

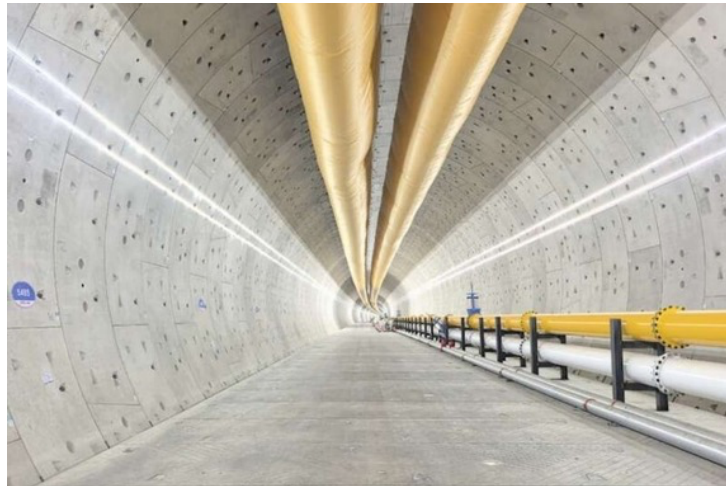
1 April 2026 - How China is building faster high-speed railways using vast underwater tunnels

China is building new high-speed rail lines that dive underneath major waterways, providing fast services without disrupting shipping traffic

<https://www.scmp.com/economy/china-economy/article/3348533/how-china-building-faster-high-speed-railways-using-vast-underwater-tunnels>

Ralph Jennings

Ralph Jennings joined the Political Economy desk as a Senior Reporter in August 2022 having worked as a freelancer since 2011. Ralph previously covered news for Thomson Reuters in Taipei and for local newspapers in California. He graduated from University of California, Berkeley with a bachelor's degree in mass communication.



China has finished digging the underwater section of a high-speed rail tunnel stretching more than 14km (9 miles) under a busy segment of the Yangtze River, as the country increasingly turns to vast subterranean passages to expand its railway network.

The tunnel beneath China's longest waterway, which will link Shanghai's Chongming Island with Taicang city in neighbouring Jiangsu province, is on track to be completed by the end of the year, state broadcaster CCTV reported.

The project will allow trains to hurtle through the tunnel at 350km/h (217mph), enabling faster connections between cities on China's populous eastern coastline and Hefei, the capital of nearby Anhui province, according to state media reports.

It is part of a new high-speed railway that will eventually stretch 2,000km westwards to Chengdu – a flagship project in China's [latest five-year plan](#) that will reportedly involve a total investment of more than 500 billion yuan (US\$72 billion).

A tunnel boring machine emerged from the Yangtze shoreline on Sunday, after spending nearly two years punching a passageway with a 15-metre (49-foot) diameter under the river, according to People's Daily. The tunnel is the longest of its kind ever constructed in China, it added.

Long underwater railway tunnels are becoming more common in China, as the country focuses on [creating efficient, integrated cross-regional transport networks](#). The country has at least six such tunnels on the books so far.

"We are now at a stage where transport integration is prioritised, so various means of transport need to take one another into account," said David Feng, an independent Chinese railway specialist.

In Shanghai, for example, the tunnel will ensure the railway avoids the [busy shipping lanes on that segment of the river](#), allowing trains to maintain speed even as they cross the waterway, according to Feng.

"It goes underneath a main artery of navigation on the Yangtze – think supersized ships that need to pass through," he said.

China already has high-speed rail lines connecting Shanghai, Chengdu and the southwestern metropolis of Chongqing. But a new, faster railway will still add value due to the sheer scale of the cities' economies and populations, Feng suggested.

"Given how important these conurbations are, there's every need for a wholly new, separate 350km/h route," he said. "Part of this line at the far western end has in fact been primed for future 400km/h operations."

China [has set a goal of expanding](#) its high-speed rail network by 19 per cent within the next five years. By 2030, the national railway operator aims to run a network spanning 180,000km, with one-third of that made up of high-speed lines, according to a blueprint released in January. Tunnels are playing a key part in that expansion, with several of the projects involving record-breaking feats of engineering.

In Zhejiang, a province just south of Shanghai, a subsidiary of China Railway Construction is building the world's longest undersea high-speed rail passageway, which stretches 16.3km at depths of up to 64 metres.

In southern China's Guangdong province, a tunnel boring machine dived 106 metres below the Pearl River estuary as part of a project for the Shenzhen-Jiangmen Railway, setting a world depth record.

The Yangtze River tunnel, meanwhile, used what domestic media outlets described as the world's largest-diameter shield machine for boring underground high-speed rail passageways. The machine, which was designed and built in China, is 148 metres long and weighs some 4,000 tonnes.

The state-owned China Railway Tunnel Group is building the tunnel.

More than 200 pieces of large-scale equipment were developed for the bridge and tunnel projects along the new Shanghai-Chongqing-Chengdu line, according to CCTV.