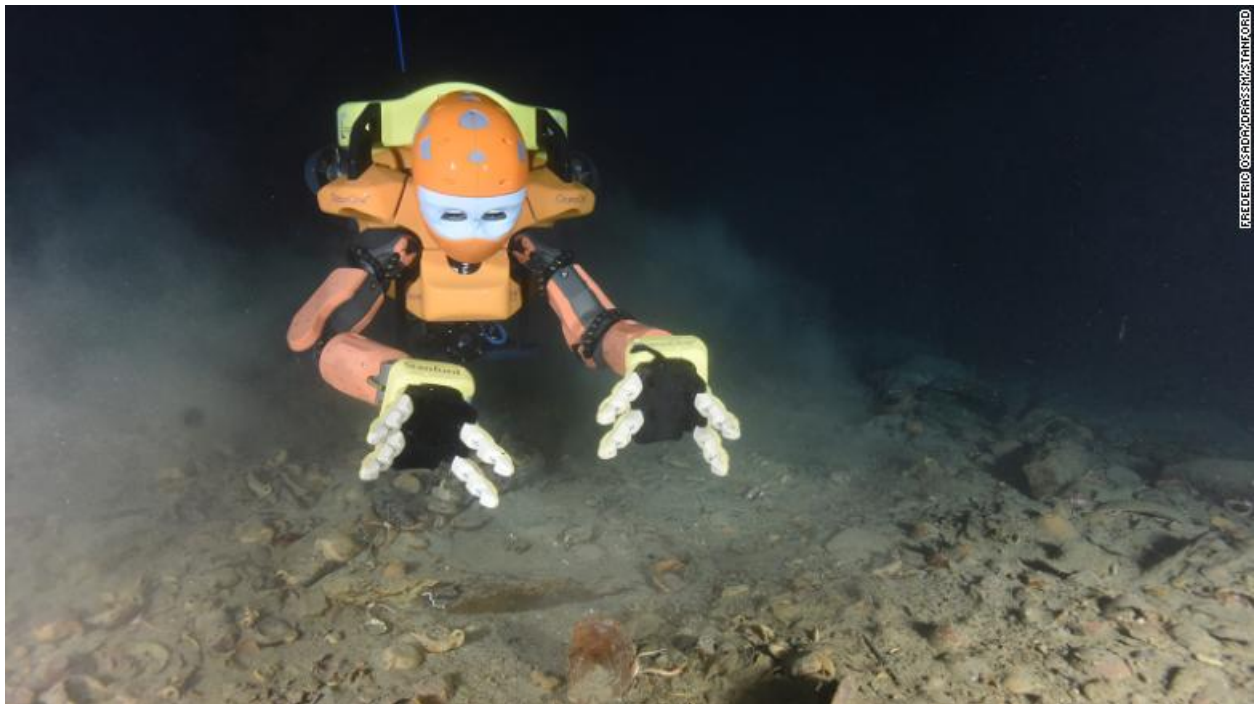


Scientists Create Underwater Robot

VOCABULARY WORDS

1. Shipwreck /'ʃɪp,rɛk/ (Noun) the destruction or sinking of a ship at sea; a ship that has been destroyed or sunk
Example: The documentary featured a shipwreck in the Atlantic.
2. Thruster /'θrʌstər/ (Noun) a secondary jet or propeller on a ship used for better maneuvering
Example: Helium pressurized rocket propellant and rocket fuel provides takeoff and thruster power.
3. Feedback /'fi:dbæk/ (Noun) the transmission of information about an action, process, etc. to the controlling source that allows for changes, corrections, etc. to be made, or the information itself
Example: They did a test drive of the car's prototype to get feedback from the engineers.
4. Artifact /'ɑ:rtə,fækt/ (Noun) an object made by a person, especially a very long time ago
Example: The museum holds hundreds of artifacts from different centuries.
5. Foam /fəʊm/ (Noun) a type of material that is soft and light
Example: She bought a new foam mattress for her bedroom.
6. Withstand /wɪθ'stænd/ (Verb) to be strong enough to be able to survive or handle something
Example: The roof withstood wind, rain and changes in temperatures.



Researchers can now touch shipwreck up to 1 kilometer underwater without getting wet. Thanks to a new human-like robot! Created at California's Stanford University, OceanOneK is a 1.5-meter-long robot that has a human-like head, chest and arms, while its bottom has thrusters that let it move carefully through the water.

Its two camera eyes let an operator on the surface see with human-like 3D vision, while a touch-based feedback system lets the operator feel objects the robot is touching as if they were holding them in their own hands. This allows OceanOneK to touch ancient artifacts with the skill and care of a human diver. Even when "deep" diving, human scuba divers usually won't go more than 40 meters down. And while the world record for the deepest scuba dive is just over 332 meters — set by Ahmed Gabr of Egypt in 2014 — it took him nearly a decade to prepare, and over 13 hours to come back up safely.

OceanOneK's body is made with a special foam that allows it to withstand underwater pressure 100 times what humans experience at sea level. The robot has already been able to search several sites that would be too deep for human divers. These include a second-century Roman ship at 334 meters, where OceanOneK safely retrieved several 1,800-year-old oil lamps, and the Italian steamship Francesco Crispi, which sank in 1943, and now sits under 500 meters of water near the island of Elba.

Stanford professor Oussama Khatib, who operated the robot, said: "I'd never experienced anything like that in my life. I can say I'm the one who touched the Crispi at 500 meters. And I did — I touched it, I felt it." Khatib hopes OceanOneK can eventually help humans explore space too, and says the European Space Agency has already expressed interest in the robot.

DISCUSSION

1. Have you had a chance to see any shipwrecks up close?
2. Do you know of any famous shipwrecks in the waters around your country?
3. What historical sites do you hope to explore someday?
4. Does your country have a rich maritime tradition?
5. Do you spend much time in or around the ocean?