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FOR PROJECT PROCUREMENT



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09-13 December 2025
BIEC, Bengaluru, India

Special Edition



2025 LEARNINGS

FOR BUYING HEAVY EQUIPMENT IN INDIA

Contractors in 2025 prioritise total cost of ownership over sticker price, shifting from global catalogues to locally built, digitally enabled, eco-compatible machines as Gati Shakti accelerates utilisation. Procurement now centres on uptime, lifecycle value, local supply-chain reliability, and strong after-sales ecosystems. With rising demand cycles, smart equipment, rentals, financing, and quality pre-owned options, flexible procurement strategies are essential.



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Terraform boosts mining reliability with smart integration and risk mapping

This interview reveals how Terraform is moving from reactive response to predictive groundwork, using proprietary AI analytics to interpret sensor data, forecast soil movement, and optimise vital road foundation grouting before ground failure can occur.

How does Terraform ensure new equipment and technology integrate smoothly with existing on-site operations and local teams?

We begin by involving the DPR stage in project completion to ensure the operational workflows and capabilities of equipment at the project site. We identify exactly where new technology will add value and how it can be aligned with ongoing activities without disruption. Our global associates work closely with site engineers to oversee installation, inspection, operations and troubleshooting. We also conduct hands-on training sessions to ensure every team member is confident with the new equipment, from safety protocols to operational efficiency. We

maintain continuous on-site support during the transition period and provide periodic check-ups and maintenance of equipment, and provide proper spare parts of equipment to improve performance. This enhances productivity, reliability, and overall project outcomes.

What is your core approach to evaluating and minimising subterranean geological risk before equipment procurement begins?

We analyse key parameters and project data supported by geophysical surveys and borehole data to understand geology. Based on these findings, we map out potential risks—ranging from equipment and tool selection, drilling challenges



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and environmental constraints. This allows us to match the project with the most appropriate technology, drilling equipment, and safety protocols.

In mining tailing ponds, how does dredging equipment cut emissions?

Dredging brings a more sustainable pathway to tailings-pond development and rehabilitation. By removing and treating the tailings directly within dredging, we significantly reduce heavy excavation fleets and long-haul truck movements, which are typically the largest contributors to fuel use and carbon emissions. Our dredging systems are designed to be energy-efficient, compact, and optimised for continuous operation, and help with deep dredging as well.

For road foundation grouting, what's your take on AI analytics for predictive soil shifts in variable monsoon zones?

AI-driven soil analytics is becoming indispensable for infrastructure projects in monsoon-impacted regions. By continuously interpreting sensor data, historical rainfall patterns, pore-pressure variations, and compaction behaviour, AI can predict soil



movement long before it impacts road foundations. For grouting applications, this means more accurate selection of grout mix design, optimised injection pressures and flow. In high-variability monsoon zones, ground behaviour shifts, but we turn uncertainty into a manageable, predictable parameter. We cannot fully depend on AI, but we can use AI for checking and comparing data. Effectively using AI to predict and analyse, and use expertise and human intelligence to counterweigh and deliver, will be the way forward.

In non-blast excavation for urban mining, what's a recent equipment model that's eased permitting in dense corridors?

In dense urban corridors, vibration limits and noise restrictions make blasting approvals increasingly difficult. One recent equipment enhancement that has significantly eased permitting is the adoption of hydraulic rock-splitting systems as a retrofit or attachment to existing



carriers. These systems allow controlled rock fragmentation through internal hydraulic pressure rather than explosive impact. The result is negligible vibration, minimal noise, and zero fly-rock, which directly supports regulatory compliance in metro rail, road tunnelling, urban ropeway

systems, utility zones, commercial districts, and heritage areas. We advise our clients on selecting and integrating these splitter systems along with the right drilling patterns and safety accessories so they can excavate without triggering complex blasting clearances. ■