

# Sophia's sisters

Sophia is a humanoid robot created in 2016 by the Hong Kong company Hanson Robotics to imitate social behaviours. Sophia was designed to be a good companion for old people, and serve in customer service, therapy, and education.

Apart from Sophia, several other humanoid robots were developed by engineering companies, mostly with female features, but each of them for different purposes.

## ■ Sisters

**Valkyrie** is a NASA robot built by engineers to compete in the 2013 DARPA Robotics Challenge. It is a 6-feet high, battery-powered humanoid robot whose visor contains a complex set of visual sensors, while its human-like hands allow it to complete **fine motor skill** tasks like turning a valve. Even if it has never been used in space missions, Valkyrie represents a key step in the development of real-life robots that, in the future, may be able to travel in space together with astronauts.

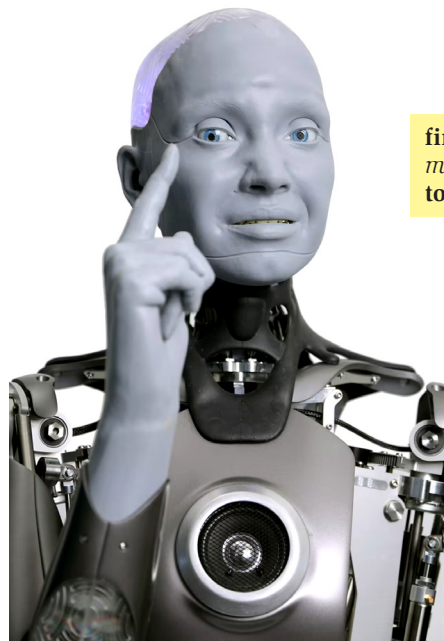
**Grace** was created in 2021 by Hanson Robotics, the same company that had built Sophia. Grace was specifically designed to be used for healthcare, and it can perform tasks such as taking temperatures and measuring heartbeat. Grace is equipped with artificial intelligence that allows it to interact naturally with patients, understand their needs, and provide comfort.

**Ameca** was developed in the same year as Grace by Engineered Arts, a UK company, and it is capable of reproducing human facial expressions and movements with a great level of realism thanks to a combination of artificial intelligence, advanced materials,

and sophisticated mechanical design. Ameca has been designed to be used in a wide range of activities, including customer service, entertainment, and research.

## ■ Brothers

Together with the “sisters” mentioned, Sophia also has some brothers. One of them is **Atlas**, developed by Boston Dynamics in 2013. Atlas does not have human facial expressions, but advanced control algorithms enable it to jog, jump, move through a series of obstacles and even do parkour. In a video released by Boston Dynamics in January 2023, Atlas is shown while **grabbing** a tool bag and throwing it to a human worker. These features could help workers in the future at construction sites or factories.




**fine motor skill:**  
*motricità fine*  
**to grab:** *afferrare*

- 1  Complete the table with information from the text.

Name of the robot	Valkyrie	Grace	Ameca	Atlas
Company				
Year of birth				
Skills				
Technical features				
Designed for				

- 2   **INVALSI** Answer the questions in no more than four words.

1. Where is Hanson Robotics based?
2. What was Valkyrie built to compete in?
3. What are Valkyrie's hands like?
4. What can Grace provide patients with?
5. What is Atlas shown grabbing in a video?
6. What do Sophia, Valkyrie, Grace and Ameca have in common?

- 3  **PAIR WORK** Do you think humanoid robots would be useful in everyday life and why?  
After discussing in pairs, share your ideas with the class.