# Text under the heading:

Robotics is an interdisciplinary branch of computer science and engineering. Robotics involves the design, construction, operation, and use of robots. The goal of robotics is to design machines that can help and assist humans. Robotics integrates fields of mechatronics engineering, biomedical engineering, computer engineering, software engineering, etc.

# Text when you scroll:

# The early history of robotics

The term robotics is an extension of the word robot. One of its first uses came from Czech writer Karel Čapek, who used the word in his play, Rossum's Universal Robots, in 1920.

However, it is science fiction author Isaac Asimov who has been given credit for being the first person to use the term in the 1940s by Oxford English Dictionary.

In Asimov's story, he suggested three principles to guide the behavior of autonomous robots and smart machines.

Asimov's Three Laws of Robotics have survived to the present:

1. Robots must never harm human beings.
2. Robots must follow instructions from humans without violating rule 1.
3. Robots must protect themselves without violating the other rules.

However, it wasn't until a couple of decades later in 1961 -- based on designs from the '50s -- that the first programmable robot, Unimate, was created to move scalding metal pieces from a die-cast machine.

# Robotics applications

Today, industrial robots, as well as many other types of robots, are used to perform repetitive tasks. They may take the form of a robotic arm, robotic exoskeleton or traditional humanoid robots.

Industrial robots and robot arms are used by manufacturers and warehouses, such as those owned by Amazon, Devol, Best Buy and more.

To function, a combination of computer programming and algorithms, a remotely controlled manipulator, actuators, control systems - action, processing and perception - real-time sensors and an element of automation helps to inform what a robot or robotic system does.

# The pros and cons of robotics

Robotic systems are coveted in many industries because they can increase accuracy, reduce cost and increase safety for human beings.

In fact, safety is arguably one of robotics' greatest benefits, as many dangerous or unhealthy environments no longer require the human element. Examples include the nuclear industry, space, defense, maintenance and more.