EVOLUTION OF AUTONOMOUS ROBOTS: PAST, PRESENT, AND FUTURE

From Early Beginnings to Today's Cobots

Technology, including software, electronics, and robotics, has transformed society. Today, AI and autonomous robots are leading these changes. In the future, robots that move and act on their own will be very important.

Over the last 50 years, industrial robots have changed a lot. Now, we have "cobots," robots that work with people. It's still debated whether robots will work alongside humans or replace them.

AI has grown fast in the last two years, changing many areas worldwide. AI helps us in our daily work, answering questions and doing repetitive tasks. Technology has always aimed to make our work easier. Autonomous robots might soon become an essential part of society.

Since the 1970s, the use of industrial robots has exploded. For example, in 1970, the US used only 200 robots, but by 2015, this number had risen to 1.6 million. Today, there are over three million robots.

Robots in Industry Over Time

The history of robots in industries goes back to the 1940s and 1950s. British scientist W. Grey Walter created two of the first robots, Elmer and Elsie. They could move on their own and respond to things around them. In the 1950s, George Devol made Unimate, the first industrial robot.

As technology improved, robots could do complex tasks like painting and welding. They started working in factories in the 1960s, mainly lifting heavy things. Soon, robots greatly increased productivity in manufacturing.

In the late 1960s and 1970s, the demand for automation grew. Robots began doing more precise work, leading to the development of smaller, electric models. By the late 1970s, robots could do welding, painting, and work in dangerous environments.

The mid-1980s saw further advancements. Robots got advanced sensors and basic vision systems. As technology and computers improved, robots became more capable. They could now sense and track objects, much like modern robots from companies like Amazon.

In the 1980s, robots known as AGVs could move goods around, but they weren't very flexible. The 1990s and 2000s saw a renewed interest in truly mobile robots. Advances in AI, sensors, and machine learning made robots more aware and adaptable. This period marked the real start of the age of autonomous robots.

In the 2000s, autonomous robots became popular in many industries, including manufacturing, retail, and healthcare. They worked alongside humans, improving how warehouses operated and handled materials.

Some robots have replaced human workers, raising ethical questions. Despite this, autonomous robots have improved safety, increased productivity, and opened up new possibilities in machine learning.

The Present and Future of Autonomous Robots

Today, autonomous robots are used in many sectors, like agriculture, healthcare, and logistics. Full-scale adoption might still be a way off, but they have the potential to change business practices significantly. Autonomous robots are still evolving.

Machine learning and AI have enhanced robots' ability to make decisions without human help. They can analyze lots of data and improve their actions. Engineers now focus on giving robots "real intelligence" for more complex and efficient work.

Recently, there's been a rise in cobots, robots that can safely work with humans. They can interact directly with people, using special joints and computer vision. Cobots have developed impressively, becoming capable of precise manipulation and awareness. They are changing manufacturing, evidenced by the growing cobot market. Cobots will likely become more common, changing industries worldwide.

5) Fill in the Blanks. Read each statement and fill in the blanks with the appropriate word or phrase from the text. Refer back to the text if necessary.

1. In the past 50 years, the market for _____ has evolved significantly.

2. The term "_____" refers to collaborative robots that work alongside humans.

3. The first industrial robot, named _____, was developed by George Devol.

4. Autonomous robots in the _____ could perform basic tasks like heavy lifting.

5. By the _____, robots began to be used for more precise tasks in manufacturing.

6. In the _____, engineers installed precision force sensors and lasers on robots.

7. The development of true autonomous mobile robots saw a resurgence in the _____.

8. Today, autonomous technology is used in sectors like agriculture, health, logistics, and _____

    maintenance.