

# Robots

SCIENCE  
MUSEUM



INFORMATION

Age  
11-14  
14-16

Location  
LEVEL 1, SCIENCE MUSEUM, LONDON

🕒 60 MIN

Topic

SCIENCE AND TECHNOLOGY • ENGINEERING

**Robots** tells the story of 500 years of human fascination with re-creating ourselves as machines and follows the history of the mechanical creations this has inspired.



As you move through the five sections (Marvel, Obey, Dream, Build and Imagine) you can explore over 100 intriguing objects, from 16th-century mechanical monks to the robots of science fiction. Discover key developments for the future of humanoid robotics from around the world, and see some of the robots already living and working around us.

## 1 Marvel

During the 16th century, the heavens' regular movements were captured in clockwork machines that could tell the time and track the movements of the planets. Comparing the human body to clockwork became a powerful idea. It led to the creation of the earliest robots.



*I'm very small*

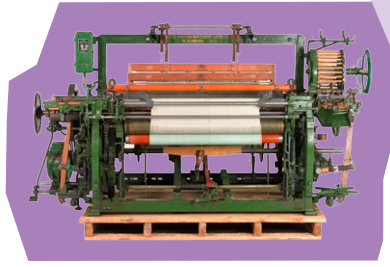
**!** Don't miss: Articulated manikin, Italy, 1582-1600  
This miniature figure shows the joints of the human body, represented by intricate iron parts.

**🔍 Find:** The automaton 'rose engine' lathe, which replicated the intricate work of a human turner.

2

## Obey

The UK's Industrial Revolution turned many people's worlds upside down. As factories spread, humans were seen by some as a weakness in the system – disobedient and undisciplined. In this new world, human workers were made to work like machines.



*I'm very big*

**! Don't miss: Single-shuttle loom, UK, 1895 (this model 1939)**

These machines were built for weaving cloth and transformed factory work around the world in the 19th century.



**Find:** The video showing the **Mechanical Turk**, which could play chess and beat human challengers.

3

## Dream

Robots have featured strongly in our dreams of tomorrow. We have imagined them helping us, making life easier, allowing us more leisure and more comfortable homes. These dreams have been created and shared, not just by scientists and engineers, but by film-makers, authors, animators and consumers.



**! Don't miss: Humanoid robot, Eric, UK, 1928 (this replica 2016)**

Eric was the first modern British robot. He was able to bow, deliver speeches and answer questions at events.

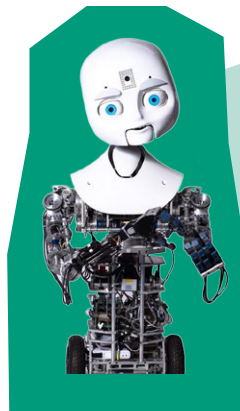


**Find:** **Maria**, the first blockbuster robot which inspired subsequent film robots, including *Star Wars's* C-3PO.

4

## Build

By the mid 20th century, daydreaming was no longer enough and we began to build our future with robots in earnest. Around the world, researchers and enthusiasts have risen to the challenge of building robots that can move, grip, walk, see, feel and even think like humans.



**! Don't miss: Nexi, USA, 2008**

This highly expressive robot was used to study communication using facial expressions and body language.

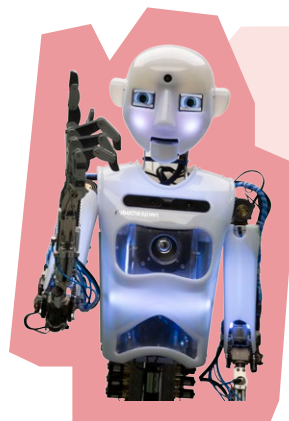


**Find:** The **Bipedal Walker**, which can walk like a human and was built by a group of amateur roboticists.

5

## Imagine

The first 'social robots' entered our lives in the 21st century. People could finally interact with robots using everyday language and gestures, instead of complex machine code. In the future, more intelligent versions of these robots may become a regular sight in our homes, schools and workplaces.



**! Don't miss: RoboThespian, UK, 2016**

RoboThespian can act! It has starred in films and plays, performed stand-up comedy, and officiated at a wedding in China.



**Find:** **Nao Evolution V5**, the most widely used and affordable humanoid robot in the world.

# Make the most of your visit



The exhibition is a multi-sensory experience. You are encouraged to interact with some of the robots and the ideas themselves by questioning and considering your own thoughts and feelings on the place and future of robots in our world. Think about where you might have seen robots before in your everyday life and use the questions below to generate discussion.

## Talk about...



As you explore the gallery, or back at home or school, think about how the science and technology of robots connects to our everyday lives:

- What interests or surprises you about what you have seen in the exhibition?
- What would your life be like if you had robots working in your home?
- What jobs would you be happy for robots to do?
- Who is responsible for a robot's actions?
- Would you trust a robot to keep you safe?
- If robots were as smart and creative as humans, do you think they should have rights?
- What would you like to know more about? How could you find out more?

## Museum links



Your journey of discovery does not stop when you leave the exhibition. See how we have used robots to explore unknown and hostile environments in the **Exploring Space** gallery and discover what makes humans unique in **Who Am I?**

Continue the experience back in the classroom and at home too. The Science Museum website features lots of hands-on activities inspired by the principles demonstrated in the **Robots** exhibition, which you can use to investigate the science in your world.

You can also explore the stories in the exhibition in more detail on our **Robots** web pages.

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