

The Industrial Revolutions

Throughout history, people have always been dependent on technology and innovation. People would always use the technology they had available to help make their lives easier and at the same time try to perfect it and bring it to the next level. This is how the concept of the industrial revolution began. We can say that starting from the late eighteenth century, industry has been characterised by a constant evolution, which can be identified by four milestones, which have marked technical and technological revolutions.

■ First Industrial Revolution

The **First Industrial Revolution** started at the end of the 18th century and the most important invention that totally revolutionised the methods of production was the steam engine, invented by James Watt in 1765. Mechanisation and industry became the **backbone** of economy and caused a deep change in society: people moved from the countryside to cities to work in factories. The steam engine also created a new type of energy that later on helped speed up the manufacturing of railroads, thus accelerating the economy.

■ Second Industrial Revolution

The **Second Industrial Revolution** started almost a century later, in 1870, with massive technological advancements in industries that helped the emergence of new sources of energy – electricity, gas, and oil. But the two main inventions that characterised this revolution were the automobile (at the beginning of the 19th century) and the assembly line, which led to mass production, in 1913.

■ Third Industrial Revolution

Another century passed and in the 1950's the **Third Industrial Revolution** saw the rise of electronics, telecommunications, and computers. This period can be considered as the move from mechanical and analogue electronic technology to digital electronics, and for this reason it is referred to as the Digital Revolution. In the world of industry, two major inventions, Programmable Logic Controllers (PLCs) and robots, helped give rise to an era of automation.

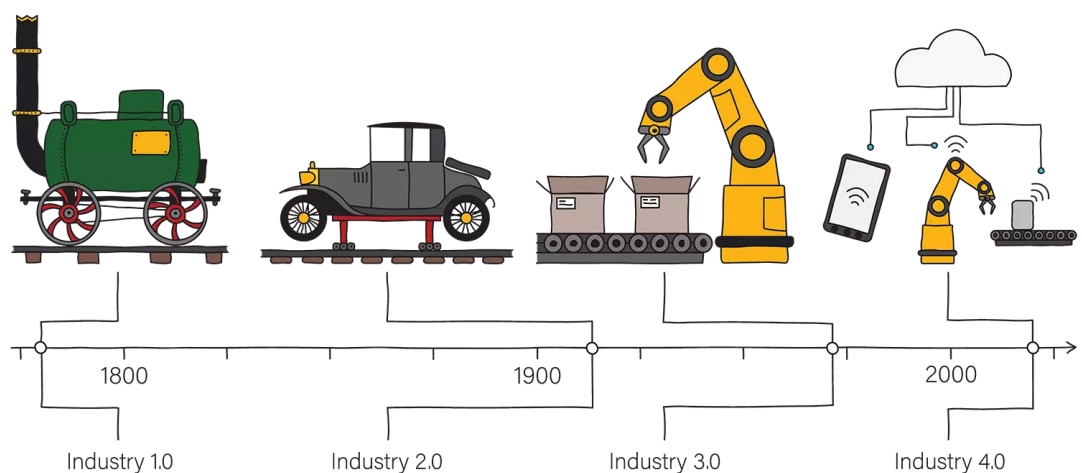
■ Fourth Industrial Revolution

The **Fourth Industrial Revolution**, better known as Industry 4.0, started at the dawn of the third millennium and it is the one we are experiencing now. Internet is considered as the milestone that has characterised this further industrial evolution. It is the time of cyber-physical systems, virtual reality, artificial intelligence, and high-level automation. As we continue moving through the Fourth Industrial Revolution, we also **witness** a shift to renewable energy sources such as solar, wind, and geothermal and an increasing attention to the environmental impact of industrialisation.

The Locomotion No. 1 was the first steam locomotive to carry passengers on a public rail line, the Stockton and Darlington Railway in 1825. It was built by George and his son Robert's company Robert Stephenson and Company.

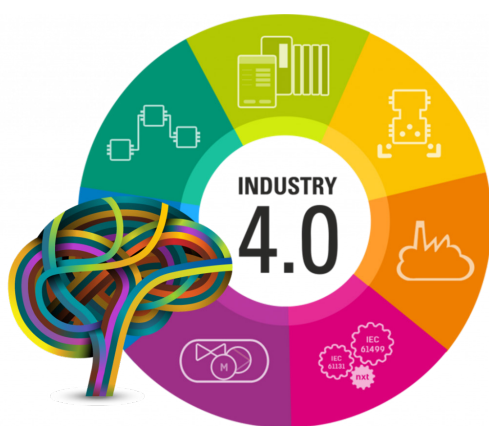


backbone:
spina dorsale
to witness:
testimoniare



1 Complete the sentences with the missing words (between two and four).

- Throughout history, technology has always helped people to improve
- Since the end of, industry has been characterised by a constant evolution marked by technical and technological revolutions.
- During the First Industrial Revolution, people moved to cities to work in factories.
- The steam engine was important not only for industry but also for transports, in fact it sped up the



- The started with the emergence of new sources of energy like electricity, gas, and oil.
- The most important invention of the Second Industrial Revolution was
- The Third Industrial Revolution began in the 1950's and saw the move from mechanical and analogue electronic technology to
- The Fourth Industrial Revolution is the one we are experiencing now, which is characterised by a very high

2 Put the given inventions in the correct box.

PLC • artificial intelligence • renewable energy sources • steam engine • assembly line • electricity • robots • cyber-physical systems • digital electronics • automobile

First Industrial Revolution	Second Industrial Revolution	Third Industrial Revolution	Fourth Industrial Revolution

