China completes nation's first space docking (Update)

November 2 2011, by Boris Cambreleng

A CCTV grab on November 3, 2011 shows the docking of the Tiangong-1 space lab module and the Shenzhou VIII spacecraft in space. China took a crucial step towards fulfilling its ambition to set up a manned spacestation by completing its first successful docking high above Earth, state media reported.

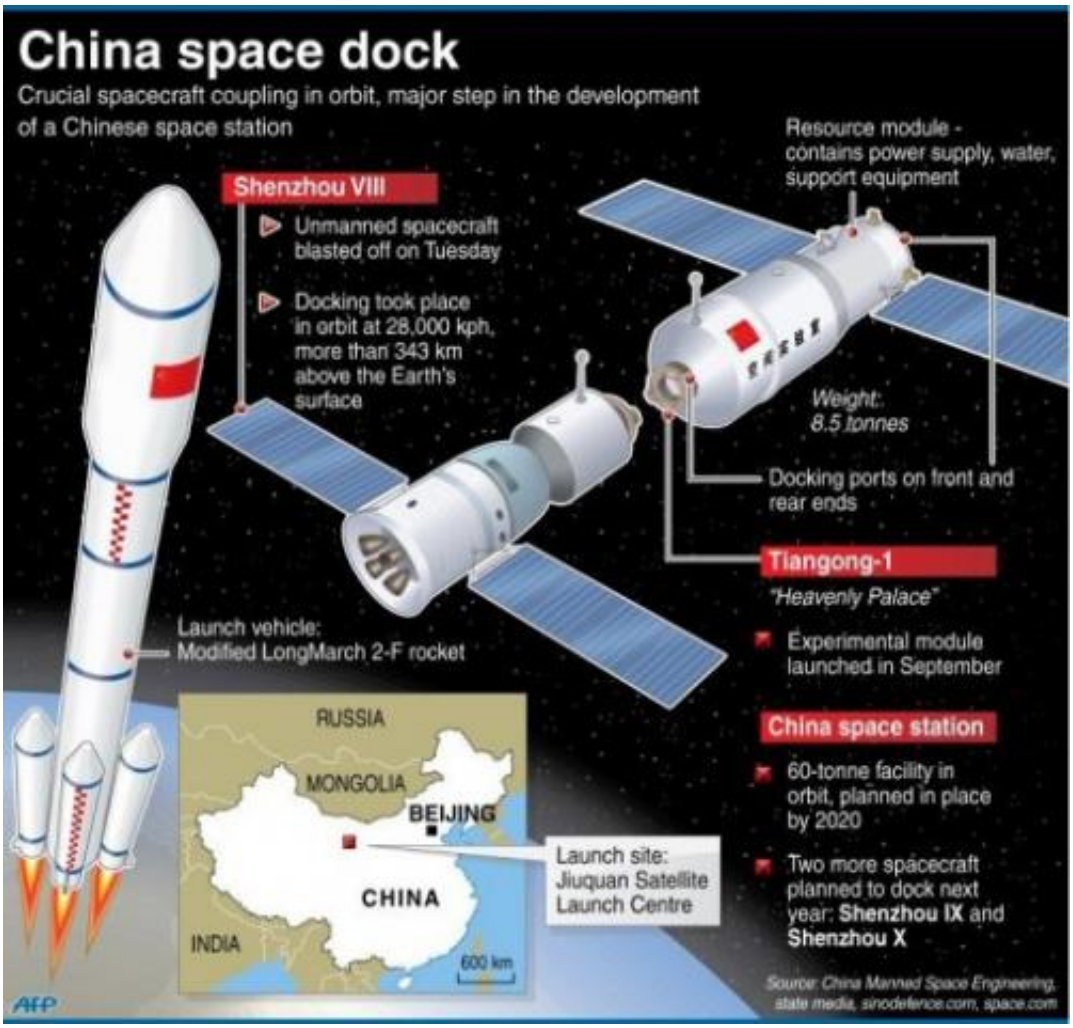
China took a crucial step towards fulfilling its ambition to set up a manned space station on Thursday by completing its first successful docking in orbit high above the Earth.

The Shenzhou VIII spacecraft joined onto the Tiangong-1 experimental module just after 1.36 am (1736 GMT Wednesday), silently coupling more than 343 kilometres (213 miles) above the Earth's surface, said Wu

Ping, spokeswoman for China's manned space programme.

The Shenzhou vehicle, whose name translates as "divine vessel", is a modified version of the capsules that took the first Chinese astronauts into space as part of the rising power's ambitious exploration programme.

China aims to complete construction of a space station by 2020, a goal that requires it to perfect docking technology -- a delicate manoeuvre that the Russians and Americans successfully completed in the 1960s.



Graphic on China's first orbital docking of two spacecraft, succesfully executed

on Thursday in a major step towards a manned space station.

The technique is hard to master because the two vessels, placed in the same orbit and revolving around the Earth at thousands of kilometres per hour, must come together very gently to avoid destroying each other.

China sees its space programme as a symbol of its global stature, growing technical expertise, and the Communist Party's success in turning around the fortunes of the once poverty-stricken nation.

Chinese netizens applauded the completion of the delicate manoeuvre.

"Our motherland's aerospace technology is powerful enough to rival world powers, I'm so happy and proud of such a powerful country," one person posted on Sina's popular Twitter-like weibo service.

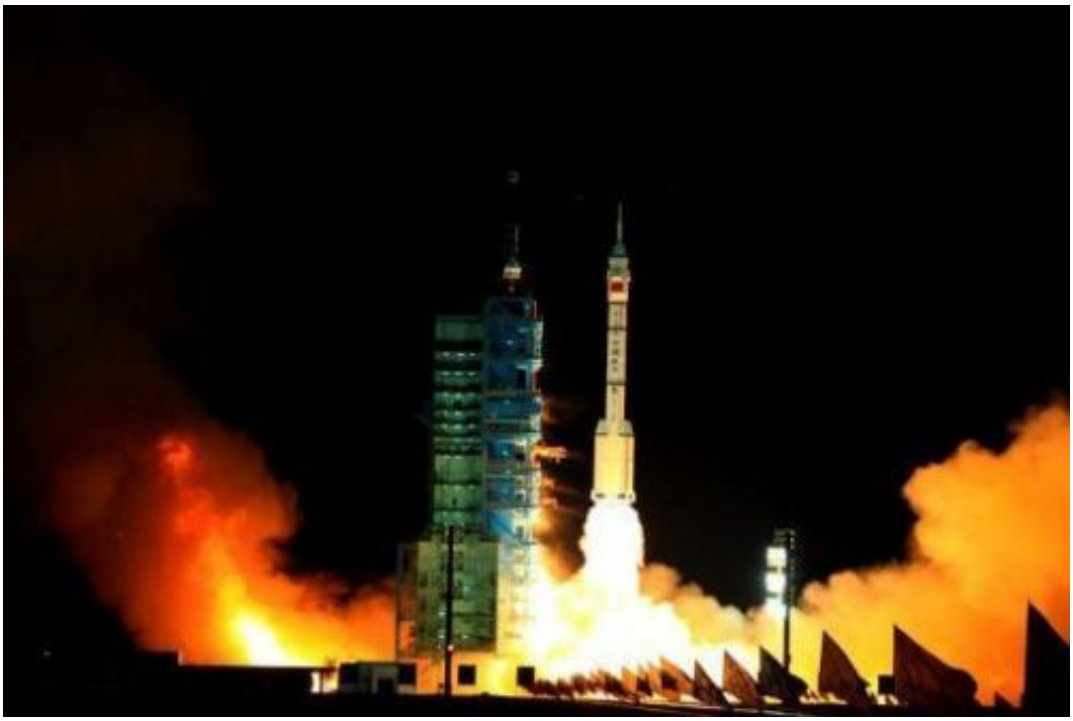
Chinese scientists monitor the docking of the Tiangong-1 space lab module and the Shenzhou VIII spacecraft in space at the Jiuquan Satellite Launch Centre in the northwestern province of Gansu on November 3, 2011.

Chinese leaders including Premier Wen Jiabao were at the Beijing Aerospace Flight Control Center to watch a live broadcast of the docking, while President Hu Jintao, who is in France for the G20 summit, sent a congratulatory message.

"Breakthroughs in and acquisition of space docking technologies are vital to the... development strategy of our manned space programme," Hu said.

The docking took eight minutes and was aided by microwave radars, laser distance measurers and video cameras.

"To link up two vehicles travelling at 7.8 kilometres per second in orbit, with a margin of error of no more than 20 centimetres, is like finding a needle in a haystack," said Zhou Jianping, chief designer of China's manned space programme.



China's Long March-2F/H rocket carrying the unmanned spacecraft Shenzhou VIII blasts off from the Jiuquan Satellite Launch Centre on November 1. The Shenzhou vehicle, whose name translates as "divine vessel", is a modified version of the capsules that took the first Chinese astronauts into space as part of the rising power's ambitious exploration programme.

"This will make it possible for China to carry out space exploration on a larger scale," the official Xinhua news agency quoted him as saying.

He said the country was now equipped with the technology and capacity to construct a space station, adding that the Shenzhou VIII might be used as the prototype for a series of spaceships.

The Shenzhou VIII spacecraft took off on Tuesday from the Jiuquan base in the northwestern province of Gansu, from where Tiangong-1 -- or "Heavenly Palace" -- also launched on September 29.

Wu told reporters that the two vessels would stay together for around 12 days, after which they would briefly separate and come together again a second time, before the Shenzhou VIII returns by itself to Earth on November 17.

China plans to make more than 20 manned space voyages in the next decade, Xinhua said.

A Chinese astronaut trainer is among six volunteers who will emerge on Friday into the outside world after spending almost 18 months in isolation at a Russian research centre to test the effects on humans of a flight to Mars.

China began its manned spaceflight programme in 1990 after buying Russian technology and in 2003 became the third country to send humans into space, after the former Soviet Union and the United States.

In September 2008, the Shenzhou VII, piloted by three astronauts, carried out China's first space walk.

If the current mission is a success, China will launch two more spacecraft next year to dock with Tiangong-1 -- the Shenzhou IX and Shenzhou X -- at least one of which will be manned.

Two women are among the astronauts who are training for that mission, Xinhua said. If they are chosen to go, they will be the first women to be sent into space by China.

In preparation for the manned flight, two life-size dummies have been placed on board Shenzhou VIII.

Electronic data will be transmitted back to Earth to help researchers assess the impact of the flight on human breathing, temperature and

blood pressure.

The spacecraft is also being used by Chinese and German researchers to conduct joint experiments in life sciences and microgravity, the first time another country has been given any access to China's manned space programme.

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