



CHINA'S HUMAN SPACEFLIGHT PROGRAM: BACKGROUND AND LIST OF CREWED AND AUTOMATED LAUNCHES

China's human spaceflight program, Project 921, officially began in 1992. The program is proceeding at a measured pace. The most recent crewed launch, Shenzhou-12 in June 2021, was the 12th flight in the series, but only the seventh to carry a crew.

Shenzhou Spacecraft: Shenzhou 1-4 were automated tests of the spacecraft. Shenzhou-8 was an automated test of rendezvous and docking procedures with the Tiangong-1 space station.

The others (5, 6, 7, 9, 10, 11, 12) carried crews of one, two or three people and were launched in 2003, 2005, 2008, 2012, 2013, 2016 and 2021 respectively (see list below).

Space Stations: Tiangong-1, China's first space station, was launched in September 2011. It hosted the automated Shenzhou-8 in 2011 and two three-person crews: Shenzhou-9 in 2012 and Shenzhou-10 in 2013. It made an [uncontrolled reentry](#) at 8:16 pm April 1, 2018 EDT (00:16 April 2 UTC; 8:16 am April 2 Beijing Time) over the southern Pacific Ocean.

Tiangong-1 was a small 8.5 metric ton (MT) module. As first space stations go, it was rather modest -- just less than half the mass of the world's first space station, the Soviet Union's Salyut 1. Launched in 1971, Salyut 1 had a mass of about 18.6 MT. The first U.S. space station, Skylab, launched in 1973, had a mass of about 77 MT. Today's International Space Station (ISS), a partnership among the United States, Russia, Japan, Europe, and Canada, has a mass of about 400 MT and has been permanently occupied by 2-7 person crews rotating on 4-6 month missions since November 2000.

Tiangong-2, very similar to Tiangong-1, was launched on September 15, 2016. The Chinese initially said they intended to launch two two-man crews to Tiangong-2, but later indicated there would be only one. Shenzhou-11 was launched on October 16, 2016 EDT (October 17 Beijing Time) and returned on November 18, 2016. Tiangong-2 was deorbited on July 19, 2019.

China sent its first automated cargo resupply spacecraft, Tianzhou-1, to Tiangong-2 in 2017. It docked three times and conducted a number of tests, including refueling.

On April 29, 2021 (UTC and Beijing time; April 28 EDT), China launched Tianhe, the first of three 22.5 ton modules that will comprise the China Space Station (CSS) that it plans to complete in 2022. The Long March 5B rocket is required to launch the modules: the core module (Tianhe) and two experiment modules (Mengtian and Wentian). Long March 5 [failed](#) on its

second launch in 2017, so the space station schedule was delayed, but China still hopes to complete it by 2022.

The 2021 successful launch of Tianhe is a step in that direction. A cargo/refueling spacecraft, Tianzhou-2, was launched to Tianhe on May 29, 2021 (12:56 UTC), and docked about 8 hours later (21:01 UTC). The first crew, Shenzhou-12, was launched on June 17 UTC (June 16 EDT).

Chinese astronauts are often called "taikonauts" in the West. English-language Chinese news reports refer to them as astronauts. Shenzhou means Divine Vessel. Tiangong means Heavenly Palace. Tianzhou is Heavenly Ship (or Vessel).

The Shenzhou launches are from the Jiuquan Space Launch Center in the Gobi desert. Tiangong-1 and -2 also were launched from there. The Tianzhou cargo ships are launched from the Wenchang Satellite Launch Center on Hainan Island using the Long March 7 rocket. Wenchang is also the launch site for Long March 5 and thus for the Tianhe core module of the new China Space Station, which some Chinese media sources refer to as Tiangong-3.

The table below lists all Chinese human spaceflight missions to date. Shaded entries are those that carried crews.

LIST OF CHINESE HUMAN SPACEFLIGHT MISSIONS (Prepared by SpacePolicyOnline.com) all dates are U.S. Eastern Time			
Mission	Launch Date (U.S. Eastern Time)	Crew (# of flights)	Comments
Shenzhou-1	Nov. 19, 1999	none	Automated test
Shenzhou-2	Jan. 9, 2001	none	Automated test
Shenzhou-3	Mar. 25, 2002	none	Automated test
Shenzhou-4	Dec. 29, 2002	none	Automated test
Shenzhou-5	Oct. 15, 2003	Yang Liwei	First Chinese astronaut 21 hour 12 min mission
Shenzhou-6	Oct. 12, 2005	Fei Junlong Nie Haisheng	First Chinese 2-person crew 5 day mission

Shenzhou-7	Sept. 25, 2008	Zhai Zhigang Liu Boming Jing Haipeng	First Chinese 3-person crew First Chinese spacewalk (Zhai for 22 min; Liu did stand-up EVA in airlock for about 2 min) 3 day mission Small (40 kg) subsatellite ejected
Tiangong-1	Sept. 29, 2011	Visited by automated Shenzhou-8 and crewed Shenzhou-9 and -10	First Chinese space station (8.5 metric tons). Made uncontrolled reentry over southern Pacific Ocean April 1, 2018 EDT (April 2 UTC)
Shenzhou-8	Oct. 31, 2011	none	Automated test of rendezvous and docking with Tiangong-1 (docked twice)
Shenzhou-9	July 19, 2012	Jing Haipeng (2) Liu Wang Liu Yang	First Chinese space station crew; automated and manual docking Liu Yang first Chinese woman astronaut Jing first Chinese astronaut to make 2 flights 13 day mission
Shenzhou-10	June 11, 2013	Nie Haisheng (2) Zhang Xiaoguang Wang Yaping	Automated docking with Tiangong-1 on June 13. Later did manual docking test, and, just before reentry, a fly-around (China's first) Wang second Chinese woman astronaut and first "teacher in space" because she taught a lesson from space 15 day mission
Tiangong-2	Sept. 15, 2016	Visited by crewed Shenzhou-11; automated Tianzhou-1	Similar to Tiangong-1. First on-orbit refueling tests with Tianzhou-1.
Shenzhou-11	Oct. 16, 2016	Jing Haipeng (3) Chen Dong	Jing first Chinese astronaut to make 3 flights. Docked with TG-2 for 30 days (total mission time 32 days)
Tianzhou-1	Apr. 20, 2017	none	13 MT automated resupply ship. Conducted refueling tests. Docked 3 times. Reentered Sept. 22, 2017.

Tianhe	Apr. 28, 2021 (Apr 29 GMT and Beijing time)	none	Core module for China Space Station (or Tiangong-3).
Tianzhou-2	May 29, 2021	none	Docked with Tianhe.
Shenzhou-12	June 16, 2021 (June 17 GMT and Beijing Time).	Nie Haisheng (3) Liu Boming (2) Tang Hongbo	First Tianhe crew Approx 7-hour spacewalk by Liu and Tang on July 4, 2021.