

Utilization of Iron Ore Tailings in Road Construction will pave the way from Mine Waste to Green Roads: Dr. N. Kalaiselvi, DG CSIR and Secretary, DSIR

CRRI and AMNS India Seal R&D Pact to explore utilization of iron ore tailings in road construction

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On the occasion of National Science Day Celebration in CSIR-Central Road Research Institute, a R&D pact is signed between India's premier Road Research Institute, CSIR-CRRI, and Steel major Arcelor Mittal Nippon Steel India to explore the utilization of iron ore tailings in road construction.

During this occasion, highlighting the importance of circular economy and waste to wealth conversion for green infrastructure development, **Dr. N. Kalaiselvi, Director General CSIR and Secretary DSIR, Ministry of Science and Technology**, emphasized that the potential utilization of **Iron Ore Tailings in Road Construction can pave the way from Mine Waste to Green Roads**. While lauding the institute for its pioneering work in converting waste materials such as steel slag for Steel Slag Road construction, Director General, CSIR highlighted that around 18–20 million tonnes of iron ore tailings are generated annually in the country from various iron ore beneficiation plants spread across Odisha, Chhattisgarh, and Karnataka. Iron ore tailings; pose environmental and economic challenges due to their large volumes. These tailings are stored in large dams and are commonly called as slimes.



Dr. N. Kalaiselvi, Director General CSIR and Secretary DSIR, Ministry of Science and Technology, addressing the gathering

This R&D pact will address the growing challenge of **iron ore tailing management** while simultaneously reducing the demand for natural aggregates in road construction. Through this initiative, researchers from CSIR–CRRI will undertake **laboratory investigations, material characterization, pavement design studies**, to evaluate the suitability of iron ore tailings in various pavement layers.



Exchange of MOA between Director CSIR-CRRI Dr. Ch. Ravi Sekhar and Dr. N. Vishwanathan Head, R&D AMNS India

The programme was graced by **Dr. Arvind Bodhankar, Chief Sustainability Officer, AMNS India**, as the **Chief Guest**, who emphasized the importance of industry–research partnerships in advancing circular economy principles and sustainable infrastructure development. He noted that the collaboration with CSIR-CRRI would help unlock the potential of industrial by-products for nation-building in line with the Sustainable Development Goal of green infrastructure development.



Felicitation of Chief Guest Dr. Arvind Bodhankar by DG CSIR and Secretary DSIR Dr. N.Kalaiselvi

Welcoming the dignitaries, **Dr. Ch. Ravi Sekhar, Director, CSIR-CRRI**, emphasized the Institute's commitment to developing **next-generation sustainable road technologies**. He stated that the new collaboration with AMNS India would enable scientific validation and field demonstration of iron ore tailings for road construction, further strengthening India's leadership in sustainable pavement technologies.

The initiative is being led by **Shri Satish Pandey, Head, Flexible Pavement Division, CSIR-CRRI**, who is also the inventor of **Steel Slag Road Technology**. He highlighted that systematic research, laboratory characterization, and valorisation of iron ore tailings would be undertaken to establish it as a substitute of good earth and natural aggregates in road construction.

The National Science Day celebration also showcased several breakthrough technologies developed by CSIR–CRRI for sustainable transportation infrastructure, including agri-waste-based bio-bitumen, steel slag-based rapid pothole repair technology ECOFIX, slag and fly ash-based thin TERASURFACING technology for periodic maintenance of roads, and waste plastic-based modular geocell for road construction, emphasizing the need of circular economy approaches for road construction.

The event was attended by the senior officials of AMNS India, including Section Head Raw Materials and By Product Mr. Gautam Banerjee, Chief Scientists of CRRI, comprising Dr. Vinod Karar, Head PME, Dr. K. Ravinder, Head, ILT, industry representatives, policymakers, and stakeholders from the road and steel sectors, highlighting the growing importance of **science-driven solutions for sustainable infrastructure development in India**.

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