

China's 'space dream': A Long March to the Moon and beyond

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China has sent its first civilian astronaut into space, as part of the Shenzhou-16 mission to the Tiangong space station.

China [successfully launched](#) the latest mission to its Tiangong space station on Tuesday, with a crew that includes its first civilian astronaut.

It marked the latest [space](#) milestone for China, as it looks to catch up with the United States and Russia.

Here is a look at the Chinese space program, and where it is headed:

Mao's vow

Soon after the Soviet Union launched Sputnik in 1957, Chinese leader Mao Zedong pronounced: "We too will make satellites."

It took more than a decade, but in 1970, China launched its first satellite on a Long March rocket.

Human spaceflight took decades longer, with Yang Liwei becoming the first Chinese "taikonaut" in 2003.

As the [launch](#) approached, concerns over the viability of the mission caused Beijing to cancel a live television broadcast at the last minute.

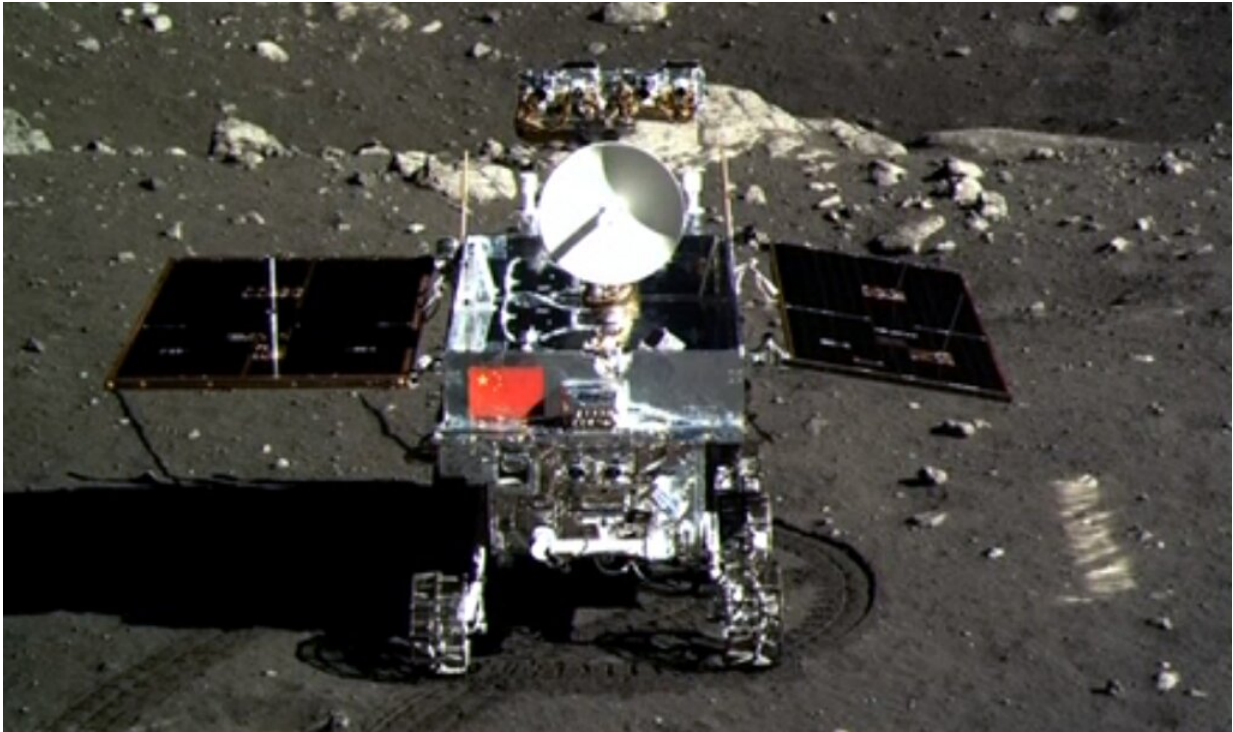
But it went smoothly, with Yang orbiting the Earth 14 times during a 21-hour flight.

Space station and 'Jade Rabbit'

Following in the footsteps of the United States and Russia, China started planning for a [space station](#) of its own in Earth orbit.

The Tiangong-1 lab was launched in 2011.

In 2013, the second Chinese woman in space, Wang Yaping, gave a video class from that craft to children across the country.



The Jade Rabbit lunar rover surveyed the moon's surface for 31 months.

Tiangong-1 was also used for [medical experiments](#) and, most importantly, tests intended to prepare for the construction of a space station.

That was followed by the "Jade Rabbit" [lunar rover](#) in 2013, which initially appeared to be a dud when it turned dormant and stopped sending signals back to Earth.

It made a dramatic recovery, however, ultimately surveying the Moon's surface for 31 months—well beyond its expected lifespan.

In 2016, China launched its second orbital lab, the Tiangong-2.

Astronauts who visited the station have run experiments on growing rice and other plants in space.

'Space dream'

Under President Xi Jinping, plans for China's "space dream" have been put into overdrive.

It is looking to finally catch up with the United States and Russia after years of belatedly matching their milestones.

Besides a space station, China is planning to build a base on the Moon, reiterating this week its goal to land humans on the Moon by 2030.

The lunar plans were dealt a setback in 2017 when the powerful Long March-5 Y2 rocket failed to launch on a mission to put communication satellites into orbit.

That forced the postponement of the Chang'e-5 launch, originally scheduled to collect Moon samples in the second half of 2017.

Another robot, the Chang'e-4, landed on the far side of the Moon in January 2019—a historic first.



China has been carrying out experiments in a lab simulating a lunar-like environment in preparation for its long-term goal of putting humans on the moon.

Chang'e-5 eventually landed on the Moon in 2020, raising a Chinese flag on the lunar surface and returning to Earth the first lunar samples in four decades.

And in 2021, its Tianwen-1 mission successfully landed a rover on the surface of Mars.

Palace in the sky

The final module of space station Tiangong—which means "heavenly palace"—successfully docked with the core structure last year.

It carries several pieces of cutting-edge science equipment, state news agency Xinhua reported, including "the world's first space-based cold atomic clock system".

Tiangong is expected to remain in low Earth orbit at an altitude between 400 and 450 kilometers (250 and 280 miles) for at least 10 years—realizing China's ambition to maintain a long-term human presence in space.

It will be constantly crewed by rotating teams of three astronauts, who will conduct scientific experiments and help test new technologies.

After Tuesday's launch, the next mission to Tiangong, the Shenzhou-17, is expected in October.

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