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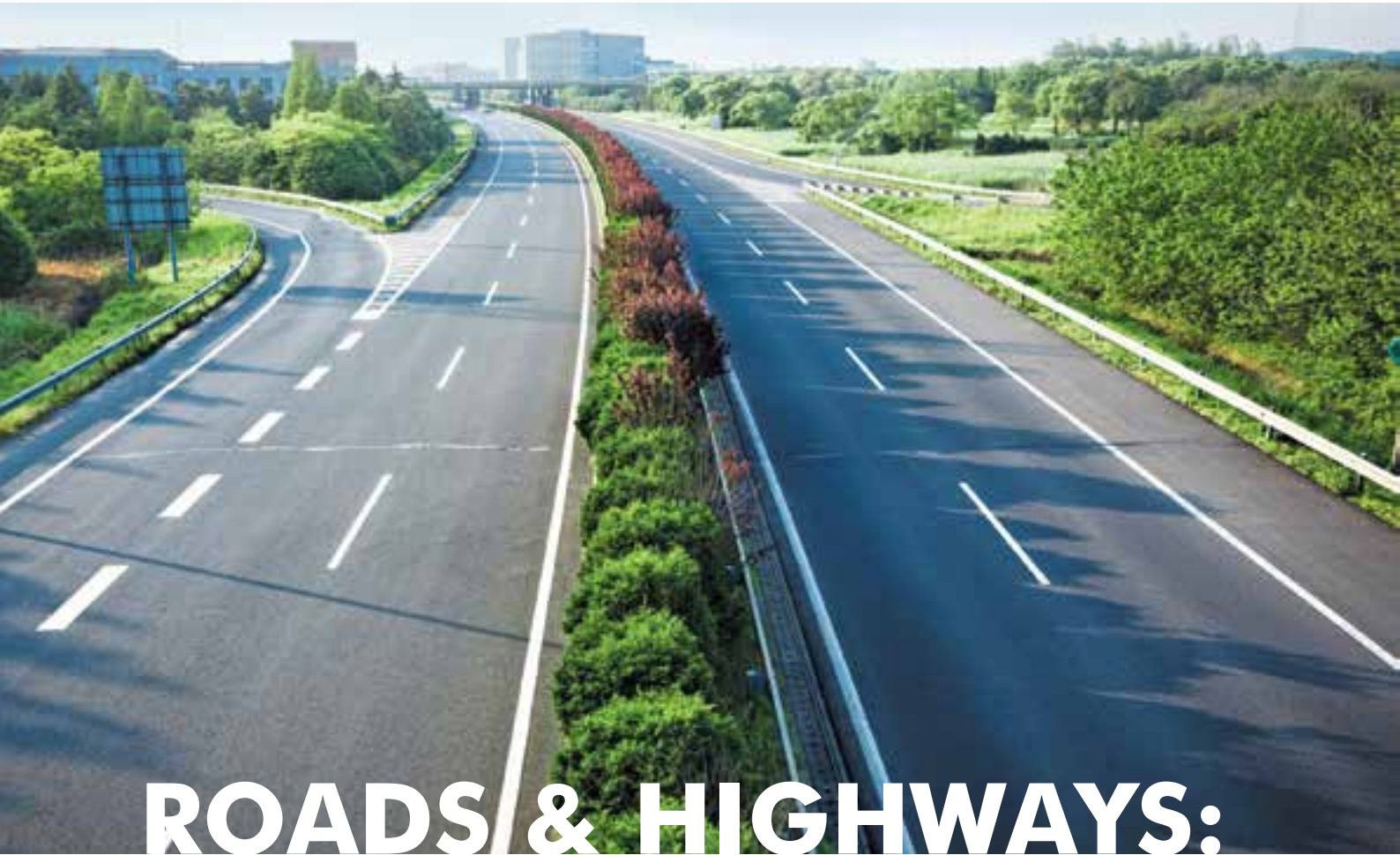
ROADS and HIGHWAYS

--- THE ROAD AHEAD...



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ROADS & HIGHWAYS: The Road Ahead

The Indian roads and highways sector is gaining momentum after a lull in the past couple of years. However, in order to achieve the ambitious target set by the government in roads and highway projects, there is a holistic approach needed from all the stakeholders. **Construction Times** explores the way forward.

There is always room to do more as India has set a target to add 25,000 km more of national highways during the year 2022-23 as per the Union Budget proposal and a total of 2 lakh km of national highway network by 2025. The speed of construction needs to be scaled up considerably to meet the execution target.

CURRENT SCENARIO

During the last five years there has been a significant growth in the road transportation network. Various government-sponsored schemes such as the National Infrastructure Pipeline (NIP), Bharatmala and Pradhan Mantri Gram Sadak Yojana introduced in the past have pushed the development of road development in the country.

In highways segment, total 22 Greenfield

highways (5 Expressways comprising length of 2,485 km with cost of Rs. 1,63,350 crore and 17 Access Controlled Highways comprising length of 5,816 km with cost of Rs. 1,92,876 crore) have been envisaged for development. Three sections of the Delhi Mumbai Expressway i.e., Delhi-Dausa-Lalsot (Jaipur) (214 km), Vadodara-Ankleshwar (100 km) and Kota-Ratlam-Jhabua (245 km) are planned for completion by March 2023, according to MoRTH.

OPPORTUNITIES GALORE!

Government's mega plans of roads and highways development have open up huge opportunities for contractors and technology providers in the country to create advanced highway infrastructure to cater to the growing transportation needs.

Speaking on the government's highway

development plans, **Harendra Singh, Chairman and Managing Director, H.G. Infra Engineering,**



HARENDRA SINGH
Chairman & MD
H.G. Infra Engineering

says, "There are tremendous opportunities, given the government's ambition to augment national connectivity, functionality, and sustainability. Its initiative to build 25,000 km national highway in FY23 provides companies like HG Infra visibility into future bidding activities. Furthermore, the Indian Government's master plan to build a highway network of approximately 200,000 km over the coming three years will add to the construction opportunities."

Recently, the **Union Minister for Road Transport and Highways Nitin Gadkari** has said the government is committed to expanding the national highways (NHs) network across the country with the aim of constructing 18,000 km of NHs in 2022-23 at a record speed of 50 km per day. According to him, the overall target is to develop 2 lakh km of national highway network by 2025. This is challenging not only for the contractors but also the entire highway construction value chain.

Finance Minister **Nirmala Sitharaman** in the Union Budget 2022 has proposed to expand the national highway network by 25,000 km in 2022-23. According to **Santosh Rai, Operations Director & Chief Business Officer, HCC,** this seems to be an



SANTOSH RAI
Operations Director &
Chief Business Officer
HCC

optimistic target because adding 25,000 km means the MoRTH has to build ~70 km of roads per day, which is significantly higher than the anticipated 40 km per day set for 2021-22. "As per MoRTH data, 1,307 km of roads had been constructed till May 2022, compared to 1,407 km in the same period last fiscal. Awards till May 2022 are also down with 697 km compared to 974 km in the same period last fiscal year. This puts further pressure on the remaining months to achieve the ambitious target of 25,000 km. At the same time, it would mean plenty of opportunities for the companies engaged in the sector," he adds.

On June 7, 2022, the Pune-based construction

company **Rajpath Infracon** entered the Guinness Book of World Records by paving the longest stretch of bituminous concrete road on NH6 between Amravati and Akola. Responding to this rare achievement, **Jagdish Kadam, Managing Director, Rajpath Infracon,** says, "Yes, the challenge was



JAGDISH KADAM
Managing Director
Rajpath Infracon

intimidating, but our spirits were dauntless, and our resolve unyielding too. We knew what we had set to achieve, and had the will too, so the way opened itself for us to reach the 75+ km mark in 105 hours, as planned. Earlier, our PM had called upon the citizens of India to dedicate 75 hours to the progress of the nation on the occasion of Azadi Ka Amrit Mahotsav. We decided to give our work a dash of the extraordinary by paving 75 km of bituminous concrete continuously, making a new Guinness World Record, and offering this to our nation in response to our PM's clarion call, to commemorate the 75 grand years of Indian independence."

RURAL ROADS SCENARIO

The rural roads sector has evolved over the years with implementation of various projects under the Pradhan Mantri Gram Sadak Yojana (PMGSY). More than 7 lakh km road length and more than 6,000 bridges completed under PMGSY. Under PMGSY-I, more than 6 lakh km road length have been completed, while under PMGSY-II it is more than 46,000 km and under PMGSY-III, 33,965 km, apart from 5,608 km under Road Connectivity Project of Left Wing Extremism affected Areas (RCPLWEA). Three-tiered quality control mechanism is being followed for ensuring construction of quality road works and durability of road assets under PMGSY.

CONSTRUCTION EQUIPMENT AND TECHNOLOGY

Roads and highways has been one of the most vibrant markets in Indian infrastructure sector. The recent mega development plans announced by the government has created a huge demand for road construction equipment.

"Roads and highway projects continue to be India's most significant growth drivers. The Ministry of Road Transport and Highways (MoRTH) aims to develop two lakh kilometres of the National Highway Network by 2025. The objective is to create world-class road infrastructure in a time-bound and target-oriented manner. This year MoRTH aims to construct a record 13,000 km of highways and is also



The roads & highways sector is witnessing keen interest from multiple foreign investors.

HARENDRA SINGH

Chairman and Managing Director, H.G. Infra Engineering

The government plans to expand the highway network by 25,000 km in 2022-23 as per the Union Budget 2022. What is your view on this in the current market scenario? What opportunities and challenges do you foresee in achieving this target?

India's infrastructure has been developing dynamically in recent years. Infrastructure is a critical component in achieving long-term growth objectives. The government has demonstrated a concentrated approach by focusing on infrastructure and development projects.

There are tremendous opportunities, given the government's ambition to augment national connectivity, functionality, and sustainability. Its initiative to build 25,000 km national highway in FY23 provides companies like HG Infra visibility into future bidding activities. Furthermore, the Indian Government's master plan to build a highway network of approximately 200,000 km over the coming three years will add to the construction opportunities.

Overcoming any obstacle necessitates a comprehensive approach, as well as an understanding of the industry's ever-changing dynamics. The project parameter determines the potential bottlenecks in attaining the target. The willingness to adopt new-age technologies at all levels will be one of the most important aspects in achieving the 25,000 km threshold. The progress may slow down in some highly monsoon-impacted areas.

What is the scenario of project funding in roads & highways? How is the support from government and private agencies?

There is active participation by the public and private players in finding new-age methods to fund highway construction projects.

Over the past few years, NHAI has been opting for newer approaches to fund projects. Asset monetisation via ToT, NHAI InvIT, allowing early change of ownership, and the toll securitisation model are many of the few ways opted for. The appetite of investors is high, which gives visibility towards the successful monetisation and funding for highway projects. The sector is witnessing keen interest from multiple foreign investors, viz. CDPQ, CPP Investments, Cube Highways and many more. This investor and developers' collaboration is a major boost and creates a pathway for infra development.

The government will mobilise Rs 20,000 cr for this national highway expansion. How far will this help the developers and contractors in the project execution and completion of the project in time?

With the mobilisation of Rs 20,000 crores, the industry can envisage benefiting to a greater extent. With the required finance for the expansion of the projects, we can expect timely payments and timely completion of the projects, which indicates that there would be no cost and time overrun, hence leading to cost reduction.

What are the emerging technology trends in road construction equipment?

Roads are being constructed with both flexible and rigid pavement, depending on the traffic demand. Companies like HG Infra use technology like Echelon paving, 3D grades control software applications, plants with heavy-duty attachments, power feeders, soil stabilisers, and telematics systems to improve quality and productivity.

Also, the emerging trends embrace an extensive focus on sustainability. For example, the use of supplementary cementing material,

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use of plastic waste, C&D waste management, CTSB laying, uses of Paver IR, earthen shoulder with an impermeable material and other innovative measures that aim to decarbonise the construction industry.

What kind of digital and new-age technologies are gaining traction in road construction?


The sector's focus on digital transformation remains strong. The Ministry of Road Transport & Highways has been consistently pushing initiatives in the sector to promote the use of sustainable technologies. One such example is the Waste to Wealth mission. BIM (Building Information Modelling) is one such technology that is gaining traction. Usage of BIM goes beyond the process of creating and managing information for a built asset, typical planning and design phase of the project. It extends throughout the project lifecycle from planning and design to construction and operations. Additionally, in India, new technologies like vehicle detection, traffic violation control and surveillance, drone-based route surveillance, lane control systems, tunnel management systems, and weigh-in-motion are being implemented to ensure a smooth flow of traffic.

HG Infra places a high emphasis on having accurate and timely information, which benefits the execution of projects and the achievement of operational excellence. Throughout the year, we launched several innovative technological projects and solutions to improve our operating efficiency and lower down costs. Sensor-based fuel dispensing technology and a fuel level

management system are some of the many projects implemented.

What is your outlook on the Indian roads & highways sector? What could be the major trends to look for in future?

Infrastructure development plays an integral part in the survival of an array of industries. The sector is crucial to achieving PM's target to make India a 5 trillion-dollar economy. The ambitious target set by the Ministry to make India the infrastructure hub of the world, along with the increasing aggressive bidding opportunities pushes the infra companies to consistently improve their project execution capabilities and remain optimistic about future inflows. The recently achieved Guinness World Record in fastest road construction by building a 2.5 km 4-lane concrete road within 24 hours, a single lane of the four-lane stretch of 25.54 km being developed between Solapur-Vijapur (NH 52) in 18 hours and by laying 75 km of bituminous concrete road in a single lane in 105 hours indicates the sector's sheer perseverance to make Indian infrastructure world-class.

Additionally, we expect to see the tremendous focus of both the public and private sectors in ensuring to eliminate black spots, decongest major points, create accident-free national highways, adhere to the new environment, social, and governance (ESG) compliances, and contribute to the quality of infrastructure development via the Roads & Highways Minister Nitin Gadkari's proposed Innovation Bank. 

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