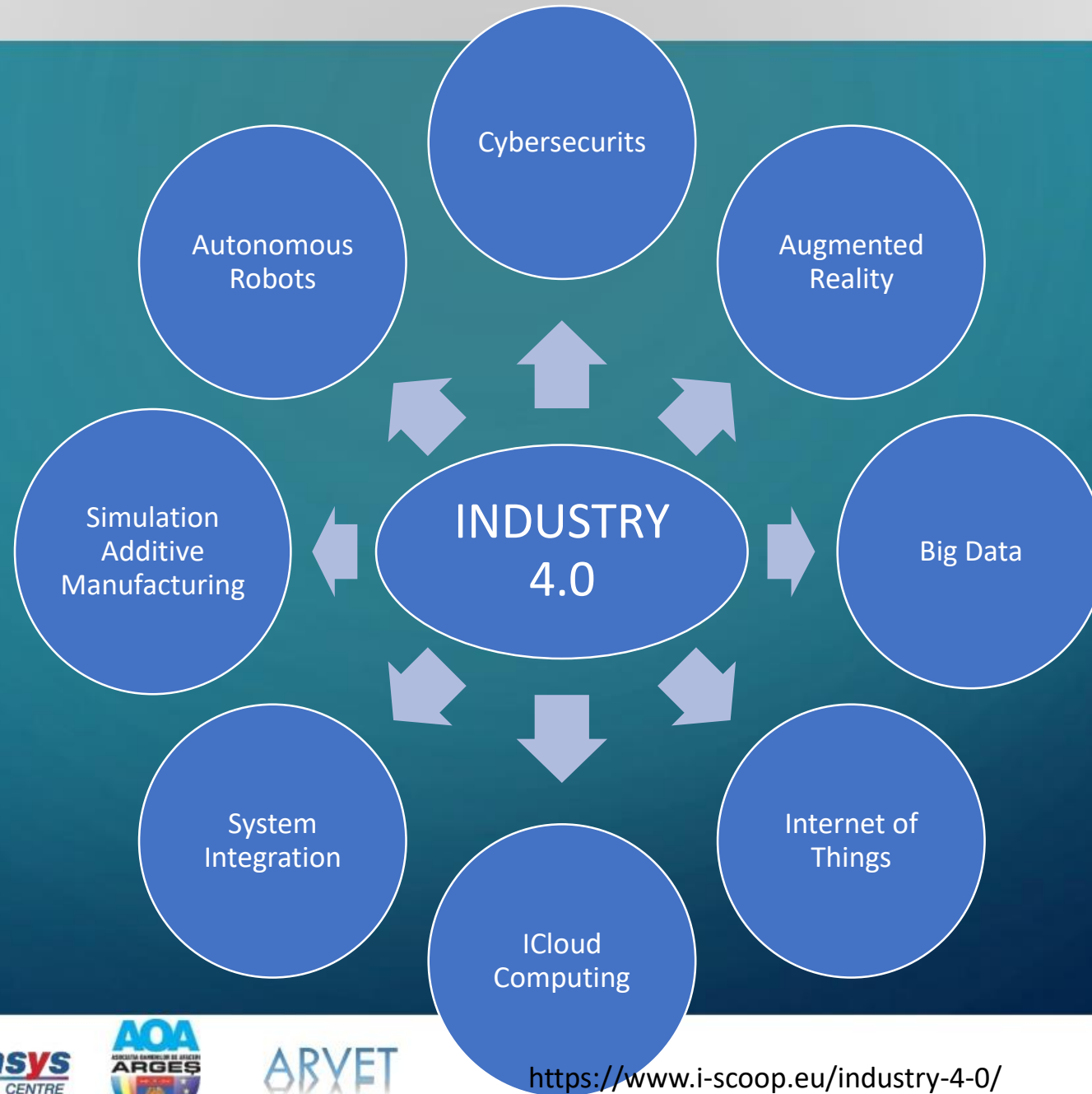
From Industry 4.0 to Fourth Industrial Revolution

Industry 1.0

- Mechanization, Steam engines, Water/ steam power, textile industry, machine tools, etc.

Industry 2.0

- Technological, electrification, production line, gas, water supply, globalization

Industry 3.0

- Computer/ Internet, PLC, Robotics, IT and OT, automation, electronic, digital networks, etc.

Industry 4.0

- Convergence IT, OT, Big Data, Internet of Things, Cyper Physical, etc.
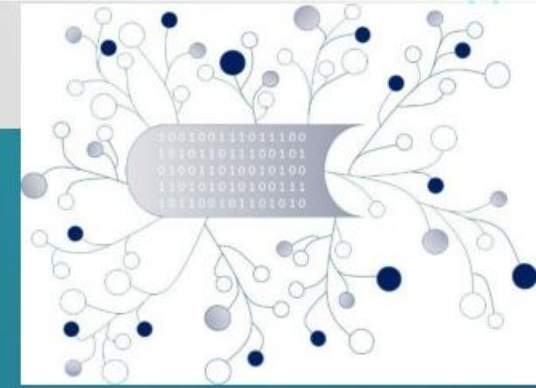
https://www.i-scoop.eu/industry-4-0/

Task

1. Using the first provided image, describe in your own words what is Industry 4.0. Which of the shown elements do you think significantly contribute to Industry 4.0?
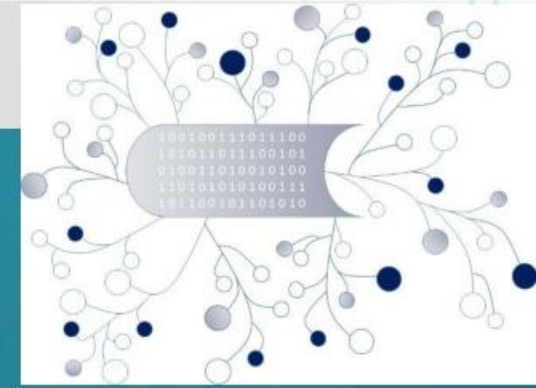
Industry 4.0 _____ .

2. Give three examples of real-life situations when you came across the Industry 4.0 yourself.

1.
2.
3.

Task

The last Image shows the History of Industry 4.0. Describe the Importance on Society of each of them. Factors that could be considered: education, economics, environment, etc.
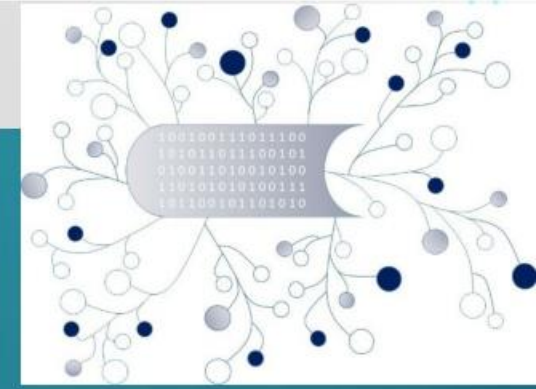
Task

Give two examples of real life situations when you came across the Industry 4.0 yourself.

1.

2.

Task

1. What are the four security risks in using cloud computing in the U.K?
   i)
   ii)
   iii)
   iv)

2. Engineering simulation was able to show its worth during COVID-19 phase. To support this trend, engineering simulation companies in U.K are likely to invest more in which platforms? Give examples

3. In which industries in the U.K the relevance of robotics and automation is quite high?
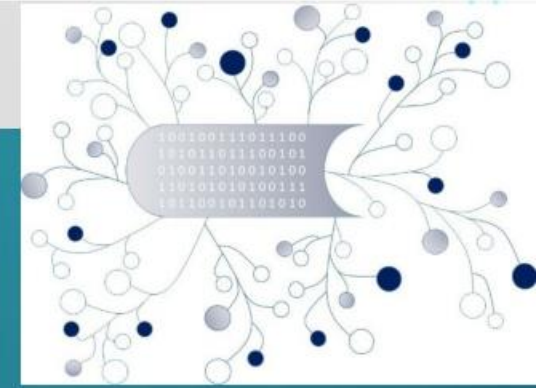
TASK

The current information provides that smart manufacturing benefits consumer as the items can be personally customized.

For a manufacturer it is beneficial as the production can be created in a fast and flexible way. This kind of manufacturing further enhances the machine-to-machine (M2M) communication.

http://www.iotforall.com/industry-4-0and-its-benefits-2021-edition
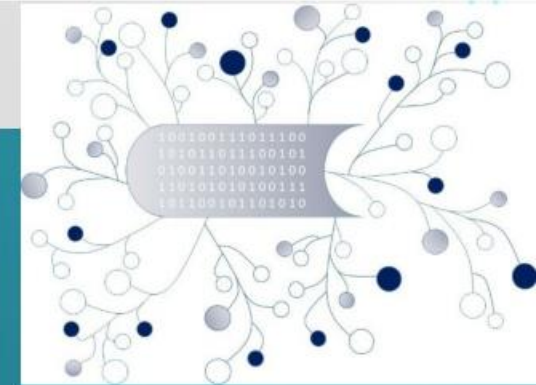
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