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AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

24 November 2026

Indian Highways Minister Calls for More Durable, Sustainable Road Construction

HIGHLIGHTS

- **India's Union Minister for Road Transport and Highways, Shri Nitin Gadkari, has called for quality, safety and durability to be the foremost priorities in Indian road construction.**
- **Priorities highlighted by the Minister included:**
  - **wider use of innovative and alternative materials, including recycled waste, where technically suitable, to reduce construction costs while improving quality;**
  - **greater accountability for construction quality; and**
  - **keeping Indian road standards aligned with global developments.**
- **Eden welcomes the Minister's focus on durability, which it considers positive for India's road network and for Eden, particularly in light of the positive EdenCrete®Pz7 results recently reported by the CSIR-Central Road Research Institute (CSIR-CRRI).**
- **As announced on 22 July 2026, laboratory trials by CSIR-CRRI, an Indian Government research laboratory, showed that very low dosages of EdenCrete®Pz7 (250–300 ml per m^3 of concrete) improved every strength and durability property tested in M40 and M60 paving-grade concrete, with no negative effects observed.**
- **Results particularly relevant to road pavements included, compared with control mixes:**
  - **up to 14% increase in flexural strength, the primary design parameter for rigid pavement slabs;**
  - **up to 28% reduction in abrasion loss; and**
  - **up to 25% reduction in drying shrinkage.**

- **Eden believes the Minister's priorities, together with the CRRI results, support its pursuit of having one or more of its EdenCrete® products adopted for new Indian highway construction and repairs, also in light of:**
    - **EdenCrete® approvals by the Departments of Transportation of numerous US states, and long-term use in US highway and bridge construction and repairs.**

DETAILS

On 19 November 2026, Union Minister for Road Transport and Highways Shri Nitin Gadkari called on engineers, contractors, consultants and policymakers to make quality, safety and durability the foremost priorities in road construction, and encouraged greater use of alternative materials, including recycled waste and bio-based materials, where technically suitable. He was speaking at the opening of the 85th Annual Session of the Indian Roads Congress (IRC) in Hyderabad (Press Information Bureau, Government of India, 19 November 2026).

Minister Gadkari emphasised reducing construction costs while improving quality, and reducing reliance on conventional resources. According to press reports, he also cautioned that a monopoly over certain materials can allow suppliers to act as a cartel and keep raising prices.

Key Materials and Technologies Highlighted by Minister Gadkari

- **Recycled & Industrial Waste.**
    - Minister Gadkari encouraged the use of plastic waste, used tyres, steel slag, municipal solid waste and agricultural residue in highway projects where technically suitable. He also highlighted bio-bitumen produced from rice straw, and encouraged further research and field trials of new materials.

Strategic Goals & Accountability

- **Quality, Accountability and Standards.**
    - Minister Gadkari stressed that quality, safety and durability must remain the foremost priorities, and that any compromise in construction quality must invite appropriate action. He called for greater accountability among contractors, consultants and engineers. He also urged the IRC to focus on implementing its codes and guidelines and to strengthen international cooperation, so that Indian standards keep pace with global developments.

Sources: Press Information Bureau, Government of India, 19 November 2026, https://www.pib.gov.in/PressReleasePage.aspx?PRID=2338683; The Hans India, 20 November 2026.

Eden Comment

Eden considers the Minister's emphasis on quality and durability positive for India, where durable roads mean fewer repairs and less disruption over a pavement's service life. Eden also considers it positive for Eden, in light of the CSIR-CRRI results for EdenCrete®Pz7.

CSIR-CRRI found that EdenCrete®Pz7 improved every strength and durability property tested, at very low dosages and therefore at a low cost per cubic metre of concrete. For road applications, the most relevant results are the increase in flexural strength, which CRRI identifies as the primary design parameter governing the thickness of rigid pavement slabs, and the improved abrasion resistance, which reduces surface wear from traffic.

CSIR-CRRI Laboratory Trials (see Eden's ASX announcement of 22 July 2026)

- CSIR-CRRI tested EdenCrete®Pz7 at 250 ml/m^3 in M40 and 300 ml/m^3 in M60 paving-grade concrete. Each EdenCrete®Pz7 mix was compared with an otherwise identical control mix. The CRRI final report concluded that EdenCrete®Pz7:
  - increased flexural strength by up to 14%, with a minimum improvement of approx. 11%;
  - reduced abrasion loss by up to 28%, with a minimum reduction of approx. 15%;
  - reduced drying shrinkage by up to 25%, with a minimum reduction of approx. 17%;
  - increased splitting tensile strength by up to approx. 5%;
  - slightly improved workability, with no significant effect on fresh or dry density; and
  - increased compressive strength by up to 19%.

Conclusion

Considering:

- the objectives and criteria that Minister Gadkari identified in his address, and
- the positive laboratory results for EdenCrete®Pz7 reported by CSIR-CRRI, a premier Indian Government national laboratory for road research, and
- the US state transportation department approvals and long-term use of EdenCrete® products in US highway projects,

Eden intends to actively pursue approval of its EdenCrete® products for use in new Indian highway construction and repairs, including by exploring field trials with CSIR-CRRI.

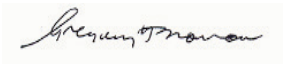
EdenCrete® Products Background

Eden's three EdenCrete® products are all 100% owned, proprietary nano-carbon-strengthened concrete additives that enhance a wide range of performance characteristics of the concrete. These benefits may include compressive strength, flexural strength, tensile strength, abrasion resistance, reduced permeability, increased modulus of elasticity, reduced shrinkage. Collectively, these benefits can deliver stronger, tougher, more durable and longer lasting concrete that has frequently been shown in a growing number of trials to result in longer service life and hence a lower life-cycle carbon footprint of the concrete.

EdenCrete®Pz and EdenCrete®Pz7 are most frequently (but not always) used in concrete mixes that incorporate higher percentages of pozzolans as an alternative cementitious material (including fly-ash and blast furnace slag, which are each waste by-products from coal fired power stations and metal smelting respectively, thereby each being treated, as a waste by-product, as having a zero Greenhouse Gas footprint from its production process).

As a result, EdenCrete®Pz and EdenCrete®Pz7 have repeatedly shown they enable a material proportion of the total Portland cement in concrete mixes to be replaced by the same percentage of pozzolans (which is usually cheaper and has a far lower Greenhouse Gas footprint) without any loss in performance of the concrete, resulting in a cheaper, comparable concrete mix with a reduced Greenhouse Gas footprint.

Since 2015, EdenCrete® products have been sold in the USA and more recently in a growing number of other countries. They have successfully and repeatedly delivered a wide range of benefits when incorporated into concrete used in many different applications, including low-rise, medium-rise and high-rise building construction, highways, roads and bridges, airports/ports/marine/coastal applications, bus stations, carparks, water pipes, hardstand areas, waste transfer stations, warehouses, shotcrete applications, stadiums, and pre-stressed and pre-cast concrete products.



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This announcement was authorised by the above signatory.
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Union Minister Shri Nitin Gadkari Calls for Greater Focus on Road Safety, Construction Quality and Sustainable Technologies

At the 85th Annual Session of the Indian Roads Congress in Hyderabad, Minister emphasises innovation, use of alternative materials, scientific planning and accountability in road infrastructure development

Posted On: 19 NOV 2026 6:43PM by PIB Delhi

Union Minister for Road Transport and Highways Shri Nitin Gadkari today addressed the 85th Annual Session of the Indian Roads Congress (IRC) in Hyderabad, Telangana, and called upon engineers, contractors, consultants and policymakers to work collectively towards improving the quality, safety, durability and sustainability of India's road infrastructure.

The event was attended by Telangana Chief Minister Shri A. Revanth Reddy, Minister for Roads and Buildings, Telangana, Shri Komatireddy Venkat Reddy, President IRC Shri L K Padhi, Director General (Road Development) & Special Secretary, Ministry of Road Transport and Highways, Shri Sudip Chaudhary, and Secretary General, Indian Roads Congress, Shri Rahul Gupta, among other dignitaries, senior government officials, engineers and industry representatives.

Congratulating the engineers, contractors and officials for their contribution to the development of the country's National Highway network, Shri Gadkari acknowledged their dedicated efforts and technical expertise. He emphasised that continuous upgradation of knowledge, research, innovation and adoption of global best practices are essential for developing future-ready infrastructure.

Highlighting the role of the Indian Roads Congress in setting technical standards for the road sector, the Minister noted that IRC has developed several technical codes, guidelines, manuals and publications that guide road infrastructure development in the country. He urged the organisation to strengthen international cooperation and facilitate greater exchange of knowledge, technology and successful practices to keep Indian standards aligned with evolving global developments.



Focus on Construction Quality and Road Safety

The Minister stressed that quality, safety and durability must remain the foremost priorities in road construction. He called for greater accountability among contractors, consultants and engineers and stated that any compromise in construction quality must invite appropriate action. He also emphasised transparent, time-bound and result-oriented implementation of highway projects.

Shri Gadkari underlined the need to improve the quality of Detailed Project Reports (DPRs), strengthen technical supervision and ensure effective implementation of road safety audits. He urged engineers to identify and rectify accident-prone locations through proper planning, improved junction design, and provision of flyovers and underpasses wherever required. Emphasising the importance of protecting human lives, he called for a collective commitment towards reducing road accidents and eliminating black spots through better engineering and design.

Innovation and Sustainable Construction Practices

Emphasising the need to reduce construction costs while improving quality, the Minister called for greater use of innovative and alternative construction materials. He highlighted the potential of plastic waste, used tyres, steel slag, municipal solid waste and agricultural residue in road construction, wherever technically suitable.

He also referred to the use of bio-bitumen developed from rice straw and highlighted the potential of research and field applications of alternative materials in promoting sustainable highway construction and reducing dependence on conventional resources.

The Minister encouraged wider adoption of alternative fuels and biofuels in construction equipment, including electric, ethanol, biodiesel, CNG, LNG and hydrogen-based technologies. He highlighted their potential to reduce pollution, lower dependence on imported fossil fuels and create additional opportunities for farmers through the diversification of agricultural produce towards the energy sector.

Shri Gadkari also called for greater use of treated wastewater in construction activities, particularly in view of increasing water stress. He highlighted the importance of recycling municipal waste and reusing available resources in infrastructure development. He further encouraged research into tree transplantation and plantation along highways to strengthen environmental protection.



Road Infrastructure as an Enabler of Economic Growth

The Minister highlighted the role of quality road infrastructure in improving connectivity, reducing travel time and logistics costs, and supporting trade, industry, agriculture and tourism. Referring to the Pradhan Mantri Gram Sadak Yojana, he underlined the importance of connecting rural areas through all-weather road networks to improve access to markets and economic opportunities.

He also stressed the need to explore innovative financing mechanisms, including public-private partnerships and monetisation of existing highway assets, to mobilise resources for infrastructure development.

Shri Gadkari urged the Indian Roads Congress to focus not only on developing technical standards and guidelines but also on their effective implementation across the country. He called for greater collaboration among the Central and State

Governments, research institutions, industry stakeholders and engineering professionals to address emerging challenges in the road sector.

The Minister expressed confidence that the deliberations at the 85th Annual Session would contribute to the development of safer, more durable, sustainable and technologically advanced road infrastructure in the country.



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GDH/DS

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