

China recovered its first reusable rocket and showed a new way to do it

The next flight of the Zhuque-3 rocket could happen later this month or in August, with LandSpace again expected to attempt to land the booster downrange. Other Chinese rockets that could soon achieve reusability include Space Pioneer's Tianlong-3, China Commercial Rocket Co.'s Long March 12B, CAS Space's Kinetica-2, i-Space's Hyperbola-3, and Galactic Energy's Pallas-1. Further into the future, China aims to debut a huge new reusable rocket on the scale of Starship named the Long March 9.

In the United States, there are SpaceX's Falcon 9, Falcon Heavy, and Starship, along with Blue Origin's New Glenn rocket. Rocket Lab is aiming to launch its first medium-lift Neutron rocket with a reusable booster by the end of the year. Relativity Space is developing a partially reusable heavy-lifter named Terran R, and Firefly Aerospace is partnering with Northrop Grumman on the Eclipse rocket, which officials say will eventually have a recoverable and reusable first stage. Stoke Space has the bolder ambition of a fully reusable rocket called Nova.

Several European companies also plan to test reusable rocket technology, but their vehicles are not as mature as many of the US and Chinese rockets. Rocket builders in India, Japan, and Russia have reuse in their roadmaps, with varying degrees of realism.

The proliferation of Chinese rocket companies, scattered across four land-based spaceports and multiple ocean-going

launch platforms, should set up China to quickly ramp up its launch cadence.

“It probably won’t be but a few years before they’re able to achieve a much higher launch cadence,” Galbreath said. “They also have more launch sites than the United States currently, so if you couple their number of sites with reusability, they could surpass us in terms of launch rate, which in and of itself is more of a pride thing. But it’s the capability that’s being launched as a result of that that could actually have a significant impact on our competition, and if we got to it, a conflict.

“There’s nothing wrong with competition as long as it’s peaceful,” Galbreath said. “That can drive innovation, but I’m concerned that the historic example of Chinese behavior has not always remained peaceful. So, we have to look at everything they do carefully. On the one hand, they’re competing with SpaceX, but we know that because of the way China has organized its military, its space capabilities, all under military control, that there is significant utility that their armed forces will receive from this race.”

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