

Amazon's chief Jeff Bezos unveils new rocket design

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Amazon founder Jeff Bezos unveiled plans Monday for a massive rocket called New Glenn designed to launch people to space and propel satellites into orbit, raising the ante in the US commercial space industry.



Bezos, who also owns the Washington Post, said the rocket has been in the works for the past four years, and will be launched by decade's end.

At 270 feet (82 meters) high for the two-stage New Glenn and 313 feet tall for the three-stage version, the rocket will be taller than any on the market today, including SpaceX's Falcon 9 (224 feet).

The New Glenn is dwarfed only by the Saturn V rocket (363 feet tall) that propelled Apollo era astronauts to the Moon in the 1960s and 1970s.

NASA is currently at work on a rocket called the Space Launch System (SLS) that will be the tallest ever (384 feet) and aims to ferry people to an asteroid and perhaps one day, even to Mars.

Bezos said his company, Blue Origin, has learned a lot from flying its New Shepard rocket, a 65-foot-tall suborbital vehicle designed to eventually carry <u>space</u> tourists to the edge of space and back.

"Building, flying, landing, and re-flying New Shepard has taught us so much about how to design for practical, operable reusability. And New Glenn incorporates all of those learnings," Bezos said in an emailed statement.

The rocket is "named in honor of John Glenn, the first American to orbit Earth," he added.

It lifts off with 3.85 million pounds of thrust from seven BE-4 engines—the same engines that are being developed by Blue Origin to power United Launch Alliance's new Vulcan rocket.

The booster portion is re-usable, and could be returned to Earth after launching its payload to space and separating from the rocket's other components.



Both SpaceX and Blue Origin have successfully launched and returned the first stages of their rockets to upright landings on Earth, a key capability in the effort to make rockets as reusable as airplanes.

"We plan to fly New Glenn for the first time before the end of this decade from historic Launch Complex 36 at Cape Canaveral, Florida," said Bezos.

Blue Origin's entry into the commercial spaceflight and satellite launch market brings it more squarely in competition with SpaceX, headed by Internet entrepreneur Elon Musk.

Musk surged ahead of Bezos with his Falcon 9 rocket and \$1.6 billion contract with NASA to ferry supplies to the International Space Station and back using SpaceX's Dragon cargoship.

But SpaceX has suffered two <u>rocket</u> explosions since June 2015. Musk admitted Friday that the latest blast, just two weeks ago during a <u>launch</u> pad test in Florida, has stumped investigators and appealed for help from the public and government agencies.

While Bezos did not comment directly on SpaceX's woes, he touted Blue Origin's company mascot, the tortoise, and said "we paint one on our vehicles after each successful flight."

"In the long run, deliberate and methodical wins the day, and you do things quickest by never skipping steps," Bezos wrote.

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