



## ARTS & CULTURE

# Robot Guides Visitors Through Greek Cave

August 24, 2021

A culture guide named Persephone welcomes travelers to Greece and takes them through a famous **cave** in the north. The guide moves smoothly around the underground area and can talk about it in 33 languages.

Persephone is very intelligent. It also is a human-sized robot.

The robot has been in operation for about a month at the Alistrati Cave, 135 kilometers northeast of the city of Thessaloniki.

Persephone guides visitors through the first 150 meters of the cave that is open to the public. For the remaining 750 meters, a human guide takes over.

The robot can give its part of the tour in 33 languages. It can also answer 33 questions, but only in the Greek language.

Nikos Kartalis is the scientific director at the Alistrati site. He had the idea of creating the robot when he saw one on television guiding visitors at an art show. Persephone was built by the National Technology and Research Foundation and cost about 118,000 euros, or 139,000 U.S. dollars.

“People who had visited in the past are coming back to see the robot guide,” said Kartalis. He added, “Many foreign visitors couldn’t believe Greece had the **capacity** to build a robot and use it as a guide in the cave.”

The robot moves along a walkway in the cave system. Mineral formations within the cave can reach 15 meters long. “This cave is one of the most beautiful, not only in Greece but in Europe, as well,” Kartalis said. “It has **stalactites** and **stalagmites** in many shapes and colors, even red.”

Kartalis said the cave is 3 million years old and was first explored in 1974. It opened to visitors in 1998.

Persephone, with a white body, black head, and two bright eyes, moves on wheels. It guides visitors to the first three of eight stops along the walkway. It can do two more stops, but it is too slow for the tour. Persephone's creators are considering ways to increase her speed.

The robot begins the tour by saying: "My name is Persephone, I am the daughter of the goddess Demeter and the wife of Pluto, the god of the underworld. I welcome you to my under Earth **kingdom**, the Alistrati Cave."

Many visitors are interested in the robot guide.

Patrick Markes traveled to Greece from the Czech Republic.

"It was surprising for me," he said. "I've never experienced such a thing." He added he enjoyed the slower speed of the robot guide. "It goes slower, so I can look around," Markes said.

Markes listened to the machine in his native Czech language for the first three stops. He heard the rest in English from a human tour guide.

Evdokia Karafera is a human guide who partners with Persephone.

"It is helpful, because it speaks many languages," she said. "There's just a little delay in the touring." She added, "Most find it **fascinating**, especially the children, and find it interesting that it speaks many languages."

Karafera noted, however, that human tour guides must remain part of the operation.

"Robots, at some point in the future, will take over many jobs," she said. "But I believe they cannot replace humans everywhere."

"(Visitors say) 'the robot is interesting, original, but can't substitute for the human contact with the guide and the **conversation** we can have on the way back.'"

I'm Ashley Thompson.

*The Associated Press reported this story. Ashley Thompson adapted it for VOA Learning English. Katy Weaver was the editor.*

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## Words in This Story

**cave** - n. a large hole that was formed by natural processes in the side of a cliff or hill or under the ground

**capacity** - n. the ability to do something

**stalagmite** - n. a pointed piece of rock that sticks up from the floor of a cave and that is formed by dripping water which contains minerals

**stalactites** - n. a pointed piece of rock that hangs down from the roof of a cave and that is formed by dripping water which contains minerals

**fascinating** - adj. very interesting or appealing

**kingdom** - n. the spiritual world of which God is king

**conversation** - n. an informal talk involving two people or a small group of people : the act of talking in an informal way

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