Mind The Workforce Gap

With demand for 395,000 construction professionals by 2035, India must strengthen skills, technology adoption and project execution capabilities

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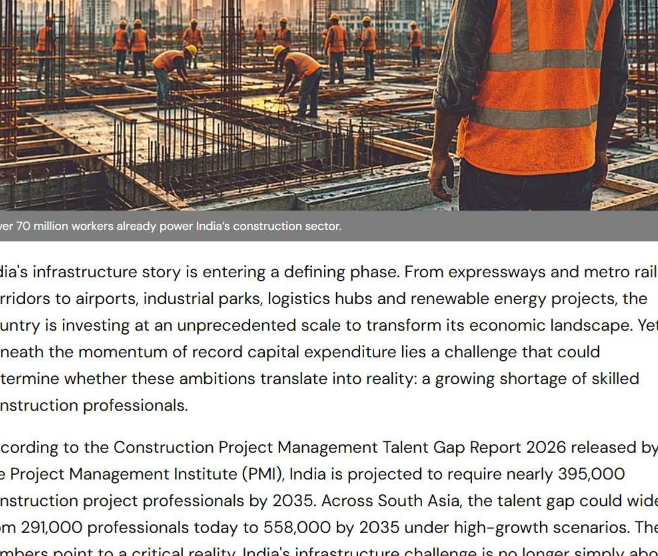
Over 70 million workers already power India's construction sector.

India's infrastructure story is entering a defining phase. From expressways and metro rail corridors to airports, industrial parks, logistics hubs and renewable energy projects, the country is investing at an unprecedented scale to transform its economic landscape. Yet beneath the momentum of record capital expenditure lies a challenge that could determine whether these ambitions translate into reality: a growing shortage of skilled construction professionals.

According to the Construction Project Management Talent Gap Report 2026 released by the Project Management Institute (PMI), India is projected to require nearly 395,000 construction project professionals by 2035. Across South Asia, the talent gap could widen from 291,000 professionals today to 558,000 by 2035 under high-growth scenarios. The numbers point to a critical reality. India's infrastructure challenge is no longer simply about financing projects. It is increasingly about building the human capability needed to execute them.

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As projects become larger, more technologically advanced and increasingly interconnected, the demand for professionals who can manage complexity, coordinate stakeholders and deliver projects efficiently is rising sharply. The success of the country's infrastructure push will depend not only on how much it spends but also on whether it can develop a workforce capable of converting investment into outcomes.

"India's infrastructure growth story will increasingly be defined by how effectively projects are executed on the ground," says Amit Goyal, MD, PMI South Asia. According to him, future infrastructure delivery will require professionals who can combine technical expertise with project management, collaboration, risk management and execution discipline.

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The challenge is significant because infrastructure projects today are far more complex than they were a decade ago. Modern developments involve multiple agencies, evolving regulatory frameworks, sustainability requirements, digital technologies and stringent delivery timelines. Managing such complexity demands specialised skills that remain in short supply across the industry.

The consequences of weak execution are already visible. Industry estimates cited by PMI indicate that 72 per cent of projects exceed budgets, 73 per cent experience delays and 70 per cent encounter scope creep. These inefficiencies not only impact profitability but also delay economic benefits, reduce investor confidence and weaken long-term competitiveness. For a country investing aggressively in infrastructure to fuel growth, execution capability has become a strategic priority.

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Beyond Headcount: The Real Workforce Challenge

At first glance, India's labour pool should provide a competitive advantage. The construction sector already employs more than 70 million people and remains one of the country's largest sources of employment. Yet industry leaders argue that the issue is not merely one of numbers but of capability.

Vivek Rathi, National Director – Research, Knight Frank India, believes that while India possesses a strong demographic advantage, a shortage of formally trained project managers, engineers and skilled technicians continues to constrain productivity and project delivery. *"The challenge is not whether India can produce enough workers, but whether it can develop professionals equipped with the skills needed by modern infrastructure projects,"* he says.

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Many engineering graduates enter the workforce without sufficient exposure to practical project environments. Meanwhile, infrastructure projects increasingly require expertise in digital engineering, sustainable construction, contract management, multidisciplinary collaboration and project controls. This mismatch between academic training and industry requirements is creating a growing capability gap.

Industry experts believe that addressing this issue will require deeper collaboration between academia and employers. Educational institutions must align curricula with evolving industry demands, while employers need to play a more active role in shaping training programmes. Equally important is the modernisation of vocational education.

Upgrading industrial training institutes (ITIs), polytechnics and apprenticeship programmes can create a steady pipeline of site supervisors, equipment operators, technicians and other skilled professionals essential for large-scale infrastructure projects.

Saket Mohta, MD, Merlin Group, argues that the challenge is not simply about increasing workforce numbers but ensuring quality and productivity. With infrastructure investments accelerating across metro systems, airports, logistics corridors and renewable energy projects, he believes the industry needs professionals equipped with practical site experience, project management capabilities and digital construction skills. Stronger industry-academia partnerships, vocational training and internship-led learning, he says, can help create a workforce that is job-ready from day one.

> "Shortages of trained project managers, engineers and skilled technicians continue to constrain productivity and delivery."
> — Vivek Rathi, National Director – Research, Knight Frank India

Why Workforce Development Has Become a Business Imperative

The implications of the talent shortage extend beyond project execution. Increasingly, it is becoming a financial risk. According to Dr Amit Goenka, CMD, Nisus Finance, talent shortages directly affect project viability by increasing delivery risks and delaying asset monetisation. *"Projects that stall because of workforce gaps erode returns, strain financing arrangements and impact overall project economics,"* he says.

India is currently investing record sums in infrastructure, with government capital expenditure reaching historic levels. Yet even the most ambitious investment programmes can fall short if there are insufficient professionals to manage execution on the ground.

This makes workforce development as important as infrastructure financing itself. Industry leaders argue that skilling initiatives must move beyond traditional classroom learning and become embedded within project environments. Structured apprenticeships, site-based training programmes and industry-recognised certifications can help create professionals who are ready to contribute from the first day of employment.

Such interventions are particularly important because many project challenges arise not from engineering complexity but from deficiencies in planning, coordination, communication and resource management. Building execution capability, therefore, requires developing both technical and managerial competencies.

Technology as the Great Productivity Multiplier

While increasing workforce capacity is essential, many industry experts believe technology can help bridge the gap by improving productivity. Hriday Desai, Chief Development Officer, Embassy Developments Ltd., argues that the challenge should be viewed as much through the lens of productivity as workforce availability.

As project complexity grows, digital tools can enable smaller teams to manage larger projects more efficiently. Building Information Modelling (BIM), Artificial Intelligence (AI), digital project management platforms, remote monitoring systems and construction automation are increasingly becoming integral to infrastructure delivery.

These technologies improve planning accuracy, enhance collaboration, reduce rework and enable faster decision-making. Vivek Joshi, Head – Operations & EPC, Viceroy Properties, notes that the growing adoption of BIM, digital project monitoring, precast construction and AI-enabled planning tools will require a new generation of professionals with both engineering and digital competencies.

Technology also offers opportunities to address workforce constraints through off-site construction, prefabrication, robotics and automation, improving quality while reducing dependence on labour-intensive methods.

According to Himashu Luthra, MD, Divine Vision Infratech, India's demographic strength alone will not be enough to meet future workforce requirements. He believes the sector must focus on industry-aligned skills, technology-enabled training and stronger collaboration between developers, academia and policymakers. Infrastructure delivery over the next decade, he says, will depend as much on human capital as on capital investment.

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> — Vivek Joshi, Head – Operations & EPC, Viceroy Properties

Retaining Talent Will Be Equally Important

Training more professionals alone will not solve the workforce challenge. Retaining skilled workers is becoming increasingly difficult as global demand for construction talent rises. Indian professionals continue to find attractive opportunities in international markets, particularly in the Gulf region.

Arvind Nandan, MD – Research & Consulting, Savills India, points out that while initiatives such as e-Shram registration and welfare board enrolment are improving workforce visibility and access to benefits, retention remains a major concern.

The industry must therefore focus on improving career prospects, workplace conditions and long-term professional development. Better wages, safer working environments, structured career progression and stronger social security mechanisms will be critical in attracting and retaining talent.

Sarveshaa SB, CMD, BHADRA Group, believes that construction must become a career of choice for younger generations. Improved working conditions, quality accommodation, skill recognition and clearer growth pathways can help create a more sustainable talent ecosystem.

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Strengthening Infrastructure Delivery Through Better Project Management

While workforce development and technology adoption are essential, experts argue that infrastructure delivery also requires stronger project governance. Sidharth Pansari, Director, Primarc Group and Former President, CREDAI Bengal, believes India must transition from informal, experience-driven execution towards more structured and professionally managed project delivery.

Construction delays are often the result of multiple small failures rather than one major issue. Weak planning, approval bottlenecks, poor coordination, material shortages and inadequate supervision can collectively derail project schedules.

Addressing these challenges requires stronger accountability frameworks, clearer responsibility matrices and greater adoption of digital project controls. Professional project management practices can help improve predictability, reduce cost overruns and ensure that infrastructure investments generate their intended economic impact.

Turning a Challenge into an Opportunity

Despite the scale of the challenge, industry leaders remain optimistic. India possesses several advantages that position it well to bridge the projected talent gap, including a young population, expanding educational infrastructure and a rapidly growing project pipeline.

A stronger construction workforce can support urbanisation, industrialisation and housing development while creating millions of high-quality jobs. It can also foster innovation, improve productivity and strengthen India's competitiveness.

Sanchit Gaurav, Founder and MD, Growthmind, believes the projected workforce shortage should be viewed as an opportunity rather than a crisis. As infrastructure spending accelerates across roads, housing and smart cities, demand for project managers, BIM specialists and site supervisors will continue to rise. While fragmented vocational programmes and urban-rural skill gaps remain challenges, he sees digital training hubs, industry-academia partnerships and certification-led learning as key to building a future-ready workforce.

As Ronak Morbia, CMD, Arisinfra Solutions Ltd., observes, investments in workforce development are now as important as investments in physical infrastructure because they directly influence productivity, quality and project outcomes.

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The path forward is becoming increasingly clear. India will need stronger industry-academia collaboration, expanded vocational training, technology-enabled skilling, structured apprenticeships, improved workforce retention and a culture of professional project management. Success will ultimately depend on coordinated action between government, industry, educational institutions and training providers.

The country's infrastructure ambitions are among the most significant in the world. But highways, airports, metro systems and industrial corridors do not build themselves. India has demonstrated that it can mobilise capital at scale. The next decade will test whether it can mobilise talent with equal urgency. Because the future of India's infrastructure story will be determined not only by the projects it plans but also by the people capable of delivering them.

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