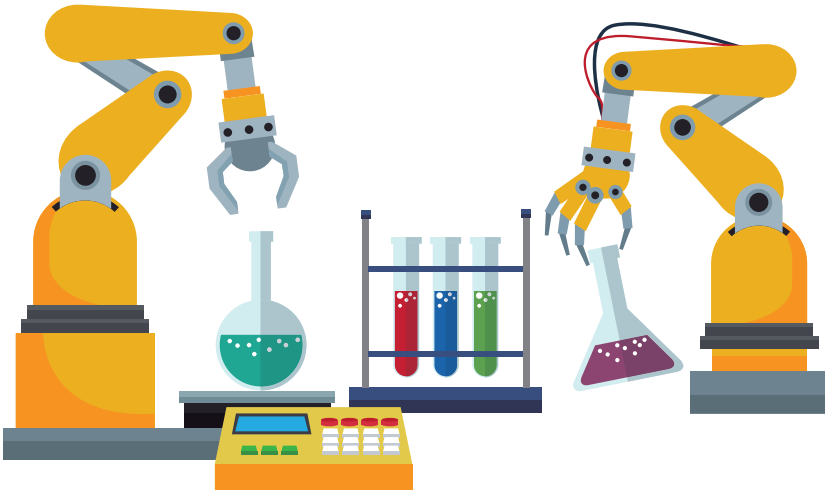


**CONCEPT** Robots were invented to make human lives easier. Robots help us by doing many different tasks, using sensors to replace human senses.



## EXAMPLES

**SENSOR TYPES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:**

### PROXIMITY SENSOR

- Uses LED beams or uses sound vibration to measure distance.

### CONTACT SENSOR

- Used for the robot to avoid obstacles.

### PRESSURE SENSORS

- Used for sensitivity to touch or force.

### NAVIGATION / POSITIONING SENSORS

- Used to approximate the position of a robot.

### TEMPERATURE SENSOR

- Provide voltage difference for a change in temperature.

## BACKGROUND

Robots were originally used for dirty, dull and dangerous jobs; such as working in mines, doing repetitive tasks and working with dangerous chemicals. At the inception, people worked alongside them to control each task. Now robots are used for many functions that make our lives easier. They are programmed to do tasks without people controlling them by using sensors to give them the information they need to complete their tasks.

### SOUND SENSOR

- Detects sound and returns a voltage proportional to the sound level. A simple robot can be designed to navigate based on the sound it receives.

### LIGHT SENSORS

- Used to detect light and create a voltage difference. The two main light sensors generally used in robots are Photoresistor and Photovoltaic cells.

**The job or jobs the robot will perform will determine the sensors it will need to accomplish the tasks.**

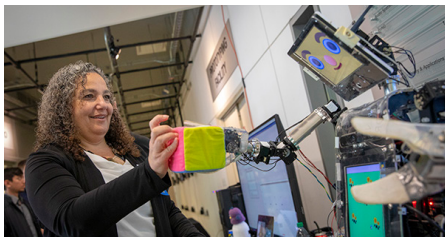
Make sure it measures up

## APPLICATION

### ROBOTIC VISION

The combination of robotics and machine vision technology make for a powerful automation solution with far greater capabilities than either technology achieves on its own. Robotic vision systems come in many forms and are used in a wide range of applications.

<https://www.genesis-systems.com/blog/benefits-robotic-vision>



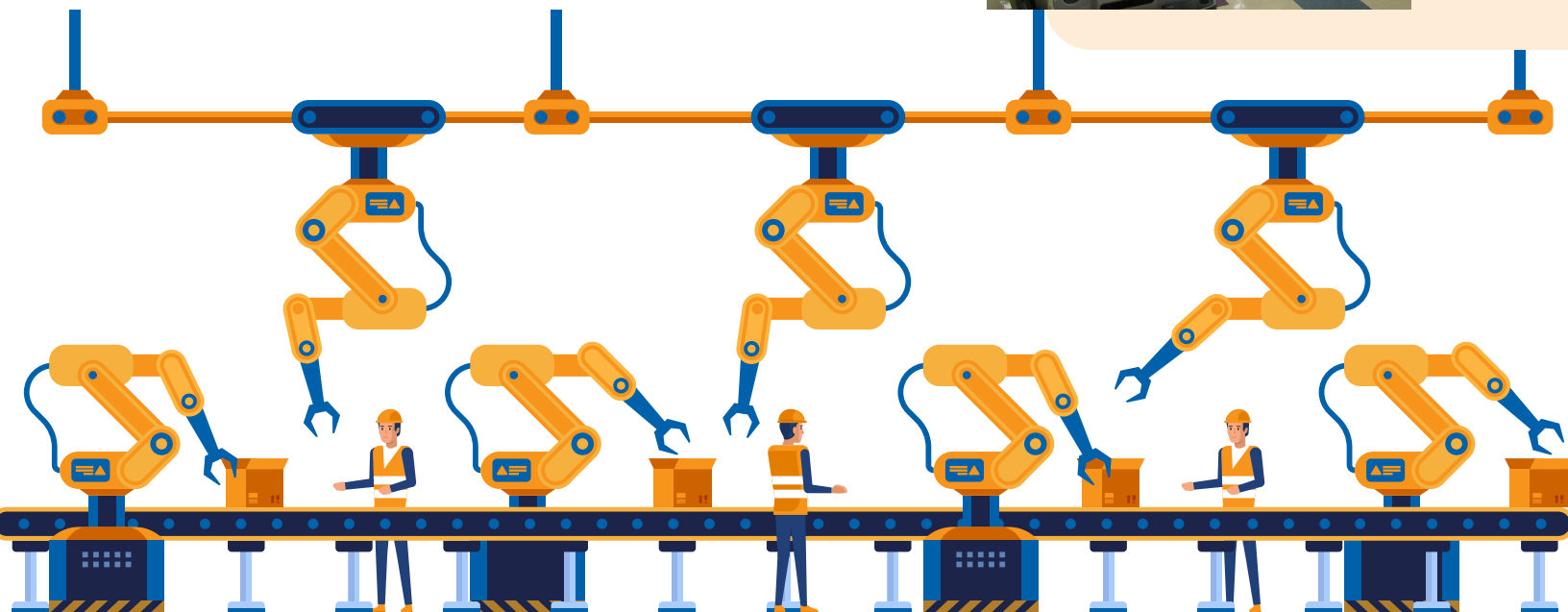
### TEAMWORK

Traditionally, robots work alone inside safety cages or fences. Today, more applications on assembly lines require humans and machines to work in close proximity.

<https://ie.binus.ac.id/2021/06/30/sensors-for-working-safely-with-robots/>

A Pxyis MedStation is an automated medication dispensing system. Automated dispensing machines provide secure medication storage on patient care units, along with electronic tracking of the use of narcotics and other controlled medications.

An automated dispensing system helps clinicians safely and efficiently dispense the right medications, for the right patient, at the right time.



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