

USING ROBOTS IN THE SPACE

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Nowadays, robots are everywhere and in all spheres of our daily life. The main idea of the robotics is to help mankind in their work, conducting researches and mundane life. The first robot was the Unimate. General Motors installed it to move pieces of hot metal in a factory in 1961. Unimate was an autonomous, programmed robot that repeatedly performed the same dangerous task. The next step was inventing Shakey in Stanford University in the USA. It was autonomous, intelligent robot that made its own decisions about how to response to unusual situations.

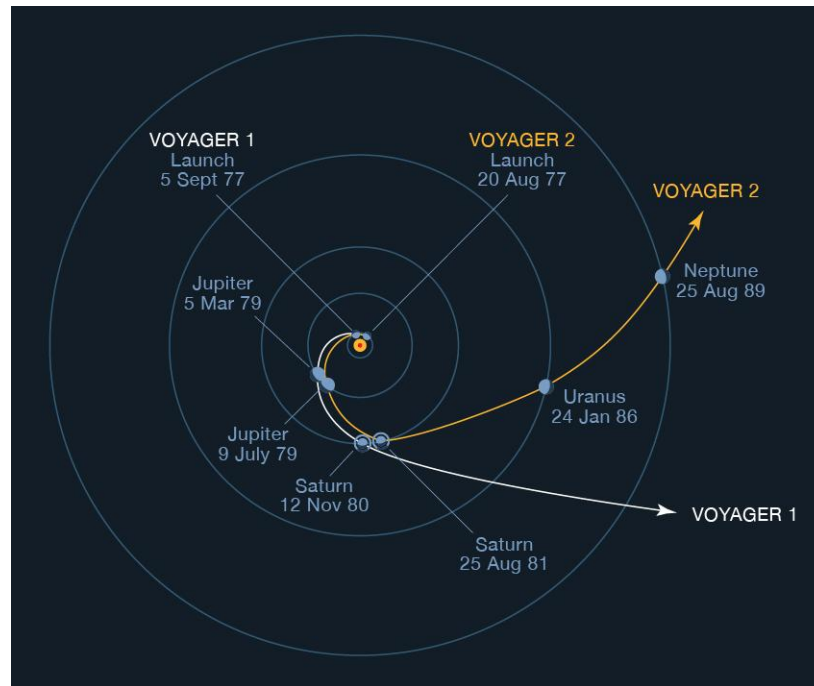
Though humanoid robots receive a lot of attention, they are not alone, the list includes smart prostheses and organs, real-time translators, imitations of animals, autopilot and much more.

There are some reasons why people send robots to investigate our Solar system and beyond. First of all, they do not need to eat and sleep, have coffee brakes and, as a result, a machine is able to perform tasks 24-hours a day with high effectiveness. Furthermore, robot can do a lot of things in dangerous or out of reach conditions for men. It is becoming safer for astronauts to use machines because they can withstand high temperature differences, radiation, pressure, the effects of acids, and, at the same time, help human operators in performing of highly repetitive tasks.

For that moment robots help humans in the International Space Station on the Earth's orbit, they are rovers on the Moon, Mars and asteroids, some of them are satellites flying around planets and their moons.

The most famous robots off Earth are twin spacecraft Voyager 1 and Voyager 2, that toured the Jovian planets. They were designed to conduct closeup studies of Jupiter and Saturn, Saturn's rings, and the larger moons of the two planets. Their two-planet mission became four by adding Uranus and Neptune. Their five-year lifetimes stretched to 12 and more.

The Voyagers returned to Earth hundreds of gigabytes of information over the years. It revolutionized the science of planetary astronomy, helping to resolve key questions while raising new ones about the origin and evolution of the planets in our solar system.



Picture1. An illustration of the trajectories of Voyager 1 and Voyager 2. Credit: NASA

In the International Space Station robots have a great importance. They are responsible for gyroscopes of station and engines to maintain the commanded attitude to make trajectory more stable, solar panels to have maximum of energy from the Sun, life support system for keeping a perfect conditions for the astronauts, sending all information to the Earth.

It should be noted that programmed machine, called robot, have an essential part of people's life. Today we cannot imagine superficial investigations of space without highly intelligence robots, which have already given scientists an information of great importance. Thanks to research in robotics we can explain the origin of our Solar system and life on Earth.

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