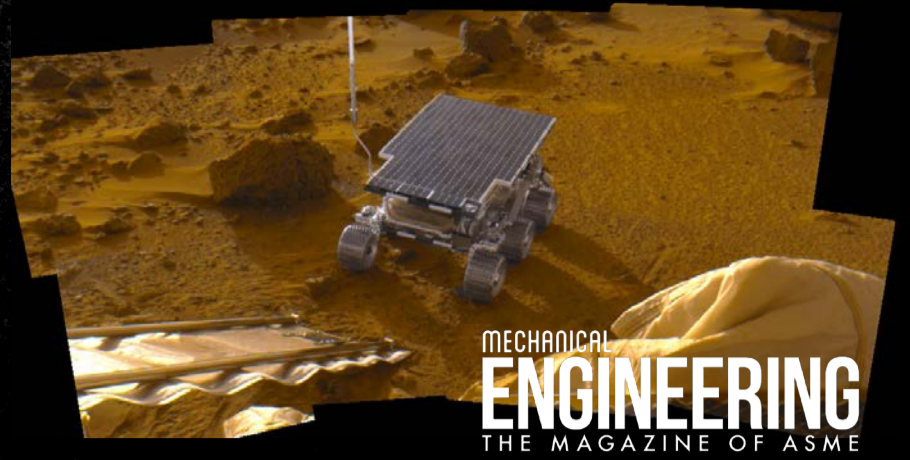


## A Timeline of:

# GROUNDBREAKING & HISTORIC ROBOTS



Let's travel through history and explore five landmark robots that created the paradigms that defined everything from today's brawny factory robots to the most advanced autonomous systems.

Alan Brown



## Unimate

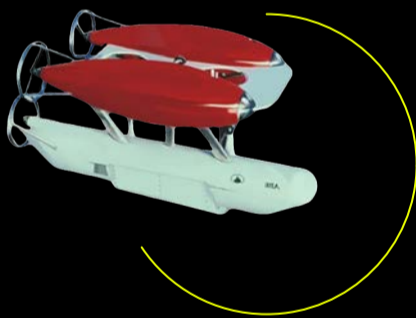
### FUN FACT

Unimate made its television debut in 1966 on the Johnny Carson Show.

1961

Unimation's Unimate was the first industrial robot, the first robotic arm, and the first robot that did a variety of different tasks once done by humans. Invented by George Devol, the original Unimate weighed 4,000 lbs. and was put to work by General Motors at a factory in Ewing, N.J., where it lifted door handles and other metal parts from hot molds and dipped them into cooling liquids.

Shakey was the first truly autonomous robot. Developed at the Artificial Intelligence Center of Stanford Research Institute, it was the first robot to use computer reasoning and vision to break down simple commands into a specific sequence of actions. If an operator typed, "Push a block off a platform," Shakey would locate the block on a platform, push a ramp to the platform, drive up the ramp, and perform the task.



## Autonomous Benthic Explorer

### FUN FACT

When ABE was lost at sea on its 222nd mission, it received an obituary in the New York Times.

1994

## Shakey

### FUN FACT

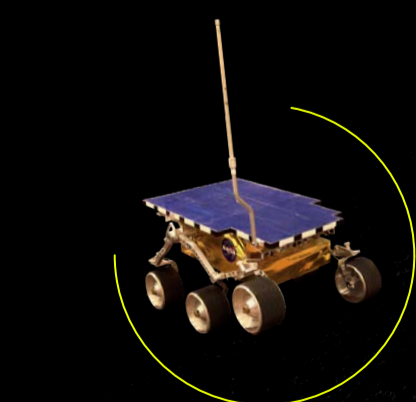
The Association for the Advancement of Artificial Intelligence's AI Video awards is named the "Shakeys."



1972

The Autonomous Benthic Explorer (ABE) is the progenitor of autonomous submersibles used for scientific research, exploration, and offshore infrastructure inspection. Created by the Woods Hole Oceanographic Institution, ABE could autonomously survey large subsea regions for up to one day. It autonomously avoided collisions and moved in for a closer look if it sensed something unusual, before swimming back to recharge.

General Atomics' Predator put drones on the map. Originally built for reconnaissance by the Israeli Air Force's former chief designer, Abraham Karem, the first Predators were deployed in the Balkans in the summer of 1995. By 2002, many were carrying Hellfire missiles and flying strike missions in Afghanistan and later Iraq, Libya, and Syria. Powered by a single, rear-mounted propeller engine, the drone could fly 460 miles to a target, cruise overhead for up to 14 hours, and then return to base.



## Mars Sojourner Rover

### FUN FACT

The robot was named after abolitionist and women's rights activist Sojourner Truth.

1997

## Predator

### FUN FACT

Predators are also used for scientific research and to monitor large forest fires.



The 23 lb. Mars Pathfinder's Sojourner rover was humanity's first robotic mission to another planet. When it landed on Mars on July 4, 1997, engineers thought it would last seven days. Instead, this over-engineered bot explored 2700 sq. ft. of the Martian surface for 83 days, taking pictures and collecting and measuring samples. The semi-autonomous wheeled robot could plan its routes and avoid obstacles without prior detailed knowledge of its environment.