



The Final Frontier Flash



7 September 2020: [China launches the Gaofen 11\(02\)](#) from Taiyuan Satellite Launch Center. [Video](#) shows first stage exploding near a populated area. The satellite is part of China's High-resolution Earth Observation System (CHEOS).



Gaofen Camera

- The [first Gaofen 11 was launched on 31 July 2018](#) on a CZ-4B rocket from also from China's Taiyuan space center.
- Both satellites are in LEO: 248 km × 694 km, 97.4° inclination.
- The Gaofen multi-mode satellite's large aperture, long-focus, high-resolution camera provides sub-meter level full

color images, has multispectral capabilities and utilizes an atmospheric synchronization calibrator for reducing the impact of fog and haze.

- [The GF-11 series has a 1.7m mirror](#) which gives it a ground resolution of 8-10cm at perigee. At current orbit ideal conditions exist at ~10AM local solar time and at 20°N, right over India and the South China Sea.
- At the average altitude of 470km, the resolution is still 15 to 20cm, surpassing all commercial satellites and most reconnaissance satellites.

The Gaofen 11 propels China into the select club of countries that can acquire [NIIRS 8-9](#) satellite imagery, meaning the resolution is high enough to identify small hand-held weapons.



HJ-2A

26 September 2020: [China conducts secretive launch](#) of 2 remote sensing satellites from Taiyuan launch complex. [See VIDEO](#).

- Chinese launches are rarely publicly announced ahead of time, but normally announces airspace closures a few days prior to launch. No notices were apparently issued ahead of the launch.

- The launch carried the [HJ-2A](#) and [HJ-2B](#) monitoring satellites. Both are equipped with 16-meter multispectral, 48-meter hyperspectral and infrared imagers. Both also carry atmospheric correction instruments.

- The satellites are in 600 by 654-kilometer orbits inclined by 98° and are to replace the HJ-1A and HJ-1B launched in 2008. They will form a [co-orbital constellation](#) with the [Gaofen-1](#) and [Gaofen-6](#) satellites.

China has carried out 29 launches in 2020 with 4 failures. It is expected to conduct 40 launches in 2020.



22 September 2020: [In address to United Nations](#), Russian President Vladimir Putin called for the establishment of an international agreement to ban space weapons.

- Specifically [Mr Putin stated](#): "Russia is promoting an initiative to sign a binding agreement between all the leading space powers that would provide for the prohibition of the placement of weapons in outer space, or the threat or use of force."

[Putin has made similar remarks in the past going back to at least 2018](#). Most likely he is hoping to constrain the US in an area of comparative Russian weakness. During the Cold War, when Moscow felt threatened by the prospect of an American arms buildup, it proposed arms control agreements, preferably advantageous to Russia at the expense of the United States.