

The Final Frontier Flash



27 December 2020: [China launches secret military satellite using a Long March 4C rocket.](#)

- U.S. military tracking data indicated the launcher reached a 425 mile orbit with a 98.3 degree inclination. [View Orbit.](#)
- Chinese officials stated the primary payload as Yaogan 33.
- Independent analysts believe Yaogan 33 might carry a radar imager designed to obtain all-weather, day-and-night imagery of strategic targets around the world. Some references name the new satellite "[Yaogan 33R.](#)"

- Yaogan 33 was also the name of a military remote sensing satellite [lost in May 2019](#). Yaogan 33R launched into a slightly different orbit...some analysts believe it may be a [new type of Chinese surveillance payload](#).

Reporting of Yaogan 33 capabilities is inconsistent: SAR, EO and SIGINT are all mentioned in different forums.

The 27 December launch was China's final for the year. [China successfully launched 35 space missions into orbit this year in 39 attempts](#). U.S. companies performed 44 orbital launch attempts, with 40 successes, including flights by California-headquartered Rocket Lab from its private launch base in New Zealand. [China Space 2020 Year in Review](#).



1 Jan 21: [China expands the power of its Central Military Commission \(CMC\)](#) - headed by President Xi - to mobilise military and civilian resources in defense of the national interest, both home & abroad.

- Military and political analysts said the amendments aimed to strengthen the country's military leadership under Xi.

- The legislation includes "development interests" as a reason for armed mobilization and war and provides legal grounds for China to launch war in the name of defending national development interests.

- "The CMC is now formally in charge of making national defense policy and principles, while the State Council becomes a mere implementing agency to provide support to the military." Zeng Zhiping, China military law expert.

- The amendments also highlight the use of armed forces to suppress national disruption and could target independence-leaning Taiwan forces.

The amendments were passed by the National People's Congress on December 26, after two years of deliberation and stand in "big contrast when compared with developed countries like Israel, Germany and France, which prefer to put their armed forces under civilian leadership." [Video: China-Taiwan relationship](#).



1 Jan 21: [US Congress overrides Presidential veto & passes NDAA. Bill authorizes \\$740.5B for defense.](#) Space specifics:

- The Air Force has to procure commercial space domain awareness services from at least two contractors.

- The Pentagon has to establish a small launch and satellite policy to ensure "responsive and reliable access to space through the processing and launch of Department of Defense small-class payloads."

- The Defense Department and the intelligence community have to leverage, as much as practicable, commercial geospatial-intelligence services and acquire domestic commercial satellite imagery.

- The Space Force is directed to start research and development projects to promote competition in the National Security Space Launch program.

Fun Fact: [The man considered the father of Chinese rocketry is Qian Xuesen](#). Qian attended MIT in 1935, went to work on the Manhattan Project, and later became a co-founder of Caltech's famed Jet Propulsion Laboratory. But during the Joseph McCarthy era, he was accused of being a communist sympathizer, put under house arrest for five years, and, in 1955, he returned to China. There he was greeted as a hero. He later led China's nuclear weapons program and developed China's ballistic-missile and space-rocket programs.

Editor's Comment: Oops



29 Jul 20: [Russia and US meet in Vienna](#) to discuss decreasing militarization of space.

- U.S. Space Force accused Russia of deploying a “projectile weapon” in near-Earth orbit close to a U.S. spy satellite
- Russia argues that the U.S. has developed elaborate Earth-based weaponry capable of attacking an adversary’s satellite network in war.
- “Right now there are no laws against the deployment of conventional weapons in Earth orbit, either the kind that can hit other objects in space or the kind that can hit the Earth.” Vladimir Dvorkin, Russian Academy of Sciences
- Russian analysts say that Moscow is deeply worried about the secretive U.S. military program in space..The Russians claim that the X-37B does much the same tasks that their Kosmos satellites do, including positioning maneuverable “inspector” satellites in Earth orbit.

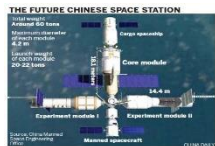
The 1967 Outer Space Treaty is the only major international treaty regulating the militarization of space. It bans the stationing of weapons of mass destruction in Earth orbit but doesn’t limit military/dual-purpose technologies.



4 Jan 21: [India releases decadal spaceflight plan.](#)

- India will focus on “competence in launch vehicle development towards heavy lift capabilities, achieving partial and full reusability” and scramjet engine research.
- 2021 goals include the first test flight of a four-stage rocket capable of lifting 500 kilograms to a 500-kilometer-altitude low Earth orbit—operational Geo-Imaging capability, and the [Chandrayaan-3](#) moon mission.
- A first, uncrewed flight for the Gaganyaan human spaceflight project is planned for late 2021. It was announced late last year that the first crewed launch had been delayed from December 2021 to no earlier than 2022.

India recently drafted the Spacecom Policy which is expected to open up and revolutionize India’s space sector. Earth observation is noted as one of main areas for potential growth.



7 Jan 21: [China is preparing to launch three major missions in the early '21](#) to initiate construction of the country’s space station.

- A total of [11 missions over the next 2 years](#) will complete construction of a three-module Chinese space station. [VIDEO](#).
- A 849-metric-ton Long March 5B heavy-lift rocket will launch the roughly 22-metric-ton Tianhe space station core module this spring.
- After completion in 2022 the Chinese Space Station will be joined by a co-orbiting, Hubble-class space telescope. The [Xuntian survey telescope](#) will be able to dock with the CSS for maintenance and repairs.

Building the new space station will bring the resumption of Chinese crewed missions in 2021. China’s last crewed mission was in 2016. “We will soon complete the construction of China’s first long-term orbital crewed space station meeting advanced world levels, and will carry out large-scale space scientific research on it,” Zhou Jianping, chief designer of China’s human spaceflight program.



4 Jan 21: China Aerospace Science and Technology Corporation (CASC) aims to [conduct more than 40 orbital launches in 2021.](#)

- In addition to space station and human spaceflight, CASC will focus on accelerating the application of major projects such as Beidou.
- Civilian missions may include Fengyun weather satellites, a [New Generation Recoverable Satellite](#) & Gaofen Earth observation satellites.
- Classified launches of Yaogan reconnaissance satellites and other national defense satellites are likely.
- The CASC target does not include new Chinese commercial space actors. (CASIC, Landspace, iSpace, Galactic Energy, Deep Blue Aerospace).

China is entering the 14th Five Year Plan period (2021-2025). A space white paper, outlining policy positions, future goals and highlighting recent achievements, is expected late in the year.