▲ On October 4, 2004, SpaceShipOne dropped from its mother ship White Knight and flew to the edge of space—more than 100 km above the Earth's surface.


▲ In his workshop in the Mojave Desert, California, Burt Rutan stands before the spaceship he designed.

# Private Space Flight

Airplane designer Burt Rutan was 14 years old when the USSR launched *Sputnik 1*.[1] He believed that government research into space travel would someday mean he too would be able to journey to space. By the mid-1990s, however, Rutan had realized that waiting for the government wasn't going to work. It was then that he resolved to build his own spaceship. "If my dream was going to come true—of floating[2] weightless in the black sky and being thrilled by the sight of Earth from outside our atmosphere[3]—I'd have to get things started myself," said Rutan.

## The Dream of Space Flight

Rutan was encouraged to build his own spaceship by the history of airplane design itself. Five years after the Wright brothers'[4] first flight in 1903, the airplane was still just a dangerous curiosity. Only a dozen or so people had tried flying in an airplane. Yet by 1912 hundreds of pilots had flown airplanes of different designs that were developed through private enterprise.[5] The bad designs crashed; the good designs flew. Soon factories in France, England, and Germany were producing hundreds, and then thousands, of airplanes a year. "Why? I believe the answer lay in two observations: 'That's gotta be fun' and 'Maybe I can do that,'" says Rutan.

[1] **Sputnik 1** was the first man-made object sent into space to circle the earth in 1957.

[2] Something that **floats** in or through the air hangs in it or moves slowly and gently through it.

[3] The Earth's **atmosphere** is the layer of air that surrounds it.

[4] The **Wright brothers** are two Americans who built and flew the first powered airplane.

[5] **Private enterprise** is business activity that is not directed or controlled by the government.


▲ Virgin Galactic's SpaceShipTwo, at 60 feet long (18 meters), will be twice as long as the original SpaceShipOne. It will carry six passengers and two pilots aboard.

## The Dream Becomes Real

Rutan's optimism finally paid off. In 2004 his specially designed spaceship, *SpaceShipOne*, successfully entered space and made it back to earth twice in two weeks. Those were the requirements to win the ten-million-dollar Ansari X Prize, a prize designed to encourage the development of private space travel. Rutan's success got the world's attention, and various schemes to commercialize private space travel began to appear.

## An Incredible Opportunity

In one such scheme, Sir Richard Branson has licensed the technology of *SpaceShipOne* for his company, Virgin Galactic, which hopes to offer people of all shapes, sizes, and ages the opportunity to visit space. Virgin's first spaceships will have two pilots and six passengers aboard. Passengers will float weightless in space for six thrilling minutes as they gaze out at space through a large window. "Of all the things we've done," Branson says, "Virgin Galactic is the one I'm most excited about. Every time I look up in the sky at night, I think about how incredible the opportunity is. People have been waiting for this moment for thousands of years."

▲ Sir Richard Branson (left) and Burt Rutan stand in front of a model of WhiteKnightTwo, the aircraft that will carry SpaceShipTwo on the first part of its flight. Named "Eve," after Sir Richard Branson's mother, WhiteKnightTwo can fly to over 15,000 meters (50,000 feet).