

## INTEGRITY **ISR**

23 September 2020

## The Final Frontier Flash



4 Sep 2020: China launched some kind of reusable spacecraft into space — possibly a spaceplane — a mysterious vehicle that is drawing comparisons to the US's classified X-37B

- Long March 2F launch vehicle delivered the spacecraft into orbit following launch at an unspecified time.

- <u>Based on observations from independent observers</u>, the vehicle reached an altitude of about 350 kilometers. It was initially launched at an orbital inclination of about 45 degrees, but then performed a "dogleg maneuver" to change its inclination to 50 degrees shortly after launching. - Chinese state media (Xinhua News Agency) says the country <u>safely landed</u> a reusable spacecraft on September 6th after spending two days in orbit.



- On December 11, 2007, the Chinese media <u>published an</u> image of a winged spacecraft mounted on a wing of an H-6K bomber. This was the first public acknowledgment that China was developing a reusable winged space system very similar to the X-37.

- China Aerospace Science and Technology Corp. (CASC)

is believed to be the lead developer.

- The China Aerospace Science and Industry Corp. (CASIC), another giant state-owned enterprise, is working on its own spaceplane, named Tengyun.

After an inaugural flight around 2020, several flights will be conducted to verify rapid re-launch and repeated use capabilities. The stated aim of the project is to reduce the cost of access to space...some vehicles would have the characteristics of both aircraft and spacecraft.

--2017 statement from Chen Hongbo, from CASC's China Academy of Launch Vehicle Technology (CALT)

## FLASHBACK 27 March 2019: India Direct Ascent ASAT Kinetic Intercept



- On 29 March 2019 the <u>Indian Prime Minister Modi announced</u> that they had successfully conducted <u>Mission Shakti</u>
- A PDV Mark II launched from the Kalam Island & successfully intercepted Microsat-R at an altitude of about 300 km.
- Indian Government Fact Sheet: "The test was done to verify that India has the capability to safeguard our space assets."
  Anonymous U.S. government sources stated that they had detected an earlier failed ASAT test in February 2019 where the PDV failed thirty seconds into flight.
- Microsat-R was similar in mass to the FY-1C satellite but was at a much lower altitude when destroyed, 300 km versus 800 km
- The U.S. tracked roughly 125 pieces of debris from this test; as of February 2020, there were still 10 pieces being tracked

The missile reportedly hit the satellite with an accuracy of less than 10 cm. A prime motivation for the test was likely to ensure India would be grandfathered into any future ban on DA-ASAT testing.