

China launches module for space station

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In this photo released by China's Xinhua News Agency, a Long March-2FT1 carrier rocket loaded with Tiangong-1 unmanned space lab module blasts off from the launch pad at the Jiuquan Satellite Launch Center in northwest China's Gansu Province, Thursday, Sept. 29, 2011. China launched the experimental module to lay the groundwork for a future space station on Thursday, underscoring its ambitions to become a major space power. (AP Photo/Xinhua, Wang Jianmin) NO SALES

China launched an experimental module to lay the groundwork for a future space station on Thursday, underscoring its ambitions to become a major space power.

The box car-sized Tiangong-1 module was shot into space from the Jiuquan launch center on the edge of the [Gobi Desert](#) aboard a Long March 2FT1 rocket.

After moving it into orbit 217 miles (350 kilometers) above the Earth,

China plans to launch an unmanned [Shenzhou 8](#) spacecraft to practice remote-controlled docking maneuvers with the module, possibly within the next few weeks. Two more missions, at least one of them manned, are to meet up with it next year for further practice, with astronauts staying for up to one month.

The 8.5-ton module, whose name translates as "Heavenly Palace-1," is to stay aloft for two years, after which two other experimental modules are to be launched for additional tests before the actual station is launched in three sections between 2020 and 2022.

"This is a significant test. We've never done such a thing before," Lu Jinrong, the launch center's chief engineer, was quoted as saying by the official Xinhua News Agency.

The space station, which is yet to be formally named, is the most ambitious project in China's exploration of space, which also calls for landing on the moon, possibly with astronauts.

China launched its first [manned flight](#) in 2003, joining Russia and the United States as the only countries to launch humans into orbit and generating huge amounts of national pride for the Communist government.

However, habitual secrecy and the space program's close links with the military have inhibited cooperation with other nations' space programs - including the [International Space Station](#).

At about 60 tons when completed, the Chinese station will be considerably smaller than the 16-nation ISS, which is expected to continue operating through 2028.

China applied repeatedly to join the ISS, but was rebuffed largely on

objections from the U.S., prompting it to adopt a go-it-alone strategy.

While the program has proceeded with no apparent major problems, the launch of the Tiangong-1 module was delayed for one year for technical reasons, and then rescheduled again after a Long March 2C rocket similar to the Long March 2F failed to reach orbit in August. The incident with the rocket was investigated and problems were reportedly resolved.

Although experts see no explicit military function for the Chinese space station, the country's other space-based military programs, including the destruction of a defunct Chinese satellite with a rocket in 2007, have caused alarm overseas.

"It is a nation doing its own thing saying, 'OK, we can do what you did for our own country separate from cooperation, on Chinese terms,'" said Charles Vick, an expert on the Chinese [space program](#) with Globalsecurity.org, which tracks military and security news.

In terms of technology, the launch of the Tiangong-1 places China about where the U.S. was in the 1960s during the Gemini program. While it is planning fewer launches than the U.S. carried out, the Chinese program progresses farther than the U.S. did with each launch it undertakes, said Joan Johnson-Freese, a space expert at the U.S. Naval War College in Rhode Island.

"China has the advantage, 40-plus years later, of not having to start at the bottom of the learning curve on its human spaceflight program," Johnson-Freese said.

China's authoritarian, centralized political system also offers the advantage of freedom from political wrangles over funding and clearly defines the program's long-term goals within Soviet-style five-year plans.

Numerous challenges lie ahead, including the attempt to dock remotely - U.S. astronauts handled the maneuver from aboard their spacecraft. The Long March-5 rocket that is being prepared to launch the 20-ton modules for the actual space station also remains untested.

Still, Beijing is expected to press ahead whatever the difficulties as long as it continues to result in international prestige, domestic credibility, technological advancement, and economic spin-offs, Johnson-Freese and Vick said.

"Basically, they will get what they want regardless of how long or what it takes for the authoritarian state to accomplish the assigned tasks," Vick said.

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