

# Interview with Rajendra Prasad

“The HSR project will foster growth”

A game changer for the country, the government's flagship high speed rail (HSR) project is aimed at transforming the rail network by increasing passenger train speeds and incorporating world-class technologies. In an interview with *Indian Infrastructure*, Rajendra Prasad, managing director, National High Speed Rail Corporation Limited (NHSRCL), shares his views on the progress of the project...

## What has been the progress on the HSR project so far?

The Mumbai-Ahmedabad HSR (MAHSR) corridor is India's first HSR corridor, which will provide high speed connectivity between the two key financial hubs in Maharashtra and Gujarat. The project spans 508 km. This comprises 465 km of viaducts, 10 km of bridges, 26 km of tunnels (including a 7 km-long undersea tunnel) and 7 km of embankments. The route will transverse 12 stations - eight in Gujarat (Vapi, Bilimora, Surat, Bharuch, Vadodara, Anand, Ahmedabad and Sabarmati) and four in Maharashtra (Mumbai, Thane, Virar and Boisar). The trains will have an operational speed of 320 km per hour, and the entire journey can be completed in about 2.07 hours, with limited stops at Surat, Vadodara and Ahmedabad.

All civil contracts for the project have been awarded. The first civil contract for the construction of 237 km of viaducts, including four HSR stations (Vapi, Bilimora, Surat and Bharuch) and the Surat rolling stock depot in Gujarat, was awarded in October 2020. This is also the largest civil contract to be awarded in India. The last civil contract, for the construction of 135 km of viaducts with three HSR stations (Thane, Virar and Boisar) in Maharashtra, was awarded in July 2023. Work on the 352 km section in Gujarat is currently in full swing. More than 80 km of viaduct construction has been completed. Work on the Maharashtra stretch has also begun. There are 24 river bridges on the entire stretch. As of August 2023, the construction of five river bridges - Par, Purna, Mindhola and Ambika in Navsari district, and Auranga in Valsad district - has been completed. The longest river bridge, spanning 1.2 km, is being constructed over the

Narmada river in Gujarat, while a 2.28 km long bridge will be constructed on Vaitarna river in Maharashtra. As of June 2023, an expenditure of Rs 456.21 billion has been incurred on the project.

## What role are technological innovations playing in the project?

One of the best global HSR technologies, the Japanese Shinkansen technology, has been selected for the MAHSR corridor. The Shinkansen system has one of the highest safety levels in the world. There have been zero passenger fatalities since the launch of the first Shinkansen train in Japan in 1964. Other technologies such as LiDAR, and static refraction topography, aerodynamically designed HSR trains with advanced signalling and communication and continuous automatic train control systems will also be deployed.

## What innovative construction technologies have been deployed or are being considered?

To expedite viaduct construction, the full span girder launching method is being used, besides the segmental launching method. Indigenously designed and manufactured equipment and machinery, such as straddle carriers, girder launchers and transporters, are also being used. This technology is about ten times faster than conventional segment launching technology. The project also involves the construction of India's first twin-track undersea rail tunnel spanning 7 km at Thane Creek. Three tunnel boring machines and the New Austrian Tunnelling



Method will be used.

## What are the opportunities for indigenous solution providers and manufacturers?

The combination of Japan's technology and India's expertise in producing world-class parts are a boon for the project. As part of the transfer of technology, training is being

imparted by Japanese experts for track construction. Further, over 400 Indian officials and train drivers will be given extensive training in Japan. The project has generated employment opportunities for up to 45,000 people during the construction phase, and will generate 4,000 direct employment opportunities in the O&M phase. About 28 steel bridges have been planned along the length of the corridor. The opening up of the steel fabrication segment to Indian players will give a boost to the Indian steel industry and reduce costs.

## What are the future plans and focus areas?

As part of the National Infrastructure Project, seven HSR corridors have been identified for which the work of preparing detailed project reports has been entrusted by the Ministry of Railways to NHSRCL. These include: Delhi-Lucknow-Varanasi (813 km), Varanasi-Patna-Howrah (752 km), Delhi-Jaipur-Udaipur-Ahmedabad (872 km), Delhi-Chandigarh-Ludhiana-Jalandhar-Amritsar (476 km), Nagpur-Nashik-Mumbai (767 km), Mumbai-Pune-Hyderabad (671 km), and Chennai-Bengaluru-Mysore (464 km). ▀