

Private companies hold the key to space travel's future

By **Rich Phillips**, CNN

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Sierra County, New Mexico (CNN) -- There are no roller coasters near Truth or Consequences, New Mexico. No Ferris wheels, either.

Yet this desert town could soon be a hot destination for thrill-seekers from around the world.

That's because nearby, within New Mexico's high desert valley, is the future home of Spaceport America -- the world's first commercial spaceport.

And it's the first stop for those who want to travel into space.

The \$207 million facility, paid for by New Mexico's taxpayers, is based on the dream of a British billionaire.

"People used to tell me it would be impossible to build your own spaceship and your own spaceship company and take people into space," says Richard Branson, who heads Virgin Galactic.

"That's the sort of challenge that I love: to prove them wrong."

So far, 500 people have signed up to be among the first space tourists. The cost of the first flights: \$200,000 per person.

When they fly, the tourist astronauts' craft will be attached to a mother ship called WhiteKnight 2. It will climb high into the sky, and will then release the spacecraft, called SpaceShip 2, which will roar above the Earth, reaching an altitude of about 350,000 feet.

They will experience weightlessness for about four minutes.

Branson says the \$200,000 price tag will come down as flying into space becomes more commonplace -- just like the first airliners.

Branson's family holds tickets for the inaugural flight.

"We've got extensive tests over the next 15 months before myself and my children go into space," he told CNN in May. "And my wife won't forgive me if I don't bring the kids back."

Space travel is no small feat. It's expensive and risky. And now, companies like Virgin Galactic are trying to do what only governments have been able to achieve -- and they have a wallet thick enough to try.

While Branson's company is geared toward tourism, other companies are trying to win contracts to carry supplies and people to the International Space Station.

It's all part of NASA's plan to help these companies succeed and to continue U.S. access to the space station, once the shuttle program ends in July.

"Ideally, we'd like to have multiple competitors who come down to at least two that we can use so that we always have an alternative should one falter or fail," NASA Administrator Charles Bolden said.

NASA has already paid out about \$1 billion to several companies to help them develop cargo- and crew-carrying ability.

In the meantime, the United States will be paying Russia more than \$63 million per astronaut to get to the International Space Station.

NASA says this will allow it to concentrate its money on missions to the moon, Mars, or to an asteroid.

If all goes, as planned, one company, SpaceX, will begin delivering cargo to the International Space Station next year and eventually carry astronauts to and from the station. SpaceX can receive up to \$400 million in NASA money if it succeeds.

"We've been sending astronauts to Earth orbit, for geez, it's like, almost five decades, almost half a century. It's not the cutting edge," SpaceX founder Elon Musk said. "It's time for NASA to hand that over to commercial industry, who can then optimize the technology and make it more reliable, make it much lower-cost, and make it much more routine, as happened with the aircraft business."

Musk, the co-founder of PayPal, has already had two successful flights with his spacecraft, called Dragon, launched aboard his Falcon 9 rocket.

Last year, Dragon orbited the Earth twice and splashed down successfully in the Pacific Ocean. Dragon may dock with the International Space Station this year.

Musk says the transition to the private sector brings the future a lot closer a lot faster.

"I think our rocket is the most advanced in the world and is the only one designed in the 21st century to see flight," he told CNN. "You don't make progress by trying to hang on to the past. ... Can you imagine how much difficulty people went through and how scared they were in the transition from horses to cars?"

"But you've got to make this transition; otherwise, society doesn't move forward."

The end to the space shuttle program -- without another viable space vehicle ready to fly -- raises some concerns.

There's no doubt that spaceflight will always be risky. However, many in the industry wonder if the transition to the private sector should have been more gradual, while the space shuttle was still flying.

"Personally, I tend to think that it happened a little abruptly," said Atlantis space shuttle commander Chris Ferguson, who will lead the final shuttle mission, which is scheduled to launch on July 8. "Does that mean it was wrong? I don't believe it was wrong. I believe it was a big risk."

And, Ferguson says, "with big risks -- it's like investments -- come big rewards."

But, he says, "We could also lose."

It's a reminder of the early, experimental days, when failure and tragedy were part of the learning process, when flight was in its infancy.

"There's going to be some failures along the way, just like we did in the days of barnstorming. Lots of wreckage left on the ground," said Alvin Drew, a space shuttle mission specialist.

"I'm worried about when those wrecks occur, what effect that's going to have on the public's confidence in our ability to get to Earth orbit ... what it's going to cost, and not just dollars -- but possibly in lives and in aspirations."

George Musser, a space science editor at Scientific American magazine, believes that having a fleet of specialized space vehicles -- and multiple private companies -- is the best way to conduct a space program.

"Eventually, everyone's dream is that we'll have Hilton hotels and Hertz taxis in space, and go up there and have a great time," he said.

Yet he acknowledges the risk of ending the space shuttle program without having another viable space vehicle ready to fly.

"It's definitely a roll of the dice," Musser said. It's a question of whether it's a better roll of the dice than continuing the shuttle would be."

Entrepreneurs, like Branson and Musk, will press forward on their dreams of space travel, driven by competition from other teams vying for the same dollars in this new space economy.

"That's what competition does: It brings out the best in people," Musk said. "That's why we have the Super Bowl. That's why we have the World Series.

"It'd be kind of boring if there was one team."