

## बुलेट ट्रेन के 'पावर' के लिए अनुबंध

■ विस, मुंबई : मुंबई अहमदाबाद  
हई-स्पीड रेल परियोजना द्वारा  
विद्युत कार्यों को अंजाम देने के लिए  
मैसर्स सोजिट्ज एंड एलएडटी  
कंसोर्टियम के साथ अनुबंध पर  
हस्ताक्षर किए गए। इसमें बुलेट  
ट्रेन की 320 कि.मी./घंटा तक की  
गति के लिए उपयुक्त 2 x 25 केवी  
विद्युतीकरण प्रणालियों के डिजाइन,  
उत्पादन, आपूर्ति, निर्माण-कार्य,  
स्थापना, परीक्षण और कमीशनिंग  
के साथ जापानी शिकानसेन  
सिस्टम-आधारित ट्रेक्शन पावर  
सप्लाई शामिल हैं।

# Electrification deal for bullet train inked

**Revolutionising India's rail network with Japanese technology and efficient collaboration**

KAMAL MISHRA / Mumbai

In a significant move towards the Mumbai Ahmedabad High-Speed Rail (MAHSR) Project's realisation, the National High-Speed Rail Corporation (NHSRCL) marked a pivotal moment on February 8th by signing a contract agreement with M/s Sojitz & L&T Consortium. "This collaboration is set to execute electrical works under the EW-1 package, laying the foundation for the electrification of the high-speed rail corridor" said an official.

The agreement encompasses design, manufacture, supply, construction, installation, testing, and commissioning of a state-of-the-art 2 x 25 kV electrification system, tailored for speeds up to 320 km/h. Leveraging the renowned Japanese Shinkansen technology the EW-1 works will include components such as 14 Traction Substations (TSS), 11 Sectioning Posts (SP), 19 Sub-Sectioning Posts (SSP), and 1 Auto Transformer Post (ATP).

Covering 508 route km of double line, the Overhead Equipment (OHE) will be complemented by infrastructure in Surat, Sabarmati, and Thane. Under this agreement, a comprehensive Distribution System with an 11 kV backbone and over 125 substations will be established, accompanied by the construction of associated civil utility buildings, training institute equipment, and other essential elements. This expansive scope of work covers the entire MAHSR corridor, encompassing approximately 508 km.

This partnership signifies not only efficient collaboration but also heralds the incorporation of cutting-edge Japanese technology in India's first bullet train project.

As the project progresses, it aims to redefine travel experiences, offering passengers a swift and advanced mode of transportation. The successful implementation of the electrification works under the EW-1 package paves the way for future milestones



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— Project official

in this ambitious endeavour, marking a historic chapter in the evolution of India's high-speed rail network.

The signing ceremony, attended by key stakeholders such as the managing director of NHSRCL, directors, senior officers of NHSRCL, and representatives from the Ministry of Land, Infrastructure, Transport and Tourism of Japan (MLIT), Japan International Cooperation Agency (JICA), Japanese embassy, and Japan HSR Electric Engineering Company, signifies a strengthened partnership between India and Japan.

Construction of the Bandra Kurla Complex (BKC) Bullet Train Station progresses swiftly with 681 workers on-site. The 48-hectare site employs bottom-up construction methods, with excavation at 32 meters depth. A robust ground support system ensures safety, featuring 3382 secant piles ranging from 17 to 21 meters in depth and soil anchors at specific depth. As the project advances, the BKC bullet train station stands as a testament to engineering prowess and collaborative effort in India's infrastructural development.

# NHSRCL signs agreement for bullet train electrical work

TIMES NEWS NETWORK

**Ahmedabad:** The National High Speed Rail Corporation Limited signed the agreement for executing electrical works on the Ahmedabad-Mumbai High-Speed Rail Project.

NHSRCL officials said that the company awarded the contract will execute works include the design manufacture, supply, construction, installation, testing and commissioning of 25 kV Electrification Systems suitable for speeds up to 320 km/hour. Also the company Sojitz & L&T Consortium which signed the agreement would be involving Japanese Shinkansen system-based traction power supply.

The NHSRCL officials said that the land required for constructing the BKC station, which is about 4.8 hectares, has been handed over to the contractor by NHSRCL.

The station will be built using the bottom-up method, which means that excavation work will commence from the ground level and concrete work will start from the foundation. The excavation requi-



red for the station is quite extensive, reaching a depth of 32 meters, with an approximate volume of around 18 lakh cubic meters. To safely carry out such deep excavation, a ground support system must be constructed to prevent the soil from collapsing. The excavation in the station area has begun. Currently, there are 681 laborers and supervisors on-site working day and night. This number is expected to increase as the project advances. According to estimates, the maximum workforce required per day during peak times may reach up to 6000 individuals.

The NHSRCL officials said that to construct this tunnel in Maharashtra, TBMs with a cutter head of 13.6 Meter diameter will be used. Usually 5-6 Meter

Diameter cutter heads are used for urban tunnels used in MRTS – Metro system. Three Tunnel Boring Machines will be used to make about 16 km of the tunnel portion and the remaining 5 km will be through New Austrian Tunnelling Method (NATM).

This tunnel will be about 25 to 57 Meters deep from the ground level and the deepest construction point will be 114m below the Parsik hill near Shilphata. Three shafts at Bandra Kurla Centre Vikhroli, and Sawli at approximate depths of 36-, 56- and 39-Meter depths respectively will facilitate the construction. Inclined Shaft of 42 Meter at Ghansoli and Tunnel portal at Shilphata will facilitate the construction of approx. five km of tunnel through NATM tunnelling method.

2 गुणा 25 केवी विद्युत से 320 किमी प्रति घंटे की रफ्तार से दौड़ेगी बुलेट ट्रेन

## बुलेट ट्रेन परियोजना के विद्युतीकरण कार्यों के अनुबंध समझौते पर हस्ताक्षर

पत्रिका

पत्रिका न्यूज नेटवर्क  
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सूरत. मुंबई अहमदाबाद हाई-स्पीड रेल परियोजना (एमएचएसआर) द्वारा ईडब्ल्यू-1 पैकेज के तहत विद्युत कार्यों के लिए एक अनुबंध समझौते पर हस्ताक्षर किए गए। इसमें मैसर्स सोजिट्ज एंड एल एंड टी कंसोर्टियम के साथ एमडी एनएचएसआरसीएल, निदेशकों, एनएचएसआरसीएल के वरिष्ठ अधिकारी और एमएलआईटी जापान

(भूमि, बुनियादी ढांचे, परिवहन और पर्यटन मंत्रालय), जेआईसीए (जापान अंतर्राष्ट्रीय सहयोग एजेंसी), जापानी दूतावास और जापान एचएसआर इलेक्ट्रिक इंजीनियरिंग कंपनी के प्रतिनिधि शामिल रहे। अनुबंध समझौते पर हस्ताक्षर से जापानी शिकानसेन प्रौद्योगिकी पर आधारित भारत में पहली बुलेट ट्रेन संचालन और बेहतर सहयोग के लिए एक मानक स्थापित होंगे। ईडब्ल्यू-1 कार्यों में



320 किमी प्रति घंटा तक की गति के लिए उपयुक्त 2 गुणा 25 केवी विद्युतीकरण प्रणालियों के डिजाइन, उत्पादन, आपूर्ति, निर्माण-कार्य,

### कॉरिडोर पर लगेंगे कई उपकरण

इसमें लगभग 508 किलोमीटर के पूरे एमएचएसआर कॉरिडोर के लिए, 14- ट्रेक्शन सबस्टेशन (टीएसएस), 11- सेक्शनिंग पोस्ट (एसपी), 19- सब-सेक्शनिंग पोस्ट (एसएसपी), और 1 ऑटो ट्रांसफार्मर पोस्ट (एटीपी), ओवरहेड उपकरण (ओएचई) शामिल हैं। मेनलाइन के

508 रूट किमी, डबल लाइन और 3 डिपो सूरत, साबरमती और ठाणे, 11 केवी बैकबोन और 125 से अधिक सबस्टेशनों और एसोसिएटेड सिविल यूटिलिटी बिल्डिंग्स, प्रशिक्षण संस्थान उपकरण, के साथ विस्तृत वितरण प्रणाली आदि शामिल हैं।

स्थापना, परीक्षण और कमीशनिंग के साथ जापानी शिकानसेन सिस्टम-

आधारित ट्रेक्शन पावर सप्लाय शामिल हैं।

## Rail Journal

### High-speed

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Written by Srinand Jha

## Mumbai - Ahmedabad high-speed electrification contract awarded

A consortium of Japanese company Sojitz and Larsen & Toubro have won the contract as momentum builds on the flagship high-speed project.



*Photo Credit: NHSRCL*

A consortium of Sojitz of Japan and Larsen & Toubro (L&T) of India has been awarded a Rs 108.6bn (\$US 1.32bn) contract for electrification of the entire 508km Mumbai - Ahmedabad high-speed line.

The new managing director of National High Speed Rail Corporation (NHSRCL), Mr Vivek Kumar Gupta, observed the EW-1 works contract signing by Mr Prashant Mishra, NHSRCL's executive director (electrical), with representatives of Sojitz and L&T on February 8.

The EW-1 contract encompasses the design, manufacture, supply, construction, installation and commissioning of 25kV electrification systems suitable for speeds of up to 320km/h.

The system will be based on Japanese Shinkansen traction power supply systems. NHSRCL says that the contract involves the construction of 14 traction substations, 11 sectioning posts and an auto-transformer post, as well as 508 route-km of OHLE for double track.

Three OHLE maintenance depots will be constructed at Surat, Sabarmati and Thane. The contract also includes installing a power distribution system with an 11kV backbone, more than 125 substations and associated utility buildings. The contractors will also provide equipment for the related training facility.

Momentum builds



With this development, the Mumbai Ahmedabad High Speed Rail (MAHSR) project has moved to a new stage.

Since June 2023, the project has picked up pace, with previous issues that had held up development, including land acquisition, seemingly overcome.

NHSRCL is targeting the start of trials on a 50km section from Surat to Bilimora in Gujarat state for 2026. The Gujarat stretch of the line is expected to open by 2028, while entire line should follow a couple of years later, officials state.

All civil works contracts have now been awarded for the project. This includes the underground high-speed station at the Bandra-Kurla complex in Mumbai and the 21km tunnel that will connect the Bandra-Kurla complex with Mumbai, Shilphata and Thane in

Maharashtra state. The tunnel includes a 7km-long undersea section beneath Thane Creek.

“With the project now moving to the next stage of the creation of energy infrastructure, it will become possible to start testing equipment,” says an NHRCL official.

NHRCL expects to award the signalling and telecoms (EW-2) contract this year, after which rolling stock procurement will be finalised, officials say. NHRCL issued a tender for the supply of 24 E5 series Shinkansen trains in July 2023. Hitachi Rail and Kawasaki Heavy Industries are frontrunners for the contract, which is limited to Japanese suppliers under the funding agreement for the project.

Project costs are understood to have risen from the original Rs 1.1 trillion (\$US 13.34bn) to Rs 1.65 trillion. NHRCL officials say it will only be possible to calculate the true revised cost after the award of all contracts for the project.

मुंबई और अहमदाबाद के बीच प्रस्तावित बुलेट ट्रेन

## बुलेट ट्रेन प्रोजेक्ट के विद्युतीकरण कार्यों के लिए एमओयू



पत्रिका न्यूज नेटवर्क  
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**वडोदरा.** मुंबई और अहमदाबाद के बीच प्रस्तावित बुलेट ट्रेन प्रोजेक्ट के विद्युतीकरण कार्यों के लिए अनुबंध समझौते पर हस्ताक्षर किए गए। मुंबई-अहमदाबाद हाई-स्पीड रेल प्रोजेक्ट (एमएचएसआर) की ओर से ईडब्ल्यू-1 पैकेज के तहत विद्युत कार्यों के लिए मेसर्स सोजिट्ज एंड एल एंड टी कंसोर्टियम के साथ एमओयू किया गया। इस अवसर पर एनएचएसआरसीएल के एमडी, निदेशकों, वरिष्ठ अधिकारियों और जापान की भूमि, बुनियादी ढांचे, परिवहन और पर्यटन मंत्रालय, जापान



अंतर्राष्ट्रीय सहयोग एजेंसी, जापानी दूतावास और जापान एचएसआर इलेक्ट्रिक इंजीनियरिंग कंपनी के प्रतिनिधि उपस्थित थे। जापानी शिकानसेन प्रौद्योगिकी पर आधारित

भारत में पहली बुलेट ट्रेन चलने वाली है। ईडब्ल्यू-1 कार्यों में 320 कि.मी. प्रति घंटा तक की गति के लिए उपयुक्त किलोवाट विद्युतीकरण प्रणालियों के डिजाइन, उत्पादन, आपूर्ति, निर्माण-

कार्य, स्थापना, परीक्षण और कमीशनिंग के साथ जापानी शिकानसेन सिस्टम-आधारित ट्रैक्शन पावर सप्लाय शामिल हैं। करीब 508 किलोमीटर के पूरे एमएचएसआर कॉरिडोर के लिए 14 ट्रैक्शन सबस्टेशन (टीएसएस), 11 सेक्शनिंग पोस्ट, 19 सब-सेक्शनिंग पोस्ट, 1 ऑटो ट्रांसफार्मर पोस्ट ओवरहेड उपकरण शामिल हैं। इसमें मेनलाइन, डबल लाइन और सूरत साबरमती और ठाणे डिपो, 11 केर्व बैकबोन और 125 से अधिक सबस्टेशन और एसोसिएटेड सिविल यूटिलिटी बिल्डिंग्स, प्रशिक्षण संस्थान उपकरण के साथ विस्तृत वितरण प्रणाली आदि शामिल हैं।

