

Janitors and Cleaners

AI has little to do with most cleaning tasks; autonomous floor scrubbers and sensor-driven scheduling are the visible changes.

EXPOSURE	WINDOW	ADOPTION TODAY	READING
19 Low exposure	7–15 yrs until change lands	Low-Medium	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 janitors and cleaners

Impact

Generative AI is almost absent from the daily work of sweeping, mopping, emptying bins, cleaning washrooms and handling spills, and observed usage in the occupation is effectively zero. The automation that does exist is physical: autonomous floor scrubbers from Brain Corp, Tennant and Avidbots now clean large open floors in supermarkets, airports and warehouses overnight, and sensor systems such as Tork Vision tell staff which washrooms need attention rather than following a fixed round. Workforce apps schedule shifts, log completed tasks and photograph results for clients. For the cleaner, the change is fewer hours pushing a scrubber across open floors and more time on detail work, washrooms and tasks a robot cannot reach, with a phone recording what was done.

Risk Low transformation; open-floor scrubbing automates slowly while detail cleaning and responsive tasks stay human.

Occupation-level measures place janitors and cleaners in the lowest official exposure tier, and the score is low because measured generative-AI exposure is low; the editorial adjustment reflects the small physical-automation channel of autonomous floor-cleaning robots now in commercial use. Repetitive scrubbing and vacuuming of large, uncluttered floors is the task that automates, and in retail, transit and logistics it is already happening. Cleaning washrooms, offices, kitchens, stairs and anything cluttered or variable remains manual, as does responding to spills, complaints and the unpredictable mess of a working building. Over a 7-15 year window the likely result is fewer labour hours per square metre on open floors, more sensor-driven and app-managed work, and a job that is otherwise much the same.

Sector readiness Robots in Big Boxes, Little Elsewhere

Published adoption ratings for the occupation are low-medium. Large retailers, airports and warehouse operators have deployed autonomous scrubbers at scale, and facilities-management firms are adding sensor-based cleaning and workforce apps for corporate clients. Schools, small offices, healthcare and most contract cleaning still run on manual rounds with little technology beyond a phone.

§ 02 POSITION

Where you stand

- i Be the cleaner who can run and troubleshoot the autonomous scrubber as well as deliver the detail work it cannot do.
- ii Move into specialist cleaning, such as healthcare, cleanroom or post-construction, where standards are high and automation is minimal.
- iii Use the workforce apps well and aim for team leader or supervisor roles, where scheduling, quality checks and client contact are the job.

§ 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 robot.** Brain Corp, Tennant and Avidbots machines need someone to set routes, empty tanks and handle stoppages. That person is more valuable than the one it replaced.
- 02 **Use the app honestly and well.** Logging tasks and photographing results protects you and shows clients the work was done.
- 03 **Follow the sensors.** Where washroom and footfall sensors are installed, cleaning moves from fixed rounds to demand-based work; be ready for a more varied day.
- 04 **Build detail skills.** Washrooms, kitchens, floors that need stripping and high-touch disinfection are where quality is judged and robots cannot go.
- 05 **Get certified.** Industry qualifications in cleaning and health and safety open supervisory and specialist roles that pay better and are less exposed.
- 06 **Watch the big floors.** If most of your hours are on open retail or warehouse floors, that is where robots are arriving; broaden into other areas of the site.

§ 04 CAUSES

6 DRIVERS

What is pushing this change

- 01 **Autonomous floor-cleaning robots.** Brain Corp-powered scrubbers, Tennant and Avidbots machines clean large open floors with minimal supervision, reducing labour hours in retail, airports and warehouses.
- 02 **Sensor-based demand cleaning.** Washroom and occupancy sensors direct cleaners to where they are needed instead of fixed rounds, changing how time is allocated.
- 03 **Workforce and inspection apps.** Scheduling, task logging and photo-verified inspections digitise supervision and client reporting.
- 04 **Labour shortages and turnover.** Difficulty hiring and retaining cleaning staff pushes employers towards automation and better pay for reliable workers.
- 05 **Hygiene expectations.** Heightened attention to disinfection and visible cleanliness keeps demand for skilled manual cleaning high.
- 06 **Facilities-management consolidation.** Large FM providers invest in technology across their contracts, spreading robots and apps faster than small firms would.

Impact by sector

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

Retail and supermarkets	The most robot-dense setting; autonomous scrubbers handle sales floors overnight and staff focus on detail and daytime response.
Airports, transit and warehouses	Large open floors suit autonomous machines, and operators have deployed them widely alongside workforce apps.
Offices and corporate facilities	Sensor-based cleaning and app-managed schedules are spreading, but the work itself remains mostly manual.
Healthcare, schools and small sites	Little automation; infection control, clutter and variable spaces keep cleaning manual and standards-driven.

Skills to build

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

- | | |
|----|--|
| 01 | Robot operation and basic maintenance. Setting routes, cleaning tanks and resolving stoppages on autonomous scrubbers; training is usually a few hours from the supplier. |
| 02 | Digital task management. Using scheduling and inspection apps accurately is now part of the job and the basis for promotion to supervisor. |
| 03 | Specialist cleaning techniques. Floor care, infection control and cleanroom procedures are skilled work with better pay and little automation. |
| 04 | Health and safety knowledge. Chemical handling and safe working practices are required in every setting and valued by employers. |
| 05 | Customer and tenant communication. Responding to requests and complaints courteously is where cleaners add value no sensor can replace. |
| 06 | Time management across varied tasks. Demand-based cleaning requires prioritising a changing list rather than following a fixed route. |

Tools in use

KINDS OF TOOL WORTH KNOWING

01

Robotic vacuums and window cleaners. Smaller autonomous machines for carpets and glass are emerging in commercial settings but remain limited in capability.

NAMED TOOLS ALREADY IN USE

Brain Corp BrainOS

VISIT

Autonomous navigation software that powers robotic floor scrubbers from several manufacturers in retail and transit.

Tennant autonomous scrubbers

VISIT

Robotic floor-cleaning machines deployed in supermarkets, airports and warehouses for large-floor cleaning.

Avidbots Neo

VISIT

Fully autonomous floor-scrubbing robot used in airports, malls and logistics facilities.

Tork Vision Cleaning

VISIT

Sensor system that tracks washroom traffic and dispenser levels so cleaners respond to need rather than fixed schedules.

Swept

VISIT

Janitorial workforce app for scheduling, task checklists, inspections and client communication.

In practice

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

Overnight autonomous scrubbing EXAMPLE 1	HOW	A cleaner starts the robotic scrubber on its mapped route at closing time, then cleans washrooms and checkouts while it covers the sales floor.
	GAIN	Several hours of floor work handled by the machine, with the cleaner on higher-value tasks.
Sensor-directed wash-room cleaning EXAMPLE 2	HOW	Footfall and dispenser sensors alert the cleaner's phone when a washroom crosses a threshold, replacing the hourly round.
	GAIN	Cleaner washrooms when they are busy and less wasted effort when they are not.

Photo-verified inspections	HOW	Cleaners photograph completed areas in the workforce app and supervisors review them remotely against the checklist.
EXAMPLE 3	GAIN	Faster quality checks and clear evidence for clients.

§ 09 CONTEXT

How this role compares

Three neighbouring roles chosen to show the direction of travel.

Security Guards	AI IMPACT	AI video analytics and remote monitoring are reducing the need for on-site patrol and observation.
MORE EXPOSED	WORK MOVES TO	Shift towards incident response and monitoring-centre roles.
HVAC Technicians	AI IMPACT	AI assists with diagnostics and scheduling but installation and repair stay hands-on and in demand.
DIFFERENT SKILLS, GROWING	WORK MOVES TO	Skilled, licensed trade with strong demand from building electrification.
Construction Labourers	AI IMPACT	AI touches site planning and monitoring while the physical labour remains human.
COMPLEMENTARY, LESS EXPOSED	WORK MOVES TO	Manual, site-based work with very low measured exposure.

§ 10 VERDICT

Closing judgement

If you work in cleaning, the measured AI exposure for your job is low and the one real change, the robot scrubber, is confined to large open floors. The rest of the work, the washrooms, the offices, the spills and the detail, is yours for the foreseeable future. Being comfortable with the apps that now schedule and record the work, and willing to run and look after a robot where one is used, will make you more valuable to employers. Supervisory and specialist cleaning roles are the clearest step up, and nothing in the evidence suggests AI closes that path.

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

19

WINDOW

7-15 years (unchanged)

The 5 October 2026 review held the score.

Exposure Index v2. Inputs: task applicability 22/100 (Microsoft AI applicability score 0.11 for Janitors and cleaners, except maids and housekeeping cleaners); observed usage 0/100 (Anthropic observed exposure 0.00); 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 25/100 (low-medium adoption). Weighted base 14.8. Editorial adjustment +4: Autonomous floor-cleaning robots are in commercial use in retail and transit; a small physical-automation channel. Final score 19. 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	22 × 39%	8.4
Observed usage — Anthropic Economic Index, observed exposure	0 × 22%	0.0
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	25 × 17%	4.2
Weighted base		14.8
Editorial adjustment: Autonomous floor-cleaning robots are in commercial use in retail and transit; a small physical-automation channel.		+4
Exposure score		19

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 Janitors and cleaners, except maids and housekeeping cleaners.

PUBLISHERPDFARCHIVED COPY

Microsoft Research · *Working with AI: Measuring the Applicability of Generative AI to Occupations* (10 July 2025)

AI applicability score 0.11 for SOC 37-2011; scaled to 22/100 as the task-applicability input.

PUBLISHERPDFARCHIVED COPY

Anthropic · *Anthropic Economic Index report: Cadences* (26 June 2026)

Observed exposure 0.00 for SOC 37-2011; scaled to 0/100 as the observed-usage input.

PUBLISHERPDF

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.

PUBLISHER ARCHIVED COPY

Archived copies are served only where the licence permits; otherwise the link goes to the publisher. Full research library:

<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.

REPORT NO. 364 · JANITORS AND CLEANERS · [WWW.CAREERGUARD.AI/REPORTS/JANITORS-AND-CLEANERS](https://www.careerguard.ai/reports/janitors-and-cleaners) · MARKDOWN AT /MD · FREE