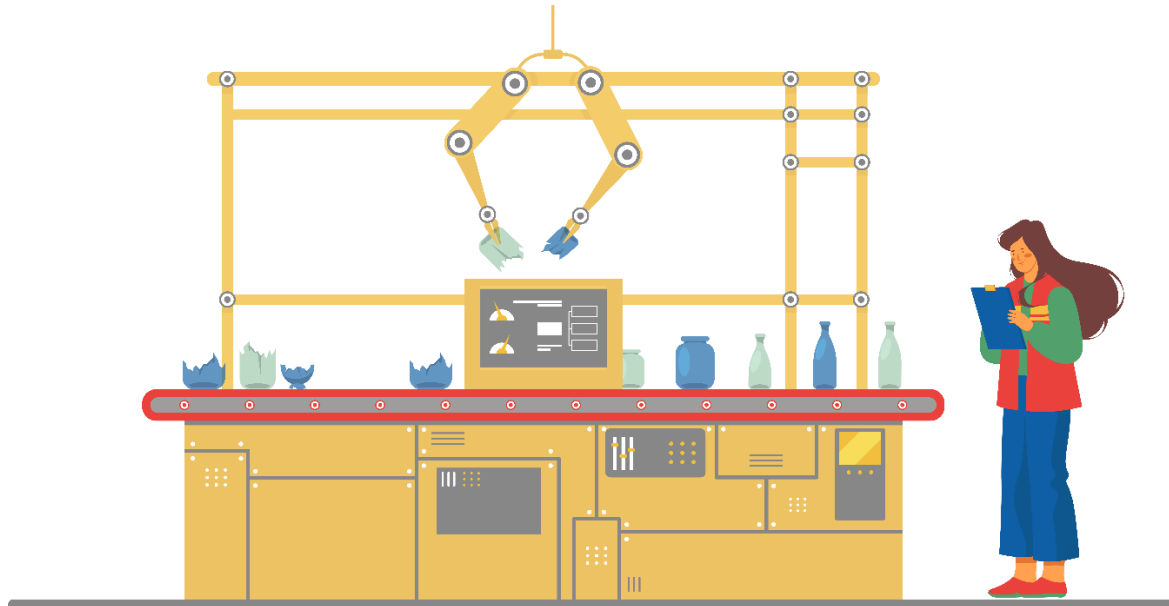




Robots used in Recycling



Paragraph 1

In the United States, recycling centres process over 60 million tons of waste each year. The work is difficult, dirty and relies on low-paid human workers. The workers have to sort through all of the waste by hand. It can also be dangerous. Workers in these facilities are twice as likely to suffer injuries at work than other workers. However, robotics is beginning to change the industry.

Paragraph 2

Several technology companies are working to make recycling more efficient. One of these companies is AMP Robotics. It has developed a robot that can process about 80 items per minute. That's about twice as fast as human workers, who can only manage around 40 items. The robot is also more accurate than humans. The goal of the company's founder, Matanya Horowitz, is to increase the amount of material that can be recycled. He hopes that this will lead to fewer emissions and less waste going to landfill.



Paragraph 3

AMP's robot relies on a vision system. That's the same thing found in a self-driving vehicle. It quickly analyses items as they travel along a conveyor belt, deciding whether they're made of glass, metal, paper or plastic. It can recognise different colours, shapes and sizes. Also, it doesn't matter if items are dirty or damaged, or if there's poor lighting. As soon as the robot identifies an item, it quickly moves over it and picks it up using the power of suction – that's what your vacuum cleaner uses to clean your floor. The item is then placed in the correct bin. The system also keeps a list of all of the items it saw. Managers can review this list later.

Paragraph 4

The robot uses machine learning to improve its performance. Over time, it becomes smarter and more accurate. It isn't perfect, of course, but the robot can be taught to identify pretty much anything that a human can. Recycling centres are required to invest quite a lot of money in the beginning. Each system costs around \$300,000 to buy and install. However, they can save more than that over time because they can hire fewer employees. Alternatively, a robot can be rented for about \$6,000 per month.

Paragraph 5

There's no doubt that the recycling industry will continue to change as technology improves. The planet will hopefully be the winner.