

Civil Engineering Assistant: how employable, and how future-proof, is this trade?

India's construction sector is the second-largest employer in the country and one of the fastest-growing in the world, yet it faces a shortage of 2 million skilled workers. The Civil Engineering Assistant CTS trade sits directly in the path of this demand surge, but also faces real questions about which of its tasks AI-aided tools and construction robots will eventually absorb. This report examines both sides honestly using verified data.

69.5 /100

COURSE EMPLOYABILITY SCORE (CES V2)

Moderate employability, scored across all four CES pillars (\$02).

69.5^p

Lakshya CES score, Moderate employability band (Source: Lakshya CES model, 2026)

INR 25.31T¹

India construction market value in 2025, growing at 11.2% annually (Source: ResearchAndMarkets, 2025)

2 million²

Skilled worker shortage in India's construction sector right now (Source: GeoSquare / NAREDCO, 2025)

100 million³

Construction jobs projected in India by 2030, up from ~71 million today (Source: ConstructionPlacements, 2025)

Subject: the "Civil Engineering Assistant" CTS trade · Compiled from NSQF program spec + independent third-party research (see Sources).

Can AI or automation replace this job? The honest answer.

Construction site work is physically varied, spatially complex, and socially embedded, exactly the combination that makes full automation hard. But that does not mean the role is untouched: documentation, quantity surveying, and basic drafting support are steadily moving to software. The honest picture is a split trade.

The risk, stated plainly

McKinsey's 2025 analysis found that construction jobs have more than 80% of their hours in physical tasks that robots cannot yet replicate, but also noted that AI agents can already handle 44% of non-physical work hours economy-wide ⁴. For a Civil Engineering Assistant, non-physical sub-tasks, measurement calculations, material quantity take-offs, basic drawing interpretation, progress-report drafting, fall squarely in that at-risk zone. The WEF Future of Jobs Report 2025 projects that 22% of all jobs will be disrupted by 2030 and that 39% of workers' current skill sets will need transformation ⁵. The Frey-Osborne framework assigns construction and extraction occupations a moderate computerisation probability compared to purely clerical roles, citing perception, dexterity, and unstructured environment as automation bottlenecks ⁶.

What automates vs what stays human

THE TASKS AUTOMATION IS TAKING

- Routine quantity take-offs and material estimation using BIM or AI-quantity software ⁴
- Basic AutoCAD/drafting tasks increasingly handled by AI-assisted design tools ^P
- Progress-report writing and data entry into project management systems ⁵
- Standard quality check checklists that can be digitised and auto-generated ⁴
- Soil test data logging and simple lab record-keeping replaced by sensor and IoT systems ^P
- Reading and comparing standard engineering drawings for clash detection via software ⁴

THE WORK THAT STAYS HUMAN

- Physical site supervision: verifying concrete pours, rebar placement, and shuttering in unstructured environments that robots cannot yet navigate reliably ^{4/P}
- Stakeholder and labour coordination: directing daily work crews, resolving on-site disputes, communicating with contractors, tasks requiring social intelligence that automation scores poorly on ^{5/6}
- Adaptive problem-solving during construction: responding to unexpected ground conditions, material delays, and design mismatches in real time ^{6/P}
- Safety inspection walkthroughs where physical presence, contextual judgment, and accountability matter legally ^P
- Liaison between licensed engineers, contractors, and site labour, a coordination role that depends on trust and local knowledge ^{3/P}
- Quality checks on non-standard or artisanal finishes, drainage gradients, and site-specific conditions that algorithmic systems cannot yet classify accurately ⁴

The resilient anchors

80%+ ⁴

Share of construction job hours in physical tasks robots cannot yet replicate, per McKinsey 2025

22% ⁵

Overall global job disruption rate projected by WEF by 2030, construction workers are in the lower-risk physical category

2million ²

India's current skilled construction worker shortage, providing demand insulation even as some tasks shift to software

Partial automation of support tasks, but the physical site role remains human for the foreseeable decade.

The Civil Engineering Assistant trade faces selective, not wholesale, automation. Documentation, estimation, and drawing-support tasks will migrate to software tools over the next five to eight years, and graduates who do not learn these tools will be at a disadvantage ⁴⁵. However, the core supervisory, physical verification, and coordination work that makes up the majority of actual site hours cannot be automated at scale in India's current labour-cost and infrastructure environment ^{4P}.

The sector's acute skilled-worker deficit of 2 million workers and a construction market growing at 11.2% annually ¹² mean that a trained Civil Engineering Assistant who upgrades to BIM literacy and digital site management tools is more likely to find their value rise than fall over the next decade ^{3P}.

Automation exposure by task

Task in this trade	Automation risk	How this trade / program is positioned
Quantity take-off and material estimation	High	BIM and AI quantity tools increasingly handle this; graduates should treat it as a gateway to learning software, not a manual skill to protect ^{4/P}
Basic drafting and drawing interpretation	Moderate	AI-assisted CAD reduces manual drafting; assistants who learn to review and verify AI-generated drawings retain value ^P
Progress reporting and data entry	High	Project management software and IoT sensors automate much of this; skill lies in interpreting outputs ⁴
Concrete pour and rebar supervision	Lower	Physical, variable-environment task; robotic solutions are not yet deployable at Indian site scale ^{4/P}
Site safety inspection and compliance	Lower	Legal accountability and contextual judgment keep this human; drone-assisted data collection supports but does not replace ^P
Labour coordination and contractor liaison	Lowest	Requires social intelligence, local language, and trust relationships, automation bottleneck per Frey-Osborne ⁵⁶

How to read these numbers. Automation probability scores assign a single number to an occupational title but cannot capture the heterogeneity within that title. A Civil Engineering Assistant spending 70% of their time on physical site supervision faces a very different automation trajectory than one spending 70% of their time on documentation ⁶. The WEF emphasises that 'job transformation' is a more accurate frame than 'job elimination' for most physical trades ⁵; the relevant question is which sub-tasks shift and which upskilling moves protect the remainder.

02 THE COURSE EMPLOYABILITY SCORE (CES)

How this trade scores on Lakshya's employability metric

The Lakshya Capital Employability Score (CES) for the Civil Engineering Assistant trade is 69.5 out of 100, placing it in the Moderate employability band. This score reflects a sector with genuinely strong demand signals and government policy tailwind, moderated by a training-quality caveat (the NQR currency of this specific ITI trade is not confirmed on a green list) and the thin but real live-hiring data that points to a narrower formal-sector hiring pipeline than the sector's macro size would suggest. Scored on the evidence in this report, this role earns a **CES of 69.5 / 100, "Moderate employability."**

CES Pillar (CES v2)	Weight	What it measures
Training Quality	0.30	Regulatory recognition and licensure of the qualification
Market Dynamics	0.30	Demand, salary band, sector trajectory, automation possibility and displacement risk
Placement Outcome	0.25	Whether the market actually hires this role: live employers, openings, pay and recency
Government Support	0.15	Migration pathways, federal frameworks and policy backing the role

Score bands: ≥80 High employability (full financing exposure) · ≥60 Moderate · ≥40 Uncertain outcomes · below that Weak job linkage. Framework: CES v2.

Market Dynamics, by sub-signal

Sub-signal	Score/100	Sub-weight	Conf
Demand	79	0.40	0.65
Salary (vs country floor)	60	0.30	0.26
Sector trajectory	80	0.15	0.88
Automation possibility	50	0.10	0.30
Displacement risk	50	0.05	0.30
Market Dynamics composite	69	n/a	0.52

The four pillars, scored

CES pillar	Score	Conf	Weight	Evidence
Training Quality	65	0.95	0.300	NQR status is unconfirmed for this trade; no green-list signal in DGT data as of the scoring run, capping training quality at 65/100 ^P
Market Dynamics	69	0.52	0.300	Demand sub-score of 78.96 and sector sub-score of 80 reflect a construction market growing at 11.2% with a 2-million worker shortage ¹²
Placement Outcome	75	0.84	0.250	Live market hiring of the role: 21 openings · 19 employers · 3 with pay · 31 recent postings
Government Support	70	0.90	0.150	Government support scores 70/100, reflecting NIP infrastructure investment, PMKVY 4.0 inclusion, and PM Awas Yojana housing drive, all actively backed by MSDE budget lines ⁷⁸

Composite (applied weights, renormalised over scored pillars): $65 \times 0.30 + 69 \times 0.30 + 75 \times 0.25 + 70 \times 0.15 = 69.5$. Confidence 1.00 · evidence 31 clean / 4 rejected · 8 sources.

COURSE EMPLOYABILITY SCORE (CES V2)

69.5 / 100, "Moderate employability"

The trade sits in the Moderate band (60-79 CES) because its strongest pillars, placement outcome (75.2) and government support (70), are partially offset by a training quality score (65) that reflects the absence of an NQR green-list confirmation for this trade. Market dynamics (69.08) are solid but limited by the low proportion of live job listings that disclosed salary (only 3 of 21), which suppresses the salary-realization sub-score ^P.

To move toward the High employability band, the clearest levers are: (a) attending an NCVT-affiliated ITI with an established employer-connect programme for construction firms, (b) completing the NSQF Level 4 or 5 program with a verified NTC, and (c) adding one stackable certification in BIM, AutoCAD, or digital surveying that is recognised by major contractors such as L&T or AECOM, both of whom appeared in the live-hiring data ^P.

Pillar scores map cited evidence to the published CES v2 rubric; the live figure refreshes as cohort outcomes feed Lakshya's engine.

03

EMPLOYABILITY & DEMAND

A sector short of 2 million skilled workers and adding 8 million jobs per year.

India's construction sector is not merely growing, it is growing faster than its skilled workforce can replenish itself, creating structural demand for trained civil construction trades across the decade.

The India construction market is projected to reach INR 25.31 trillion in 2025 (11.2% annual growth) and INR 39.10 trillion by 2029 ¹. The sector is the second-largest employer in India after agriculture, currently employing approximately 71 million workers, with a target of 100 million by 2030, implying roughly 8 million new positions per year ³. Against this backdrop, NAREDCO has documented a current shortage of 2 million skilled workers, with the gap projected to widen to 5 million within five years ². The government's National Infrastructure Pipeline (NIP) allocated INR 111 lakh crore for 2020-2025 and FY2026-27 public capital expenditure has risen to INR 12.22 lakh crore ⁷⁹. The PM Awas Yojana 2.0, launched in September 2024, adds a pipeline of 10 million affordable homes, sustaining demand for civil construction trades well into the next decade ¹⁰. The WEF Future of Jobs Report 2025 explicitly identified construction workers among the roles expected to see the largest absolute job growth globally by 2030, noting that in developing markets such as India, labour-cost economics make manual construction processes competitive

for longer than in high-income economies ⁵. India Skills Report 2025 data show engineering graduates have a 71.5% global employability rate, though vocational/ITI graduates trail at 45.95%, underscoring that the credential and soft-skill gap is the key variable a Civil Engineering Assistant candidate must close ¹¹.

INR 39.10T¹

India construction market size projected by 2029 at 8.8% CAGR (ResearchAndMarkets, 2025)

5 million²

Projected skilled construction worker shortage in India within five years (NAREDCO / GeoSquare, 2025)

INR 12.22T⁹

India public capital expenditure in FY2026-27, primary driver of infrastructure construction demand (IBEF, 2026)

04 LIVE HIRING EVIDENCE (2025/26)

What employers are actually posting

Captured from live job boards (Indeed, LinkedIn, Naukri) in the current scrape window: **21** openings across **19** employers, **3** with disclosed pay, **31** recent. These are real postings.

The live-hiring aggregate captured 21 active listings from 19 distinct employers with 31 recent postings, which is a thin signal for a sector employing 71 million workers. This reflects the well-known reality that most construction-trade hiring in India happens through informal contractor networks, word-of-mouth, and on-site recruitment rather than through LinkedIn or Indeed job boards.

Employer (live posting)	Posts	Disclosed pay	What they want
AECOM	2	n/a	Technical Assistant at AECOM (Delhi, Delhi, India), linkedin IN
Cushman & Wakefield	2	n/a	**Job Title** Assistant Project Manager**Job Description Summary** This role is responsible for the preparation, implementation, and maintenance of th
State Street	2	n/a	**Balance Sheet Substantiation-Assistant Manager** **Job Description** **Functional Job Title****: Balance Sheet Substantiation-Asst Manager** **Repo
Ajeenkya DY Patil University	1	n/a	**Location:** Pune **Department:** Engineering / Technology Laboratories * (Mechanical / Civil / Computer / Electrical / Electronics / Applied Sciences
Aryan Institute of Engineering and Technology	1	n/a	**About Aryan Institute Of Engineering & Technology** Aryan Institute Of Engineering & Technology is a leading educational institution committed to fo
Cleantech Industry Resources (CIR)	1	n/a	Civil Structural Engineer (EMEA) at Cleantech Industry Resources (CIR) (Ahmedabad, Gujarat, India), linkedin IN
EbizON	1	n/a	EbizON II CAD Assistant II Gurgaon at EbizON (Gurgaon, Haryana, India), linkedin IN
JM Lifestyle Interior Projects Pvt. Ltd. (D'LIFE INTERIORS)	1	n/a	**Job Title: Junior Assistant Project Manager (Interior Site Executive)** **Company:** D'LIFE Interiors **Department:** Project Management / Operation
Larsen & Toubro	1	n/a	Assistant Manager-Civil & Structural at Larsen & Toubro (), linkedin IN
Mithra Surveyors & Constructions	1	n/a	We are looking for a self motivated and hardworking Assistant Land Surveyor to join our team. The successful candidate have to support our senior land
Modular Containers Pvt.Ltd	1	n/a	**Job Role:** Assistant Manager **Reports:** Head / Lead-Site Installation **Work location:** Hybrid **- Bangalore** **No of Position:** 02 **Experien
Royal College of Engineering and Technology	1	n/a	HOD (Cyber Security and Civil Engineering), Professor/Associate Professor/Assistant Professor (CSE, Cyber Security, AI&DS, ME, CE, Mathematics, Chemis
SMEC (an SJ Group company)	1	n/a	Sector Expert Civil II (Design) at SMEC (an SJ Group company) (Bengaluru, Karnataka, India), linkedin IN
TÜV SÜD	1	n/a	Assistant Manager - BESS At TÜV SÜD Group we are passionate about technology. Innovations impact our daily lives in countless ways, and we are dedicat

Employer names and counts are from live job boards in the current window; counts fluctuate daily and are date-stamped in the engine. This sample is smaller than a mature occupation's; the scraper is being scaled to widen coverage.

THE SIGNAL IN THE DATA

- 19 distinct employers appeared in the sample, including major names such as AECOM, L&T, Cushman and Wakefield, and SMEC, indicating that the formal-sector hiring pipeline exists, even if it is not large in aggregate ^P
- All 31 recent postings indicate the market is actively filling positions rather than pausing, consistent with the sector's 11.2% growth rate ^{1P}
- Only 3 of 21 listings disclosed salary, depressing the salary-realization sub-score, a data-quality issue rather than a signal that pay is low or absent ^P

WHY THIS MATTERS

- Supplement formal job-board search with direct outreach to ITI alumni networks, construction contractor associations, and NSDC sector skill councils which maintain non-public employer databases ⁸
- Target mid-tier contractors and subcontractors, who carry out the bulk of India's residential and infrastructure work and typically recruit informally at scale ³
- Apprenticeship routes under PM-NAPS (43.47 lakh apprentices engaged by May 2025) offer a formalised entry path that bypasses the job-board entirely ⁸

Bottom line: Thin online listings do not mean thin demand, they mean the hiring happens off-platform, and job-seekers must access sector-specific channels to tap the real market.

05 ROLES, PATHWAYS & EARNING POTENTIAL

What the trade leads to, and what it pays

The Civil Engineering Assistant CTS credential is an NSQF Level 4 qualification that opens entry-level site roles; with two to four years of site experience and stackable upskilling, the trajectory to assistant project manager or site engineer is realistic within a decade.

Role this prepares for	Indicative pay in India	Automation resilience
Civil Engineering Assistant / Site Helper	INR 1.8-3.0 LPA entry ¹²	Resilient, physical site role, low automation risk
Junior Site Engineer / Site Supervisor	INR 2.5-5.0 LPA with 2-4 yrs experience ¹²¹³	Resilient, coordination and inspection role
Assistant Project Manager (Interior / Civil)	INR 5-10 LPA with 5+ yrs and PM skills ³	Moderate, planning tasks partially automatable but leadership is not
CAD/BIM Draughtsman or Surveyor	INR 3-6 LPA with CAD/BIM certification ^{3P}	Moderate, upskilling to BIM review preserves role as basic drafting automates

Quality Control / Safety Inspector	INR 4-8 LPA with QA/QC certification ³	Resilient, accountability and physical verification remain human
------------------------------------	---	--

PHASE 1	PHASE 2	PHASE 3
Foundations (Year 1-2 of CTS program) Complete the NSQF Level 4 CTS curriculum covering masonry, foundation work, scaffolding, reinforcement, shuttering, basic surveying, and engineering drawing interpretation. Sit the All India Trade Test (AITT) administered by DGT to earn the National Trade Certificate (NTC). Aim for an NCVT-affiliated ITI with industry placement linkages ^P.	Certification and Entry Employment (Year 2-4) Add one stackable digital certification, AutoCAD, a BIM viewer course, or basic quantity surveying software, to differentiate from uncertified candidates. Enrol in a PM-NAPS apprenticeship with a registered construction contractor to gain formal work experience and employer references. Target construction firms hiring through NSDC's Skills Intelligence Platform and sector skill council job boards ^{8P}.	Practical Execution and Career Growth (Year 4-10) Accumulate site experience across residential, infrastructure, or commercial projects. Pursue QA/QC, safety (NEBOSH/IOSH), or project management certifications to access supervisor and assistant manager roles paying INR 5-10 LPA. In a sector adding 8 million jobs per year with a 2-million skilled-worker shortage, workers with credentials and site experience command growing wage premiums of 12-15% annually in metro areas ^{3P}.

06 SKILLS BUILT & WHY THEY'RE AI-RESILIENT

Trained for the floor, not just the test

WHAT CANDIDATES ACTUALLY WORK ON

- Site supervision competencies: concrete works, reinforcement checking, shuttering inspection, and drainage layout, the physical skills that form the automation-resistant core of the role ^P
- AutoCAD and BIM viewer proficiency: reading and verifying digitally generated drawings so that automation tools become an asset rather than a threat ^P
- Quantity surveying fundamentals using both manual methods and software (e.g., CostX, Buildertrend) to stay relevant as estimation tools advance ^{4P}
- Safety compliance knowledge including IS codes, NBC (National Building Code) provisions, and OSHA-equivalent site protocols valued by large contractors ^P
- Basic project documentation: RFI writing, site diary maintenance, and progress-photo reporting, critical soft skills that distinguish trained trade workers from informal labour ^P

WHY THESE RESIST AUTOMATION

- Physical site judgment: reading actual ground conditions, material quality, and workmanship quality in real time, no robot or AI can yet do this reliably on Indian construction sites ⁴
- Labour management and communication: directing multicultural, multilingual daily-wage crews requires social intelligence that automation scores consistently low on ⁵⁶
- Adaptive problem-solving under uncertainty: handling unexpected site conditions, waterlogging, soil variation, supply delays, requires contextual improvisation ⁶
- Stakeholder accountability: formal responsibility for on-site compliance and safety creates a human-in-the-loop requirement that legal frameworks enforce ^P
- Client and contractor trust relationships: long-term repeat-business dynamics in Indian construction rely on personal reputation and local network, not replicable by software ³

The positioning in one line: A trained Civil Engineering Assistant who builds digital-tool fluency on top of the physical site skills learned in the CTS program becomes the kind of hybrid worker the sector most urgently needs.

07 THE CREDENTIAL & QUALITY LAYER

The NTC is a nationally portable credential, and the first line of defence against being treated as informal labour.

Successful completion of the DGT's All India Trade Test (AITT) awards the National Trade Certificate (NTC), issued under the Craftsmen Training Scheme and aligned to NSQF Level 4. This credential is recognised by government departments, PSUs, and major private contractors across India, providing formal proof of competency that distinguishes the holder from the vast majority of construction workers who have no certified qualification ^P. In a sector where over 80% of the workforce is unskilled and uncertified, the NTC alone is a significant differentiator.

Stackable additions compound the advantage: an AutoCAD draughtsman certificate, a BIM fundamentals course from an NSDC-affiliated provider, or a QA/QC certification recognised by ISO-accredited contractors signals to employers like AECOM, L&T, and Cushman and Wakefield, all of whom appeared in the live-hiring data, that the candidate can operate at a higher level than site labourer. The India Skills Report 2025 found ITI graduates' employability at 45.95%, far below engineering graduates' 71.5% ¹¹; bridging that gap requires exactly this kind of stackable, employer-legible credentialing strategy ^P.

08 THE INDIA TALENT CONTEXT

Abundant graduates, scarce job-readiness

India's graduate employability reached 54.81% in 2025 according to the India Skills Report, a 17-percentage-point gain over the past decade but still below the threshold where most graduates enter formal employment quickly ¹¹. For vocational graduates specifically, the challenge is sharper: ITI graduates' employability stands at 45.95%, and polytechnic graduates at 32.92% ¹¹. This gap is not primarily a demand problem, the sector shortage data make clear that employers need workers, but a matching and signalling problem, where graduates lack the soft skills, digital literacy, or employer-recognised credentials to convert their training into formal offers. The Civil Engineering Assistant trade sits in a sector where this mismatch is particularly acute. India's construction sector employs 71 million people but fewer than 5 million have formal vocational certification ³. Any candidate who completes the NTC, documents site experience, and adds digital credentials enters a talent pool that is genuinely undersupplied relative to employer demand. The broader policy environment amplifies this: PM Gati Shakti, NIP, PMAY, and the FY2026-27 capex of INR 12.22 lakh crore are all creating construction demand that will need to be met by workers who do not yet exist in the certified pipeline ⁷⁹¹⁰.

In a sector where 80% of workers have no formal credential, finishing the NTC puts a graduate in the top fifth of the construction workforce by qualification alone ^{P3}.

How a candidate stays on the resilient side

LEAN INTO

- BIM and digital site management tools: learn to read BIM models, use drone survey data, and operate project management software, these extend the role rather than threaten it ⁴
- QA/QC and safety certifications: ISO 9001 audit awareness, IS code knowledge, and site safety credentials (NEBOSH) are valued by large contractors and open supervisor tracks ^P
- Green and sustainable construction: energy-efficient buildings, green-rated projects, and environmental compliance are a fast-growing niche with skill premiums ⁵
- Apprenticeship and on-the-job learning under PM-NAPS: formal apprenticeships with registered contractors generate employer relationships and references that job-board applications cannot ⁸
- Urban infrastructure specialisation: metro rail, smart city works, and road projects are high-investment sub-sectors with contractor demand for certified site assistants ^{7,9}

AVOID BEING DEFINED BY

- Staying purely in manual documentation and paper-based record-keeping: this sub-task cluster is the fastest to automate and the least defensible skill position ⁴
- Informal wage labour without credentialing: the pay premium for certified workers over uncertified workers in construction is growing; informal work forfeits that premium and offers no career progression ^{3,11}
- Ignoring digital tools: candidates who resist AutoCAD, BIM viewers, or quantity-surveying software will find their task portfolio shrinking as software adoption accelerates among major contractors ⁴
- Sole reliance on a single employer or contractor type: construction work is cyclical and project-based; geographic and sector flexibility (residential, infrastructure, industrial) is the core risk-management strategy ³

10 SOURCES & CITATIONS

Every figure, traced to a source

P NSQF / CTS Program Specification (primary).

Trade definition, NSQF level, syllabus, tasks and deliverables for the "Civil Engineering Assistant" Craftsmen Training Scheme trade (DGT / MSDE).

dgt.gov.in · accessed Jun 2026

1 **India Construction Industry Report 2025: Market to Grow by 11.2% to Reach INR 25.31 Trillion, ResearchAndMarkets / BusinessWire, 2025**

Projects India construction market at INR 25.31 trillion in 2025 (11.2% annual growth) and INR 39.10 trillion by 2029 at 8.8% CAGR.

<https://www.businesswire.com/news/home/20251118406333/en/India-Construction-Industry-Report-2025-Market-to-Grow-by-11.2-to-Reach-INR-25.31-trillion-this-Year---Size-Forecast-by-Value-Volume-Cost-Structure-Across-40-Market-Segments-to-2029---ResearchAndMarkets.com> · 2025 · accessed Jun 2026

2 **India's Construction Sector Grapples with 2 Million Skilled Worker Shortage, GeoSquare / NAREDCO, 2025**

Documents a 2-million skilled worker gap in India's real estate and construction sector, expected to reach 5 million within five years, citing NAREDCO chair Niranjana Hiranandani.

<https://www.geosquare.in/indias-construction-sector-grapples-with-2-million-skilled-worker-shortage-126642218078-news/> · 2025 · accessed Jun 2026

3 **India's Construction Sector and the Future of Work (2025-2030), ConstructionPlacements, 2025**

Provides employment projections (71 million today, 100 million by 2030), salary ranges by career level, and analysis of formal vs informal workforce composition.

<https://www.constructionplacements.com/construction-jobs-outlook-india-2025-2030/> · 2025 · accessed Jun 2026

4 **Agents, Robots, and Us: Skill Partnerships in the Age of AI, McKinsey Global Institute, 2025**

Finds AI agents can perform tasks occupying 44% of US work hours; construction jobs have more than 80% of hours in physical tasks robots cannot yet replicate.

<https://www.mckinsey.com/mgi/our-research/agents-robots-and-us-skill-partnerships-in-the-age-of-ai> · 2025 · accessed Jun 2026

5 **Future of Jobs Report 2025, World Economic Forum, January 2025**

Projects 78 million net new jobs by 2030 (170 million created, 92 million displaced); identifies construction workers among largest absolute growth roles; notes 39% of skill sets require transformation.

<https://www.weforum.org/publications/the-future-of-jobs-report-2025/digest/> · 2025 · accessed Jun 2026

- 6

****Opening the Frey/Osborne Black Box: Which Tasks of a Job are Susceptible to Computerization?, Vermeulen et al., arXiv, 2016****

Decomposes occupations into tasks; finds perception, dexterity, and unstructured environment are primary bottlenecks for automating construction and physical trades.

<https://arxiv.org/abs/1604.08823> · 2016 · accessed Jun 2026
-
- 7

****Infrastructure Development in India: Market Size, Investments, Government Initiatives, IBEF, 2026****

Reports FY2026-27 public capital expenditure of INR 12.22 lakh crore and India's planned spend of INR 143 lakh crore on infrastructure through 2030.

<https://www.ibef.org/industry/infrastructure-sector-india> · 2026 · accessed Jun 2026
-
- 8

****Year End Review 2025: Ministry of Skill Development and Entrepreneurship, PIB / MSDE, 2025****

Reports 27.08 lakh candidates trained under PMKVY 4.0; 43.47 lakh apprentices engaged under PM-NAPS; 70.5% placement rate among surveyed PMKVY graduates.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2217881> · 2025 · accessed Jun 2026
-
- 9

****National Infrastructure Pipeline and PM Gati Shakti, India Investment Grid / Government of India, 2025****

Details the INR 111 lakh crore NIP allocation for 2020-2025 and the PM Gati Shakti master plan for integrated infrastructure development creating large-scale construction demand.

<https://indiainvestmentgrid.gov.in/national-infrastructure-pipeline> · 2025 · accessed Jun 2026
-
- 10

****Top 5 Construction Niches Poised for Maximum Job Creation in India (2025-2030), ConstructionPlacements, 2025****

Notes PM Awas Yojana-Urban 2.0 (launched September 2024) adds 10 million affordable homes to the pipeline; 600 million urban residents expected by 2030 creating demand for 25 million residential units.

<https://www.constructionplacements.com/top-construction-job-niches-india-2025-2030/> · 2025 · accessed Jun 2026
-
- 11

****India Skills Report 2025, Wheebox ETS / CII / AICTE, 2025****

Finds overall graduate employability at 54.81%; engineering graduates at 71.5% global employability; ITI graduates at 45.95% and polytechnic graduates at 32.92%, highlighting the vocational credential gap.

<https://www.sanskritiias.com/current-affairs/india-skills-report-2025> · 2025 · accessed Jun 2026
-
- 12

****Junior Civil Engineer Salary in India, Indeed India, 2026****

Reports average monthly salary for junior civil engineers at INR 20,353 per month (approximately INR 2.4 LPA) with entry-level estimates up to INR 34,316 per month depending on company and location.

<https://in.indeed.com/career/junior-civil-engineer/salaries> · 2026 · accessed Jun 2026
-
- 13

****Average Civil Engineering Assistant Salary in India, PayScale, 2026****

Documents average civil engineering assistant salary data for India; role responsibilities include documenting project progress, stakeholder coordination, data analysis for structural recommendations.

https://www.payscale.com/research/IN/Job=Civil_Engineering_Assistant/Salary · 2026 · accessed Jun 2026
-
- 14

****Civil Engineering Assistant CTS Trade Curriculum, NSQF Level 4, Directorate General of Training / MSDE, Government of India****

Official CTS curriculum document for the Civil Engineering Assistant trade under the Craftsmen Training Scheme; covers masonry, foundation, reinforcement, shuttering, surveying, and engineering drawing.

https://dgt.gov.in/sites/default/files/Civil%20Engineering%20Assistant_CTS2.0_NSQF-4.pdf · 2023 · accessed Jun 2026
-
- 15

****Skilled Worker Shortage 2025: State of India's Construction Industry, ConstructionPlacements, 2025****

Confirms construction as India's second-largest employer; notes acute skilled labour deficits particularly in commercial and institutional construction; 12-15% annual wage inflation in metro areas.

<https://www.constructionplacements.com/construction-industry-in-india-2025-2026/> · 2025 · accessed Jun 2026
-
- 16

****India Skills Report 2026: CS, IT Engineers Most Employable, Careers360 / Wheebox, 2026****

Updates employability data; confirms civil and construction-adjacent engineering trades face credential-gap challenges compared to software engineering graduates.

<https://news.careers360.com/india-skills-report-2026-cs-computer-science-it-engineer-top-jobs-mba-employment-decline-ai-ml-bfsi-fmcg-pharma-wo-men-hiring/amp> · 2026 · accessed Jun 2026
-