Japan's maglev train breaks world speed record with 600km/h test run

Seven-car ‘magnetic levitation’ train hits top speed of 603km/h less than a week after breaking the 2003 record of 581km/h

 Yasukazu Endo, the head of the research centre run by Central Japan Railways, discusses the new maglev train.

[**Justin McCurry**](https://www.theguardian.com/profile/justinmccurry)**in Tokyo** Tuesday 21 April 2015

Japan has again demonstrated its prowess in high-speed rail travel with its state-of-the-art maglev train setting a world record of just over 600km/h (373mph), just days after it broke its previous 12-year-old record.

The seven-car maglev – short for “magnetic levitation” – reached a top speed of 603km/h on Tuesday during what officials described as a “comfortable” zip along a test track near Mount Fuji.

The Lo Series train, carrying 49 Central [Japan](https://www.theguardian.com/world/japan) Railway employees, covered 1.8km in just under 11 seconds at over 600km/h, the company said.

“The ride was comfortable and stable,” Yasukazu Endo, the head of the Maglev Test Centre, told the Asahi Shimbun newspaper. “We would like to continue analysing data and make use of it in designing the cars and other equipment.” The new record came less than a week after the train reached 590km/h, breaking its own 2003 record of 581km/h.

The planned top speed of Britain’s HS2 high-speed rail link, by contrast, will be about 400km/h. The maglev hovers 10cm above the tracks and is propelled by electrically charged magnets.

But fare-paying passengers face a long wait before they can experience the thrill of travelling at speeds that surpass even those managed by Japan’s vaunted [shinkansen bullet train service](https://www.theguardian.com/cities/2014/sep/30/-sp-shinkansen-bullet-train-tokyo-rail-japan-50-years), whose latest models whisk people between the main cities at speeds of up to 320 km/h.

There are concerns about the cost of building the infrastructure for a commercial maglev service, planned to go into operation by 2027, between Tokyo and Nagoya, 286km away. The service, which would run at a top speed of 500km/h, is expected to connect the two cities in 40 minutes, less than half the present journey time in a shinkansen, which celebrated its 50th anniversary last year.

By 2045 maglev trains are expected to cover the 410km between Tokyo and Osaka in one hour and seven minutes, cutting the journey time in half. But estimates put construction costs at nearly $100bn (£67bn) for the Tokyo-Nagoya stretch, with more than 80% of the route expected to go through costly mountain tunnels.

Despite the hefty price tag, Japan is hoping to sell its high-speed rail technology overseas as part of an attempt to revive the world’s third-biggest economy through infrastructure exports.

During his visit to the US later this month, the prime minister, Shinzo Abe, is expected to promote the construction of a high-speed rail link between New York and Washington, using Japanese technology. Reports have said Japan is willing to help finance the project.

**ANSWER THE QUESTIONS**

1. What is the meaning of maglev? How does this sytem work?

2. When is it expected to be into operation? What is its main problem?

3. What are the advantages of the rail as a transport system for passengers and freight?