

Construction Labourers

AI barely touches the physical work; it appears at the edges in scheduling, site capture and safety monitoring run by supervisors.

EXPOSURE	WINDOW	ADOPTION TODAY	READING
7 Low exposure	7–15 yrs until change lands	Low	AI assists; the work stays human-led. Exposure is the share of today's work AI can plausibly take on within the window.

§ 01WHAT IS HAPPENING

What is happening to construction labourers

Impact

The core of the job, moving materials, digging, mixing, demolition, setting up and clearing sites, is manual and site-specific, and generative AI has almost nothing to do with it. Where AI appears, it is in the office or the site trailer: scheduling and logistics in Procore, progress capture with OpenSpace or Buildots that reduces the need for walk-throughs, and camera-based safety monitoring that flags missing hard hats or exclusion-zone breaches. For the labourer, the practical change is more digital timesheets, task lists on a phone and occasional instructions generated from a 3D model rather than from a paper drawing.

Risk

Low transformation; AI assists planning around the work while the physical labour itself stays human for the foreseeable window.

Occupation-level measures place construction labourers in the lowest official exposure tier, and both task-applicability and observed-usage figures are close to zero; the score is low because the measured generative-AI exposure is low. The tasks that do shift are administrative: digital daily logs, automated progress tracking and AI-planned material deliveries reduce the paperwork and the waiting around. Physical automation exists, in layout robots, drilling robots for ceilings, brick-laying machines and remote-controlled demolition equipment, but it is deployed on a small number of large projects and still needs people to set up, feed and supervise it. Over a 7-15 year window the likelier outcome is a labourer who works alongside more machines and more sensors, with a slow reduction in the most repetitive tasks, rather than a role that disappears.

Sector readiness

Patchy Adoption Led by Large Contractors

Large general contractors have adopted project platforms and reality-capture tools, and a few run pilots with layout or drilling robots, but most of the industry is small firms and subcontractors where the technology on site is a phone and a group chat. Published adoption ratings for the occupation are low, and the gap between the biggest sites and the typical one is wide.

§ 02 POSITION

Where you stand

- i Be the labourer the foreman trusts with the tablet as well as the shovel, logging progress and flagging issues in the site software accurately.
- ii Pick up equipment tickets and robot-tending experience so that when a site brings in a layout robot or remote demolition machine you are the one running it.
- iii Use the years on site to move towards a trade or a supervisory role, since physical labour has a shelf life that AI does not change.

§ 03 ACTIONS

6 POINTS

What this means for you

Concrete changes to how the work gets done, in the order you are likely to meet them.

- 01 **Learn the site apps.** Procore, Fieldwire and similar platforms are now how work gets assigned and recorded on large sites. Being quick and accurate with them makes you easier to keep on.
- 02 **Treat cameras as normal.** Progress capture and safety monitoring are spreading. Work to the method statement and let the record show it.
- 03 **Get on the machines.** Telehandler, dumper and mini-excavator tickets pay more and are a step towards operating the automated kit that arrives later.
- 04 **Watch where the robots go first.** Layout, overhead drilling and demolition are the tasks being mechanised. If that is most of your day, start broadening now.
- 05 **Make yourself useful to a trade.** Helping carpenters, steel fixers or electricians builds skills that lead to an apprenticeship and a less exposed future.
- 06 **Protect your body.** AI will not shorten the physical demands of the job any time soon; lifting technique, rest and proper PPE are what keep you working.

§ 04 CAUSES

6 DRIVERS

What is pushing this change

- 01 **Site management platforms.** Procore, Fieldwire and similar tools digitise daily logs, task assignment and timesheets, so labourers interact with software more than they did five years ago.
- 02 **Reality capture and progress tracking.** OpenSpace, Buildots and drone surveys compare site images against the model, cutting manual progress checks and the labour that supported them.
- 03 **AI safety monitoring.** Camera systems flag PPE breaches, exclusion-zone entries and near misses automatically, changing how behaviour on site is recorded.
- 04 **Construction robotics.** Layout robots, semi-automated drilling rigs and remote demolition machines take on specific repetitive tasks on large projects, though at small scale so far.
- 05 **Prefabrication and modular building.** Shifting work into factories, where automation is easier, reduces the volume of on-site labour per building and changes which tasks remain.
- 06 **Labour shortages.** Persistent difficulty recruiting site labour pushes contractors to try automation, but it also protects wages and demand for the people still doing the work.

Impact by sector

The headline figure is an average. Where you work changes the picture.

Large commercial and infrastructure projects

The most digitised sites, with reality capture, safety cameras and the occasional robot; labourers here are expected to use the platforms.

Residential and small-contractor work

Little AI in use beyond scheduling apps; the work is the same as it has been, and adoption will lag for years.

Demolition and ground-works

Remote-controlled demolition machines and GPS-guided excavation are the most visible automation, reducing some hand-labour tasks.

Offsite and modular manufacturing

Factory settings bring robotics and production-line methods, so a labourer moving into this environment faces more automation than on a traditional site.

Skills to build

The skills that keep the human part of this work valuable as the routine part is automated.

- 01 **Digital site literacy.** Reading tasks, logging progress and photographing work in site apps is now part of the job; practise on whatever platform your employer uses.
- 02 **Plant and equipment operation.** Tickets for telehandlers, dumpers and excavators raise pay and are the route to operating automated equipment later.
- 03 **Reading drawings and models.** Understanding the plan, including on a tablet, lets you work from a model-based layout and spot errors before they are built in.
- 04 **Safety awareness.** Automated monitoring makes behaviour visible; knowing method statements and acting on them is how you stay on good sites.
- 05 **Trade fundamentals.** Learning the basics of carpentry, steel fixing or concrete finishing creates a pathway into skilled work with better long-term prospects.
- 06 **Communication with supervisors.** Clear reporting of problems, materials and progress is what the software cannot do for you and what foremen value.

Tools in use

KINDS OF TOOL WORTH KNOWING

- 01**Dusty Robotics.** Layout robot that prints floor plans directly onto the slab, replacing manual chalk-line layout on large projects.
- 02**Remote-controlled demolition machines.** Brokk-style machines handle hazardous demolition work from a distance, reducing hand labour in confined or unsafe spaces.

NAMED TOOLS ALREADY IN USE

Procore	VISIT
Project management platform used on large sites for drawings, daily logs and task assignment that labourers increasingly update directly.	
Fieldwire	VISIT
Task and plan app used by site crews to receive assignments, mark up drawings and record completed work.	
OpenSpace	VISIT
360-degree site capture that documents progress automatically and reduces manual walk-throughs.	
Buildots	VISIT
AI progress tracking that compares helmet-camera footage with the model to flag incomplete or incorrect work.	

In practice

Ways people in this role are already using AI, and what they get from it.

Automated progress capture EXAMPLE 1	HOW	A labourer wears a 360 camera on a hard hat during a routine walk; the software maps the images to the plan and records which areas are complete.
	GAIN	Removes hours of manual progress checks and gives the crew a reliable record of what was done.
Robot-printed layout EXAMPLE 2	HOW	A layout robot prints wall lines, hanger points and room labels on the slab overnight from the model; the crew builds to the marks in the morning.
	GAIN	Cuts days of tape-and-chalk layout and reduces costly rework from mis-measurement.

Camera-based safety alerts	HOW	Site cameras detect workers entering an exclusion zone around a crane lift and alert the supervisor in real time.
EXAMPLE 3	GAIN	Fewer incidents and a clearer record when things go wrong.

§ 09 CONTEXT

How this role compares

Three neighbouring roles chosen to show the direction of travel.

Forklift Operators	AI IMPACT	Autonomous forklifts and warehouse robots are replacing routine pallet moves in large distribution centres.
MORE EXPOSED	WORK MOVES TO	Operators are moving towards exception handling, maintenance and supervising mixed fleets.
Electricians	AI IMPACT	AI assists with design, scheduling and diagnostics but the installation work remains manual and in demand.
DIFFERENT SKILLS, GROWING	WORK MOVES TO	Skilled, licensed trade with growing demand from electrification and data centres.
Plumbers	AI IMPACT	AI supports diagnostics and quoting, with little effect on the hands-on installation and repair work.
COMPLEMENTARY, LESS EXPOSED	WORK MOVES TO	Licensed trade requiring on-site problem-solving in varied, unpredictable conditions.

§ 10 VERDICT

Closing judgement

If you work as a construction labourer, AI is not coming for your job in any direct way; the measured exposure is about as low as it gets. What will change is the amount of digital work wrapped around you: logging hours and tasks on a phone, following instructions from a model, working near machines that capture and monitor the site. The people who do best will be comfortable with that layer and will pick up a skill, such as operating equipment, formwork or a trade, that is harder to fill. The risk in this role is less about automation and more about staying physically able and moving up before the body says otherwise.

Evidence and revisions

What the exposure figure rests on, what changed when it was last revised, and the published work cited for this role.

SCORE

7

WINDOW

7-15 years (unchanged)

The 5 October 2026 review held the score.

Exposure Index v2. Inputs: task applicability 6/100 (Microsoft AI applicability score 0.03 for Construction laborers); observed usage 4/100 (Anthropic observed exposure 0.03); official exposure tier 10/100 (BLS: low); labour-market trajectory not yet mapped for this occupation, so its weight was spread across the other inputs; published adoption rating 10/100 (low adoption). Weighted base 7.1. Final score 7. New report: the window of 7-15 years is set from the score band.

HOW THE FIGURE IS BUILT (EXPOSURE INDEX V2)

Task applicability — Microsoft Research, AI applicability score	6 × 39%	2.3
Observed usage — Anthropic Economic Index, observed exposure	4 × 22%	0.8
Official exposure tier — US BLS AI-exposure category	10 × 22%	2.2
Labour-market trajectory — US BLS projected employment change 2025–35	not measured	–
Published adoption rating — This report’s adoption level	10 × 17%	1.7
Weighted base		7.1
Exposure score		7

MEASURES BEHIND THE SCORE

US Bureau of Labor Statistics · *Employment Projections 2025–35 and AI Exposure Categories* (27 August 2026)
AI-exposure tier: Low. Projected employment change not yet mapped for this occupation. Matched to Construction laborers.

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Microsoft Research · *Working with AI: Measuring the Applicability of Generative AI to Occupations* (10 July 2025)
AI applicability score 0.03 for SOC 47-2061; scaled to 6/100 as the task-applicability input.

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Anthropic · *Anthropic Economic Index report: Cadences* (26 June 2026)
Observed exposure 0.03 for SOC 47-2061; scaled to 4/100 as the observed-usage input.

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UK Department for Science, Innovation and Technology · *Assessment of AI capabilities and the impact on the UK labour market* (28 January 2026)
UK context: around 70% of UK workers are in occupations with tasks AI could perform or enhance, above the US average; a one-standard-deviation rise in exposure was associated with a 3.9% fall in UK job postings.

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<https://www.careerguard.ai/sources>

§ 12 APPENDIX

Method and sources

Each report was written from a large body of published research. The exposure score itself is computed, not written: it is the CareerGuard Exposure Index, a weighted average of occupation-level measures from the US Bureau of Labor Statistics (AI-exposure classification and 2025–35 projections), Microsoft Research (AI applicability scores) and Anthropic (observed exposure), together with the adoption rating published on the report. The organisations and publications below are the standing literature behind the narrative sections. Every source, with dates, licences and archived copies where we are permitted to hold them, is catalogued in the research library.

Exposure Index v2 (October 2026). Each input is scaled to 0–100 and weighted: task applicability 35% (Microsoft AI applicability score ÷ 0.5), observed usage 20% (Anthropic observed exposure ÷ 0.75), official exposure tier 20% (BLS very high = 100, high = 70, moderate = 40, low = 10), labour-market trajectory 10% ($50 - 2.5 \times \text{projected \% employment change}$), published adoption rating 15% (very high = 85, high = 70, medium-high = 55, medium = 40, low-medium = 25, low = 10). Inputs not measured for an occupation are dropped and the remaining weights renormalised. An editorial adjustment of at most ± 12 points is allowed only for automation channels the measures cannot see (robotics, self-service, machine vision, medical imaging, RPA/OCR, generative video) and is always logged with its reason. Scores are whole numbers, not rounded to five. The change window shifts one notch (a year at each end) per ten points of movement.

I GLOBAL AND MACROECONOMIC IMPACT OF AI ON WORK

World Economic Forum

The Future of Jobs Report series — Employer survey of expected job growth and decline, skill shifts and technology adoption (2020, 2023 and 2025 editions); *Artificial Intelligence and the Future of Entry-Level Work* (2026).

AI governance and transformation reports — Frameworks on ethical AI, talent strategy and industry transformation.

McKinsey Global Institute

AI, Automation and the Future of Work series — Research quantifying automation potential by task, sector and demographic, from "Jobs Lost, Jobs Gained" to "Agents, robots, and us" (2025).

Industry-specific reports — Financial services, healthcare, manufacturing and others.

PwC

Global AI Jobs Barometer — Annual analysis of job postings and productivity by AI exposure (2024–2026 editions).

Upskilling Hopes and Fears survey — Employee perceptions and readiness.

Microsoft Research and Anthropic

Working with AI (2025); *Anthropic Economic Index* (2025–2026) — Occupation-level usage data from Copilot and Claude conversations, the two observed-usage measures behind the 2026 revision.

Stanford Digital Economy Lab and Stanford HAI

Canaries in the Coal Mine? (2025–2026); *AI Index Report (annual)* — Payroll evidence on early-career employment in exposed occupations; annual measurement of AI capability, investment and adoption.

Deloitte

Human Capital Trends series — Workforce, talent and HR technology trends.

Tech Trends series — Emerging technologies and their business implications.

Accenture

Technology Vision series — Forward-looking analysis of emerging technology, with emphasis on AI.
Fjord Trends — Design, innovation and human experience in a digital world.

Boston Consulting Group

AI/ML insights and industry solutions — "The AI Revolution in the Workplace" and related research.

EY

AI and workforce reports — Adoption, talent strategy and ethics.

IBM Institute for Business Value

AI and automation studies — Business models, workforce evolution and leadership.

OECD

AI Policy Observatory — International data and policy on AI, labour markets and skills.
Employment Outlook — Labour-market trends including technological impact (2023–2026 editions).

International Labour Organization

Generative AI and Jobs: A Refined Global Index of Occupational Exposure (2025) — Task-level exposure gradients for every ISCO occupation; successor to the 2023 global index.

International Monetary Fund

Staff Discussion Notes on AI and work (2024, 2026) — Complementarity framing: where AI augments and where it substitutes.

UK Department for Science, Innovation and Technology

Assessment of AI capabilities and the impact on the UK labour market (2026) — UK occupational exposure and job-posting evidence.

Brookings Institution

AI and automation research — Economic and social implications, displacement and skills.

Yale Budget Lab and Goldman Sachs Research

Tracking the Impact of AI on the Labor Market; AI and the US labour market (2026) — Aggregate labour-market monitoring; macro displacement estimates.

Oxford University (Oxford Martin School)

The Future of Employment — Frey & Osborne and subsequent research on susceptibility to automation.

MIT Technology Review

AI & Work — Reporting on AI research and its implications for industries and jobs.

Gartner

Hype Cycle for Artificial Intelligence — Maturity and adoption of AI technologies.
Future of Work reports — Workplace models and talent strategy.

U.S. Bureau of Labor Statistics

Employment Projections 2025–35; AI Exposure Categories; Occupational Outlook Handbook — Ten-year employment projections and, from the 2025 cycle, an AI-exposure tier for every detailed occupation.

Indeed Hiring Lab

AI at Work Report (2025) and posting-market updates — Skill-level transformation estimates and job-posting trends by occupation.

II CORE AI AND MACHINE-LEARNING RESEARCH

OpenAI

Research papers, blog and API documentation — Large language models, generative AI, safety and societal impact.

Google DeepMind

Research papers and blog — Reinforcement learning, AI for science, AGI and ethics.

Meta AI

Research papers and blog — Large language models, computer vision, AI for social good.

Hugging Face

Transformers library and model hub — Open-source state-of-the-art NLP models.

TensorFlow and PyTorch

Documentation and community forums — Core frameworks illustrating practical capability.

arXiv

cs.AI, cs.LG, cs.CV, cs.CL — Pre-print research.

NeurIPS and ICML

Conference proceedings — Top-tier academic research.

ACM and IEEE

Journals and proceedings — ACM Computing Surveys; IEEE Transactions on AI.

Kaggle

Datasets and competition solutions — Applied machine learning on real-world problems.

The Alan Turing Institute

Research and reports — Responsible and applied AI.

III ETHICAL AND RESPONSIBLE AI DEPLOYMENT

NIST

AI Risk Management Framework — Voluntary framework for managing AI risk.

European Commission

AI Act — Risk-tiered legal framework for AI.

Ethics Guidelines for Trustworthy AI — Principles for responsible development.

Partnership on AI

Research and best practice — Responsible AI development.

AI Now Institute

Annual reports — Social implications: power, inequality, rights.

ACM FAccT

Proceedings — Fairness, accountability and transparency.

Data & Society

Publications — Social implications of data-centric technology.

WIPO

Conversation on IP and AI — Intellectual-property implications of AI.

IEEE Global Initiative on Ethics of AI/IS

Ethically Aligned Design — Recommendations for ethical AI design.

Center for AI and Digital Policy

Policy briefs — Accountable AI policy.