

China to build 'world's fastest' wind tunnel

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China has announced it is building the world's fastest wind tunnel to develop a new generation of super-fast airplanes, but it could also be used for hypersonic missile technology.

Wind tunnels test how air will pass over a solid object, helping designers improve aerodynamics or reduce stress points for objects as they reach high speeds.

State-run Xinhua news agency ran a report late Monday revealing the development of what it said would be "the world's fastest hypersonic wind [tunnel](#)".

"The 265-meter-long tunnel can be used to test hypersonic aircraft that can travel at speeds of up to Mach 25 (30,625 kph), 25 times the [speed](#) of sound," Han Guilai, a researcher with China's State Key Laboratory of High Temperature Gas Dynamics at the Chinese Academy of Sciences, was quoted as saying.

To compare, the current fastest generation of fighter jets can travel up to speeds of around 2.5 Mach.

The revelation comes as the world's leading military nations embark on a race to develop the next generation of hypersonic weapons, from missiles and spy planes to railguns, that can beat conventional defence systems.

Earlier this month Russia's president Vladimir Putin boasted his nation

had developed a [new generation](#) of "invincible" hypersonic missiles in his state of the nation address, sparking anger in the United States and other NATO countries.

While experts are deeply sceptical about how close to operational such a [missile](#) might actually be, US officials in recent weeks have sounded growing alarm about the potential threat from hypersonic weapons—defined as weapons that can travel at five times the speed of sound or more.

Such weapons can beat regular anti-missile defences as they are designed to switch direction in flight and do not follow a predictable arc like conventional missiles, making them much harder to track and intercept.

According to reports in the Japan-based Diplomat magazine, China has also developed—and last year tested—a new type of hypersonic missile called the DF-17.

Though the Pentagon is warning about hypersonics, the United States has itself been developing the technology for years.

The Air Force says its X-51A Waverider cruise missile, tested in 2012, could travel at speeds faster than Mach 6 (3,600 miles per hour, 5,800 kph).

The Xinhua report said the Chinese Academy of Sciences had already simulated a hypersonic plane flight in its current [wind tunnel](#) at speeds "ranging from Mach 5 and 9".

"The new tunnel will aid the engineering application of [hypersonic technology](#) by duplicating the environment of extreme hypersonic flights. Once issues are discovered during these ground tests, they will be ironed out before test flights begin," Han was quoted as saying.

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